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ELECTRONICS PRINCIPLES OCCUPATIONAL SURVEY REPORT, INTEGRATED A--ETC(U)
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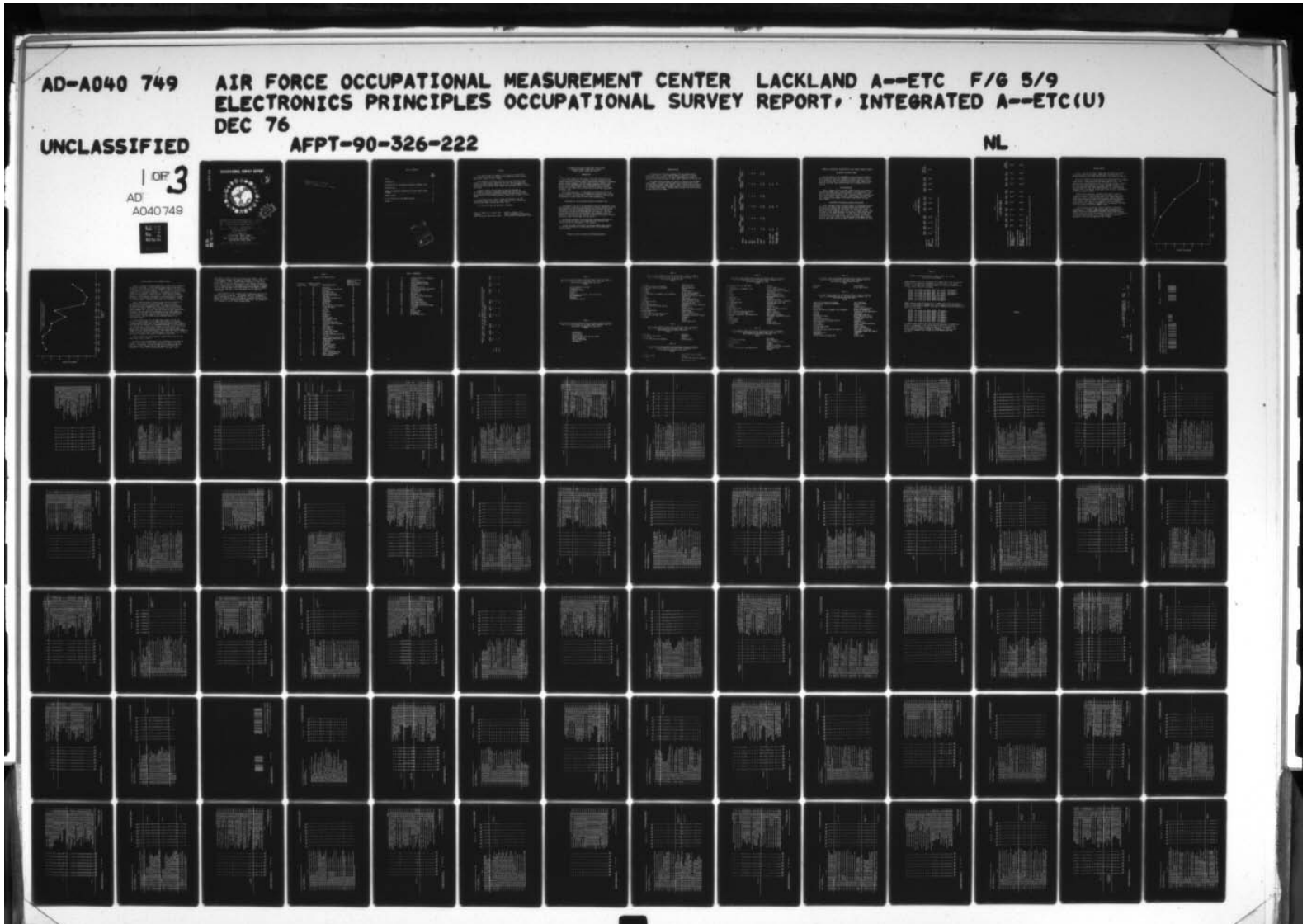

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ELECTRONICS PRINCIPLES OCCUPATONAL SURVEY REPORT,
INTEGRATED AVIONIC SYSTEMS CAREER LADDER
AFSCS 326X2A, 326X2B AND 326X2C.

AFPT-90-326-222

27 DECEMBER 1976

OCCUPATIONAL SURVEY BRANCH
USAF OCCUPATIONAL MEASUREMENT CENTER
LACKLAND AFB TEXAS 78236

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PREFACE

This report presents a summary of the results of a detailed Air Force Electronics Principles survey of the Integrated Avionics Systems specialties, 326X2A, B, and C shreds.

The Electronics Principles Inventory (EPI) was developed by Major Thomas J. O'Connor and Mr. Hendrick W. Ruck and the survey data were analyzed by Major O'Connor and Mr. Guy B. Cole. All are members of the Occupational Survey Branch, USAF Occupational Measurement Center, Lackland AFB, Texas.

Computer programs for analyzing the data were designed by Dr. Raymond E. Christal, Occupational and Manpower Research Division, Air Force Human Resources Laboratory (AFHRL), and were written by the Project Analysis and Programming Branch, Computational Sciences Division, AFHRL.

Distribution of this report is made upon request to the USAF Occupational Measurement Center, attention of the Chief, Occupational Survey Branch (OMY), Lackland AFB, Texas 78236.

This report has been reviewed and is approved.

JAMES A. TURNER, JR., Colonel, USAF
Commander
USAF Occupational Measurement Center

WALTER E. DRISKILL, Ph.D.
Chief, Occupational Survey Branch
USAF Occupational Measurement Center

ELECTRONICS PRINCIPLES OCCUPATIONAL SURVEY REPORT
INTEGRATED AVIONIC SYSTEMS CAREER LADDER
AFSCs 326X2A, 326X2B, AND 326X2C

INTRODUCTION

This report summarizes the results of the administration of the Electronics Principles survey to airmen assigned to Integrated Avionic Systems specialties including 326X2A, Inertial/Bomb Navigation, Fire/Weapons Control, Digital Computers, and Multi-sensor Displays; 326X2B, Flight Control, Flight Data Recorders, and Integrated/Mechanical Instrument Duties; and the 326X2C, Communications, Navigation, and ECM Systems. The data for this report were collected during the period 1 May through 30 August, 1976.

This report describes: (1) development and administration of the survey instrument; (2) summaries of background information which reflect the population of the survey sample; and (3) electronics principles used by personnel at various points in their career progression.

DEVELOPMENT OF THE ELECTRONICS PRINCIPLES INVENTORY (EPI)

Development of the EPI involved personnel from the Occupational Survey Branch working on the project who were well qualified in theoretical physics and electronics as well as having expertise in task analysis and survey development. Over 300 maintenance personnel from SAC, TAC, ADC, MAC, and AFCS participated in the development of the inventory. Electronics experts from the five ATC training centers, who averaged 12 years of maintenance experience and four years of electronics principles instruction experience, spent several weeks refining the EPI.

In addition, personnel at the Electrical Engineering Department of the USAF Academy and the Air Force Human Resources Laboratory were consulted during the development of the inventory.

The EPI contained 1,257 items in 62 subject matter areas covering all electronics principles training given at the five ATC technical training centers.

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ADMINISTRATION

The Electronics Principles Inventory (EPI) was administered in person and by mail to 1,097 airmen worldwide assigned to all shreds of the 326XX career ladders. This total represents approximately 31 percent of the airmen assigned to these career ladders as of 30 June 1976.

This report mainly presents the results of the data from the 326X2 career ladder. Two other separate reports have been written to cover the 326X0 and the 326X1 career ladders. Table 1 reflects the distribution of assigned personnel and percentage sampled in each of the three shreds of the 326X2 career ladder. Responses were received from over 25 percent of each shred of this ladder.

TABLE 1

326X2 COMMAND REPRESENTATION

COMMAND	326X2A PERCENT OF ASSIGNED	326X2A PERCENT OF SAMPLE	326X2B PERCENT OF ASSIGNED	326X2B PERCENT OF SAMPLE	326X2C PERCENT OF ASSIGNED	326X2C PERCENT OF SAMPLE
CONUS						
ATC	7	3	4	3	5	3
AFLC	1	-	-	-	-	-
SAC	14	16	11	13	16	16
AFSC	4	4	4	3	3	3
TAC	65	64	68	65	63	65
OVERSEAS						
USAFE	9	13	12	15	13	13
TOTAL	100%	100%	100%	100%	100%	100%
TOTAL ASSIGNED	574		427		510	
TOTAL SAMPLE	164		146		155	
PERCENT OF TOTAL ASSIGNED SAMPLED	29%		34%		30%	

SUMMARY OF BACKGROUND INFORMATION FOR 326X2 CAREER LADDER PERSONNEL

Assignment to Career Ladder

Over 60 percent of the respondents in each shred were assigned to their present specialty after completing resident technical training. Of the remainder, most were retrained from another specialty, with a few being reclassified or converted from another career ladder without technical training. None reported direct duty assignment from basic training.

Job Satisfaction

Table 2 compares Avionics Systems (326X2) personnel with members in the 326X0 and 326X1 career ladders in terms of job satisfaction. Also shown is data reflecting the job satisfaction of incumbents in other Air Force specialties surveyed in 1975. Personnel in the A shred of the 326X0, the D shred of 326X1, and the C shred of 326X2 find their jobs less interesting than members of the other shreds within the same career ladder.

Perceived Utilization of Talents and Training

Table 3 presents the perceived utilization of talents and training factors for the 326X0 shreds, the 326X1 shreds, and the 326X2 shreds. For comparison purposes, the average results from 35 other career ladders surveyed in 1975 are also given. The survey data reflect that 42 percent of the 326X0A personnel, 45 percent of 326X1D personnel, and 41 percent of the 326X2C personnel felt that their training was being utilized very little or not at all. A similar pattern is noted for these same AFSCs when comparing how their job utilizes their talents. A highly significant finding is that 63 percent of the 326X2C personnel perceive that their job utilizes their talents very little or not at all.

TABLE 2

JOB SATISFACTION

TOTAL SAMPLE BY SHRED
(PERCENT MEMBERS RESPONDING)

I FIND MY JOB:	326X0A (N=36)	326X0B (N=70)	326X0C* (N=3)	326X0D (N=33)	326X1C (N=70)	326X1D (N=147)	326X1E (N=87)	326X2A (N=164)	326X2B (N=146)	326X2C (N=155)	OTHER AF SPECIALTIES (N=21,107) **
INTERESTING	59	80	67	70	74	54	71	59	57	35	69
SO-SO	22	7	-	9	10	23	18	21	20	26	15
DULL	19	13	33	18	16	23	11	19	21	39	16
NOT RESPONDING	-	-	-	3	-	-	-	1	2	-	

* Survey sample too limited for significant results

** Based on responses from incumbents in 35 other career ladders surveyed during 1975.

TABLE 3

PERCEIVED UTILIZATION OF TALENTS AND TRAINING

TOTAL SAMPLE BY SHRED
(PERCENT MEMBERS RESPONDING)

	326X0A (N=36)	326X0B (N=70)	326X0C* (N=3)	326X0D (N=33)	326X1C (N=70)	326X1D (N=147)	326X1E (N=87)	326X2A (N=164)	326X2B (N=146)	326X2C (N=155)	OTHER AF SPECIALTIES (N=21,107) **
MY JOB UTILIZES MY TALENTS:											
VERY LITTLE OR NOT AT ALL	33	16	33	24	27	42	24	40	37	63	26
FAIRLY WELL	28	39	-	39	40	34	29	30	33	25	26
QUITE WELL TO PERFECTLY	39	45	67	37	33	22	46	30	29	12	48
NOT RESPONDING	-	-	-	-	-	2	1	-	1	-	-
MY JOB UTILIZES MY TRAINING:											
VERY LITTLE OR NOT AT ALL	42	16	33	30	33	45	25	25	27	41	26
FAIRLY WELL	17	33	-	33	33	33	33	38	38	39	26
QUITE WELL TO PERFECTLY	41	51	67	34	34	21	42	35	33	19	48
NOT RESPONDING	-	-	-	3	-	1	-	2	2	1	-

* Survey sample too limited for significant results

** Based on responses from incumbents in 35 other career ladders surveyed during 1975.

GENERAL RESULTS

Figure 1 presents the overall results for the 326XX career ladders. Data for two other career ladders, 324X0 (PMEL) and 316X1L (Missile Systems Maintenance), are also shown on Figure 1 for comparison purposes.

There are a total of 1,257 electronics principles questions or items in the survey. 326X2 career ladder personnel responded "Yes" to an average of 83 items or to seven percent of the total number of items. The seven percent is an average figure for all the shreds of 326X2. Figure 1 also shows that 326X1 personnel (all shreds averaged) responded "Yes" to an average of 255 electronics principles items or to 20 percent of the total number of items, while 326X0 personnel (all shreds averaged) responded "Yes" to an average of 352 items in the survey or to 28 percent of the total number of items.

These results, therefore, indicate a wide range of usage of electronics principles between 326X0, 326X1, and 326X2 career ladders. In addition, Figure 1, shows how the 326XX career ladders compare in field utilization of basic electronics principles with the two other career ladders, 324X0 and 316X1L. AFS 324X0 personnel responded "Yes" to an average of 401 items or to 32 percent of the total number of items, while 316X1L personnel responded "Yes" to an average of 58 items or to five percent of the total number of items.

Figure two shows the percent field utilization of electronics principles for all shreds of 326XX and for 32692 (Integrated Avionics Superintendent). As shown, 326X0B and 326X0C personnel have the highest utilization of electronics principles, while 326X2C personnel show the lowest utilization of electronics principles. It is interesting to note that 32692 personnel show a higher percent utilization of electronics principles than does any shred of 326X2.

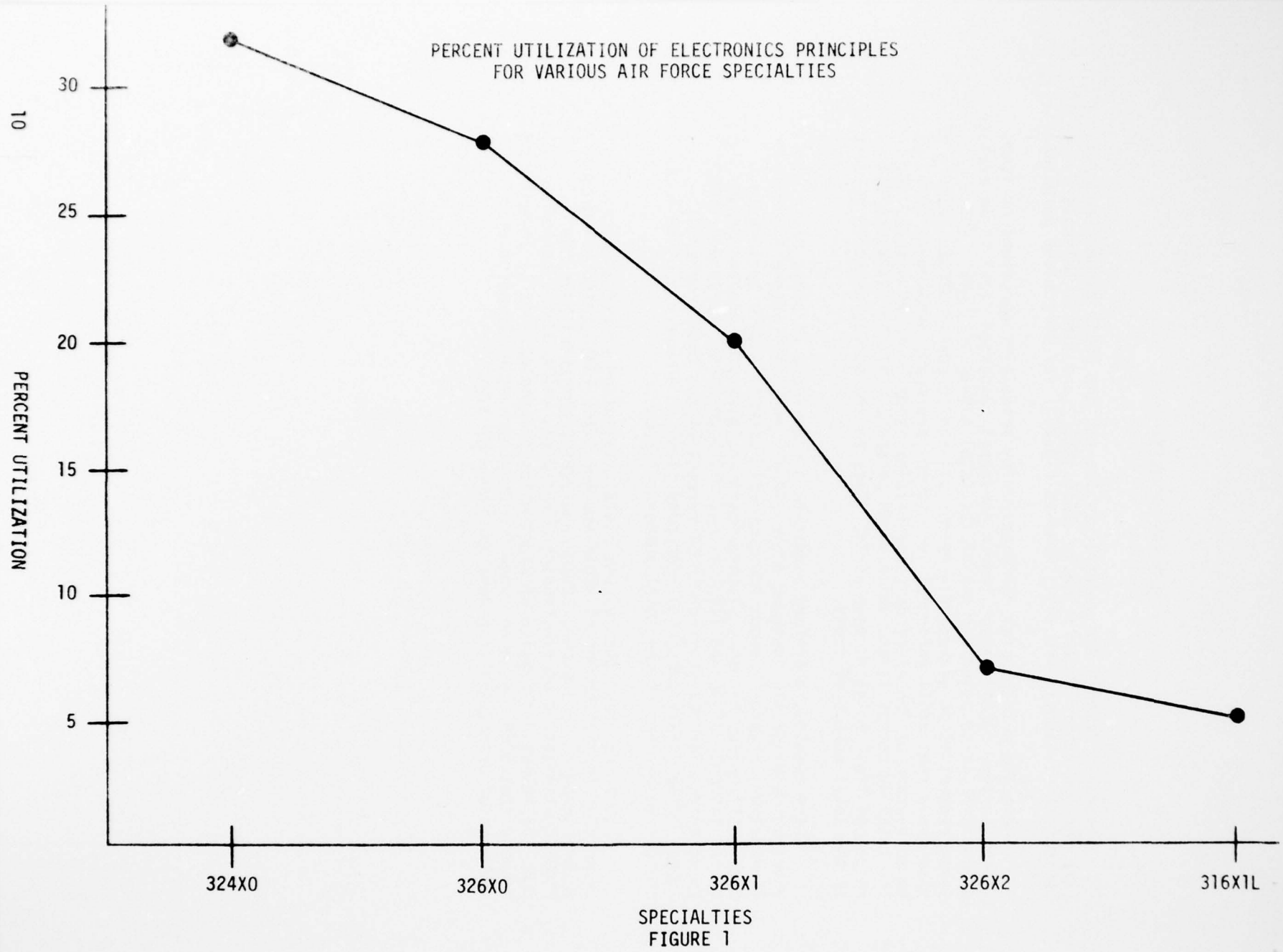
PERCENT UTILIZATION OF ELECTRONICS PRINCIPLES
FOR VARIOUS AIR FORCE SPECIALTIES
10
PERCENT UTILIZATION
30
25
20
15
10
5
324X0
326X0
326X1
326X2
316X1L
SPECIALTIES

FIGURE 1

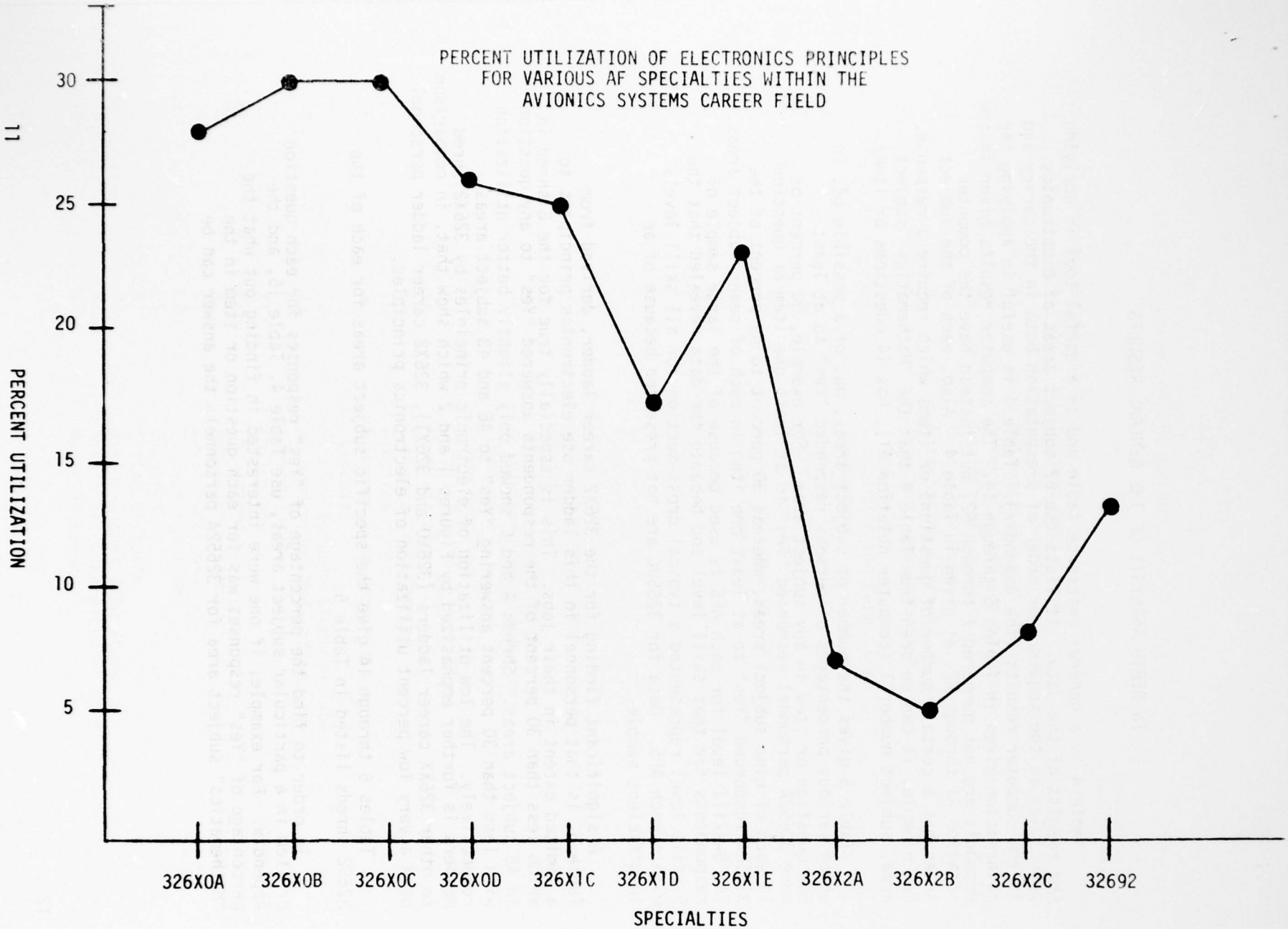
PERCENT UTILIZATION OF ELECTRONICS PRINCIPLES
FOR VARIOUS AF SPECIALTIES WITHIN THE
AVIONICS SYSTEMS CAREER FIELD
PERCENT UTILIZATION
30
25
20
15
10
5
326X0A
326X0B
326X0C
326X0D
326X1C
326X1D
326X1E
326X2A
326X2B
326X2C
32692
SPECIALTIES

FIGURE 2

IN DEPTH ANALYSIS OF THE GENERAL RESULTS

Table 4 is a general reference table and is a useful tool in applying the results of the data. It lists the 62 subject areas of electronics principles in the sequence or order of presentation both in the survey and in the computer results (the Appendix). Table 4 is useful in applying the information given in Tables 6 through 14. The computer results given in the Appendix are not numbered 1 through 62, but instead have the computer notation A1 through U2, as given in Table 4. Also, each of the subject areas has a certain number of questions or items which require a response. For example, it can be seen from Table 4 that the "Mathematics" subject area, subject number 1 (computer notation A1), has 14 questions or items.

Table 5 gives the number of subject areas, out of a possible 62, in which various percentages of persons responded "Yes" to at least one question or item in any subject area. For example, 50 percent or more 32652A personnel responded "Yes" to at least one item or question in each of nine subject areas, whereas 30 percent to 49 percent of the 32652A responded "Yes" to at least one item in each of seven subject areas. The 5-skill level for each AFS is used because of the large sample of respondents for that skill level and because the data revealed that the 5-skill level represented a typical cross-section for all skill levels within each AFS. Data for 32650C are not presented because of an insufficient sample.

A significant finding for the 326X2 career ladder, derived from Table 5, is that personnel in this ladder use electronics principles to a limited extent in their jobs. This is especially true for the B shred in which less than 30 percent of the respondents answered "Yes" to any question in 48 subject areas. Shreds A and C showed only slightly better utilization with less than 30 percent answering "Yes" to 46 and 43 subject areas respectively. The low utilization of electronic principles by 326X2 shred members is further emphasized by Figures 1 and 2 which show that, in comparison to other 326XX career ladders (326X0 and 326X1), 326X2 career ladder personnel have a very low percent utilization of electronics principles.

Tables 6 through 14 give the specific subject areas for each of the 32652 shreds listed in Table 5.

In order to find the percentage of "Yes" responses for each question or item in a particular subject areas, use Table 4, Table 15, and the Appendix. For example, if one were interested in finding out what the percentage of "Yes" responses was for each question or item in the "Mathematics" subject area for 32652A personnel, the answer can be

determined by looking at Table 15 and seeing that 32652A is identified in the computer printout (the Appendix) as SPC044, a column heading in the Appendix. Table 4 indicates that "Mathematics" is the first subject area and has the computer printout (the Appendix) designation of A1. Thus, on page 4 of the Appendix, items 1 through 14 (designated as A1-01 through A1-14) are read under the column designated as SPC044. It can be seen from page 4 that seven percent of the sample of 32652A indicated that they have to "Find the square root of a quantity" (item A1-04).

Large patterns of "Yes" responses can be immediately determined by scanning through the Appendix. For example, page 6 of the Appendix shows a high pattern of "Yes" responses for all groups (SPC038 through SPC045) for items 60 through 65 or computer notation B1-09 through B2-05; whereas, for items 75 through 87 (B3-09 through B3-21), the pattern of "Yes" responses is low for SPC038 through SPC045.

TABLE 4

Summary of EPI Subject Areas

Sequence of Subject Areas	Computer Printout Notation	Subject Area Title	Number of Possible Responses or Number of Items in each Subject Area
1	A1	Mathematics	14
2	A2	Direct Current and Voltage	9
3	A3	Resistance	28
4	B1	Multimeter Uses	9
5	B2	Alternating Current	6
6	B3	Inductors and Inductive Reactance	25
7	C1	Capacitors and Capacitive Reactance	36
8	C2	Transformers	43
9	C3	Magnetism	14
10	D1	RCL Circuits	44
11	D2	Series and Parallel Resonance (Time Constants)	10
12	D3	Filters	22
13	E1	Coupling	12
14	E2	Soldering	22
15	E3	Relays	19
16	F1	Microphones	13
17	F2	Speakers	15
18	F3	Oscilloscopes	12
19	G1	Semiconductor Diodes	50
20	G2	Transistors	24
21	G3	Transistor Amplifiers	49
22	H1	Solid-State Special Purpose Devices	6
23	H2	Power Supplies	29
24	H3	Oscillators	27
25	I1	Multivibrators	16
26	I2	Limiters and Clampers	10
27	I3	Electron Tubes	44
28	J1	Electron Tube Amplifiers and Circuits	7
29	J2	Special Purpose Electron Tubes	16
30	J3	Heterodyning, Modulation, and Demodulation	6
31	K1	AM Systems	28
32	K2	FM Systems	19
33	K3	Numbering Systems	10
34	L1	Logic Functions	13
35	L2	Boolean Equations	25
36	L3	Counters	24
37	M1	Timing Circuits	12
38	M2	Use of Signal Generators	10
39	M3	Motors and Generators	29
40	N1	Meter Movements	10

TABLE 4 (CONTINUED)

41	N2	Saturable Reactors and Magnetic Amplifiers	16
42	N3	Waveshaping Circuits	11
43	O1	Single Sideband Systems	30
44	O2	Pulse Modulation Systems	39
45	O3	Antennas	39
46	P1	Transmission Lines	31
47	P2	Waveguides and Cavity Resonators	50
48	P3	Microwave Amplifiers and Oscillators	76
49	Q1	Registers	7
50	Q2	Storage Devices	9
51	Q3	Digital to Analog Converters	14
52	R1	Phantastrons	1
53	R2	Schmitt Triggers	3
54	R3	Cable Fabrication	2
55	S1	Input/Output Devices	3
56	S2	Photo Sensitive Devices	1
57	S3	Synchronous Vibrations (Chopper Circuits)	9
58	T1	Infrared	27
59	T2	Lasers	34
60	T3	Display Tubes	14
61	U1	Programming	21
62	U2	DB and Power Ratios	3

TABLE 5

NUMBER OF SUBJECT AREAS, OUT OF A POSSIBLE 62, IN WHICH A SPECIFIED PERCENT OF PERSONS IN EACH AFSC (50% OR MORE, 30 TO 49%, OR 0 TO 29%) MARKED AT LEAST ONE "YES" RESPONSE.

	32650A	32650B	32650D	32651C	32651D	32651E	32652A	32652B	32652C
50%+	36	39	34	30	20	33	9	8	15
30-49%	7	6	6	14	16	9	7	6	4
0-29%	19	17	22	18	26	20	46	48	43

TABLE 6

NINE SUBJECT AREAS WITH HIGH JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 50 PERCENT OR MORE OF THE SURVEY SAMPLE RESPONDED "YES" TO ONE OR MORE QUESTIONS WITHIN EACH AREA.
32652A

DIRECT CURRENT AND VOLTAGE
MULTIMETER USES
ALTERNATING CURRENT
SOLDERING
RELAYS
HETERODYNING, MODULATION, AND DEMODULATION
METER MOVEMENTS
ANTENNAS
INPUT-OUTPUT DEVICES

TABLE 7

SEVEN SUBJECT AREAS WITH MODERATE JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 30 TO 49 PERCENT OF THE SURVEY SAMPLE RESPONDED "YES" TO ONE OR MORE QUESTIONS WITHIN EACH AREA.
32652A

MATHEMATICS
OSCILLOSCOPES
POWER SUPPLIES
MICROWAVE AMPLIFIERS AND OSCILLATORS
CABLE FABRICATION
DISPLAY FABRICATION
PROGRAMMING

TABLE 8

FORTY-SIX SUBJECT AREAS WITH LOW JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 29 PERCENT OR LESS OF THE SURVEY SAMPLE RESPONDED "YES" TO ANY QUESTION WITHIN EACH AREA.
32652A

RESISTANCE
INDUCTORS AND INDUCTIVE REACTANCE
CAPACITORS AND CAPACITIVE REACTANCE
TRANSFORMERS
MAGNETISM
RCL CIRCUITS
SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
FILTERS
COUPLING
MICROPHONES
SPEAKERS
SEMICONDUCTOR DIODES
TRANSISTORS
TRANSISTOR AMPLIFIERS
SOLID-STATE SPECIAL PURPOSE DEVICES
OSCILLATORS
MULTIVIBRATORS
LIMITERS AND CLAMPERS
ELECTRON TUBES
ELECTRON TUBE AMPLIFIERS AND CIRCUITS
SPECIAL PURPOSE ELECTRON TUBES
AM SYSTEMS
FM SYSTEMS
NUMBERING SYSTEMS
LOGIC FUNCTIONS
BOOLEAN EQUATIONS
COUNTERS
TIMING CIRCUITS
USE OF SIGNAL GENERATORS
MOTORS AND GENERATORS
SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
WAPESHAPING CIRCUITS
SINGLE SIDEBAND SYSTEMS
PULSE MODULATION SYSTEMS
TRANSMISSION LINES
WAVEGUIDES AND CAVITY RESONATORS
REGISTERS
STORAGE DEVICES
DIGITAL TO ANALOG CONVERTERS
PHANTASTRONS
SCHMITT TRIGGERS
PHOTO SENSITIVE DEVICES
SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
INFRARED
LASERS
DB AND POWER RATIOS

TABLE 9

EIGHT SUBJECT AREAS WITH HIGH JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 50 PERCENT OR MORE OF THE SURVEY SAMPLE RESPONDED "YES" TO ONE OR MORE QUESTIONS WITHIN EACH AREA.
32652B

MATHEMATICS
DIRECT CURRENT AND VOLTAGE
MULTIMETER USES
CAPACITORS AND CAPACITIVE REACTANCE
MAGNETISM
SOLDERING
RELAYS
METER MOVEMENTS

TABLE 10

SIX SUBJECT AREAS WITH MODERATE JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 30 TO 49 PERCENT OF THE SURVEY SAMPLE RESPONDED "YES" TO ONE OR MORE QUESTIONS WITHIN EACH AREA.
32652B

RESISTANCE
ALTERNATING CURRENT
TRANSFORMERS
SOLID-STATE SPECIAL PURPOSE DEVICES
INDUCTORS AND INDUCTIVE REACTANCE
INPUT OUTPUT DEVICES

TABLE 11

FORTY-EIGHT SUBJECT AREAS WITH LOW JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 39 PERCENT OR LESS OF THE SURVEY SAMPLE RESPONDED "YES" TO ANY QUESTION WITHIN EACH AREA.
32652B

INDUCTORS AND INDUCTIVE REACTANCE
RCL CIRCUITS
SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
FILTERS
COUPLING
MICROPHONES
SPEAKERS
OSCILLOSCOPES
SEMICONDUCTOR DIODES
TRANSISTORS
TRANSISTOR AMPLIFIERS
POWER SUPPLIES
OSCILLATORS
MULTIVIBRATORS
LIMITERS AND CLAMPERS
ELECTRON TUBES
ELECTRON TUBE AMPLIFIERS AND CIRCUITS
SPECIAL PURPOSE ELECTRON TUBES
HETERODYNING, MODULATION, AND DEMODULATION
AM SYSTEMS
FM SYSTEMS
NUMBERING SYSTEMS
LOGIC FUNCTIONS
BOOLEAN EQUATONS
PROGRAMMING
COUNTERS
TIMING CIRCUITS
USE OF SIGNAL GENERATORS
SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
WAVESHAPING CIRCUITS
SINGLE SIDEBAND SYSTEMS
PULSE MODULATION SYSTEMS
ANTENNAS
TRANSMISSION LINES
WAVEGUIDES AND CAVITY RESONATORS
MICROWAVE AMPLIFIERS AND OSCILLATORS
REGISTERS
STORAGE DEVICES
DIGITAL TO ANALOG CONVERTERS
PHANTASTRONS
SCHMITT TRIGGERS
CABLES FABRICATION
PHOTO SENSITIVE DEVICES
SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
INFRARED
LASERS
DISPLAY TUBES
DB AND POWER RATIOS

TABLE 12

FIFTEEN SUBJECT AREAS WITH HIGH JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 50 PERCENT OR MORE OF THE SURVEY SAMPLE RESPONDED "YES" TO ONE OR MORE QUESTIONS WITHIN EACH AREA.
362X2C

MATHEMATICS
DIRECT CURRENT AND VOLTAGE
MULTIMETER USES
ALTERNATING CURRENT
SOLDERING
MICROPHONES
HETERODYNING, MODULATION, AND DEMODULATION
AM SYSTEMS
METER MOVEMENTS
SINGLE SIDEBAND SYSTEMS
ANTENNAS
TRANSMISSION LINES
WAVEGUIDES AND CAVITY RESONATORS
CABLE FABRICATION
INFRARED

TABLE 13

FOUR SUBJECT AREAS WITH MODERATE JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 30 TO 49 PERCENT OF THE SURVEY SAMPLE RESPONDED "YES" TO ONE OR MORE QUESTIONS WITHIN EACH AREA.
326X2C

RESISTANCE
RELAYS
OSCILLOSCOPES
DB AND POWER RATIOS

TABLE 14

FORTY-THREE SUBJECT AREAS WITH LOW JOB UTILIZATION OF BASIC ELECTRONICS. THAT IS, 29 PERCENT OR LESS OF THE SURVEY SAMPLE RESPONDED "YES" TO ANY QUESTION WITHIN EACH AREA.
326X2C

INDUCTORS AND INDUCTIVE REACTANCE
CAPACITORS AND CAPACITIVE REACTANCE
TRANSFORMERS
MAGNETISM
RCL CIRCUITS
SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
FILTERS
COUPLING
SPEAKERS
SEMICONDUCTOR DIODES
TRANSISTORS
TRANSISTOR AMPLIFIERS
SOLID-STATE SPECIAL PURPOSE DEVICES
POWER SUPPLIES
OSCILLATORS
MULTIVIBRATORS
LIMITERS AND CLAMPERS
ELECTRON TUBES
ELECTRON TUBE AMPLIFIERS AND CIRCUITS
FM SYSTEMS
NUMBERING SYSTEMS
PROGRAMMING
SPECIAL PURPOSE ELECTRON TUBES
LOGIC FUNCTIONS
BOOLEAN EQUATIONS
COUNTERS
TIMING CIRCUITS
USE OF SIGNAL GENERATORS
MOTORS AND GENERATORS
SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
WAVESHAPING CIRCUITS
PULSE MODULATION SYSTEMS
MICROWAVE AMPLIFIERS AND OSCILLATORS
REGISTERS
STORAGE DEVICES
DIGITAL TO ANALOG CONVERTERS
PHANTASTRONS
SCHMITT TRIGGERS
INPUT-OUTPUT DEVICES
PHOTO SENSITIVE DEVICES
SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
LASERS
DISPLAY TUBES

TABLE 15

READING THE COMPUTER PRINTOUTS (GPSM3A, GPSM3B, AND JOBINV)
WHICH ARE IN THE APPENDIX

GPSM3A (Appendix pages four through 46) is a summary which gives the percent of members of a group which responded "Yes" to the items in the survey booklet. At the top of each column of numbers on any page of GPSM3A are the following Group Identifiers and Groups:

SPC038 - All airmen with DAFSC 326X2 (All shreds) (468 members)
SPC039 - All airmen with DAFSC 32632 (All shreds) (53 members)
SPC040 - All airmen with DAFSC 32652 (All shreds) (309 members)
SPC041 - All airmen with DAFSC 32672 (All shreds) (106 members)
SPC042 - All airmen with DAFSC 326X2A (164 members)
SPC043 - All airmen with DAFSC 32632A (21 members)
SPC044 - All airmen with DAFSC 32652A (109 members)
SPC045 - All airmen with DAFSC 32672A (34 members)

GPSM3B (Appendix pages 49 through 91) is a summary which gives the percent of members of a group which responded "Yes" to the items in the survey booklet. At the top of each column of numbers on any page of GPSM3B are the following Group Identifiers and Groups:

SPC046 - All airmen with DAFSC 326X2B (146 members)
SPC047 - All airmen with DAFSC 32632B (15 members)
SPC048 - All airmen with DAFSC 32652B (97 members)
SPC049 - All airmen with DAFSC 32672B (34 members)
SPC050 - All airmen with DAFSC 326X2C (155 members)
SPC051 - All airmen with DAFSC 32632C (16 members)
SPC052 - All airmen with DAFSC 32652C (103 members)
SPC053 - All airmen with DAFSC 32672C (36 members)

To conserve space, some of the items have been abbreviated in GPSM3A and GPSM3B in the Appendix. Each item has been listed in its entirety in the Job Inventory (JOBINV) beginning on page 92 of the Appendix. For example, Task A1-01, page 4, GPSM3A, is incomplete. In order to find the complete statement, turn to page 92 of the Appendix and read item A1-01.

APPENDIX

APPENDIX

TABLE OF CONTENTS TOC PAGE 1 AF HUMAN RESOURCES LABORATORY AIR FORCE SYSTEMS COMMAND

REPORT NUMBER	REPORT ID	REPORT TITLE	PAGE NUMBER
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2	GPSM3A	PCT MBRS ANSWRNG YES FOR 326X2 DAFSC GRPS	2
3	GPSM3B	PCT MBRS ANSWRNG YES FOR 326X2 DAFSC GRPS	47
4	JOBINV	JOB INVENTORY(DUTY/TASK TITLES)	92

PERCENT MEMBERS ANSWERING 'YES' TO EPI ITEMS BY DAFSC GROUPS IN THE 326X2 CAREER LADDER.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY =	SPC038	ALL AMN 326X2	(ALL SHREDS)	CONTAINING	468	MEMBERS.
GROUP IDENTITY =	SPC039	ALL AMN 32632	(ALL SHREDS)	CONTAINING	53	MEMBERS.
GROUP IDENTITY =	SPC040	ALL AMN 32652	(ALL SHREDS)	CONTAINING	309	MEMBERS.
GROUP IDENTITY =	SPC041	ALL AMN 32672	(ALL SHREDS)	CONTAINING	106	MEMBERS.
GROUP IDENTITY =	SPC042	ALL AMN 326X2A		CONTAINING	164	MEMBERS.
GROUP IDENTITY =	SPC043	ALL AMN 32632A		CONTAINING	21	MEMBERS.
GROUP IDENTITY =	SPC044	ALL AMN 32652A		CONTAINING	109	MEMBERS.
GROUP IDENTITY =	SPC045	ALL AMN 32672A		CONTAINING	34	MEMBERS.

DUTY GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DUTY	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045
A	MATHEMATICS, DIRECT CURRENT, VOLTAGE, AND RESISTANCE	95	94	96	93	93	95	94	88
B	MULTIMETER USES, ALTERNATING CURRENT, INDUCTORS, AND INDUCTIVE	97	94	97	96	95	95	95	94
C	CAPACITORS, CAPACITIVE REACTANCE, TRANSFORMERS, AND MAGNETISM	56	57	56	55	45	43	45	47
D	RCL CIRCUITS, SERIES AND PARALLEL RESONANCE (TIME CONSTANTS), AND FILTERS	12	15	12	11	13	10	19	12
E	COUPLING, SOLDERING, AND RELAYS	87	74	69	87	76	57	78	82
F	MICROPHONES, SPEAKERS, AND OSCILLOSCOPES	46	36	45	52	41	29	40	50
G	SEMICONDUCTOR DIODES, TRANSISTORS, AND TRANSISTOR AMPLIFIERS	16	15	15	21	15	14	13	21
H	SOLID STATE SPECIAL PURPOSE DEVICES, POWER SUPPLIES, AND OSCILLATORS	45	45	47	39	57	52	58	56
I	MULTIVIBRATORS, LIMITERS, CLAMPERS, AND ELECTRON TUBES	6	4	5	9	8	5	7	12
J	ELECTRON TUBE AMPLIFIERS AND CIRCUITS, SPECIAL PURPOSE ELECTRON TUBES, HETERODYNING, MODULATION,	42	43	42	40	54	52	56	50
K	AM SYSTEMS, FM SYSTEMS, AND NUMBERING SYSTEMS	46	47	44	52	38	43	37	41
L	LOGIC FUNCTIONS, BOOLEAN EQUATIONS, AND COUNTERS	25	28	25	25	30	29	29	35
M	TIMING CIRCUITS, USE OF SIGNAL GENERATORS, MOTORS, AND GENERATORS	32	43	30	30	31	33	28	38
N	METER MOVEMENTS, SATURABLE REACTORS, MAGNETIC AMPLIFIERS, AND WAVESHAPING CIRCUITS	74	70	75	72	72	57	75	71
O	SINGLE SIDEBAND SYSTEMS, PULSE MODULATION SYSTEMS, AND ANTENNAS	64	66	65	59	88	86	92	79
P	TRANSMISSION LINES, WAVEGUIDES AND CAVITY RESONATORS, AND MICROWAVE AMPLIFIERS AND OSCILLATORS	58	58	59	58	81	76	83	79
Q	REGISTERS, STORAGE DEVICES, AND DIGITAL TO ANALOG CONVERTERS	22	17	22	23	41	33	43	38
R	PHANTASTRONS, SCHMITT TRIGGERS, AND CABLE FABRICATION	45	36	42	57	41	24	41	50
S	INPUT\OUTPUT DEVICES, PHOTO SENSITIVE DEVICES, AND SYNCHRONOUS VIBRATIONS	40	43	42	30	64	48	69	59
T	INFRARED, LASERS, AND DISPLAY TUBES	43	42	44	42	48	43	49	50
U	PROGRAMMING, DB AND POWER RATIOS	26	28	27	22	41	33	44	38

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
A	1	A1-01 DO YOU USE AN INSTRUMENT, SUCH AS METER OR AN OSCILLOSCOPE, IN WHICH IT IS NECESSARY TO AMPLIFY OR	51	57	53	43	46	48	49	38	
A	2	A1-02 DO YOU USE A PUBLICATION, SUCH AS A TECHNICAL ORDER OR MAINTENANCE MANUAL, IN WHICH IT IS NECESSARY	24	26	25	21	23	33	24	12	MATHEMATICS
A	3	A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	21	13	21	25	15	10	15	21	
A	4	A1-04 DO YOU FIND THE SQUARE ROOT OF A QUANTITY.	5	0	5	7	7	0	7	9	
A	5	A1-05 DO YOU SOLVE FOR AN UNKNOWN QUANTITY.	13	17	13	10	8	14	7	6	
A	6	A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	3	4	3	2	2	0	2	3	
A	7	A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	3	4	3	1	1	0	2	0	
A	8	A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.	3	2	3	2	2	0	3	3	
A	9	A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS (THIS IS THE LOGARITHM SYSTEM WHICH USES THE NUMBER 2.718 AS	1	2	1	1	1	0	1	3	
A	10	A1-10 DO YOU WORK WITH VECTOR QUANTITIES, SUCH AS ADDING OR SUBTRACTING TWO VECTORS.	6	4	5	11	10	5	6	24	
A	11	A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	7	6	6	9	10	10	9	15	
A	12	A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES, SUCH AS AREAS OF CIRCLES OR TRIANGLES.	3	2	3	3	2	0	3	3	
A	13	A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	3	4	3	4	4	5	3	6	
A	14	A1-14 DO YOU SOLVE OR USE PROPORTIONS.	9	6	9	10	6	5	6	9	
A	15	A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT.	88	79	90	88	84	76	86	82	
A	16	A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	25	32	21	33	17	24	13	26	
A	17	A2-03 DO YOU USE THE TERM OHM.	85	75	86	87	77	62	79	79	DIRECT CURRENT
A	18	A2-04 DO YOU USE THE TERM ION.	5	13	4	4	4	10	5	0	AND VOLTAGE
A	19	A2-05 DO YOU USE THE TERM DYNE.	3	8	2	4	1	5	1	0	
A	20	A2-06 DO YOU USE THE TERM AMPERE.	66	64	65	69	59	52	57	68	
A	21	A2-07 DO YOU USE THE TERM NEUTRON.	6	11	5	6	5	5	6	3	
A	22	A2-08 DO YOU USE THE TERM COULOMB.	7	11	5	11	4	5	3	6	
A	23	A2-09 DO YOU USE THE TERM PROTON.	6	13	6	6	6	5	7	3	
A	24	A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	26	28	23	32	15	19	14	15	
A	25	A3-02 DO YOU INSPECT RESISTORS.	14	9	12	23	4	0	4	9	
A	26	A3-03 DO YOU CLEAN RESISTORS.	4	2	4	6	2	0	2	3	
A	27	A3-04 DO YOU ADJUST RESISTORS.	13	15	10	21	8	14	9	16	
A	28	A3-05 DO YOU CHECK OHMIC VALUE OF RESISTORS.	23	25	21	27	12	10	12	15	RESISTANCE
A	29	A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	12	9	11	16	1	5	0	3	
A	30	A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS IN YOUR PRESENT JOB.	4	2	3	8	1	5	0	3	
A	31	A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS, SUCH AS FOR FIXED RESISTORS OR FOR TAPPED RESISTORS.	20	21	16	30	11	19	7	21	
A	32	A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT OR	14	19	11	21	10	14	6	18	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
A	33	A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE OHMIC VALUE OF RESISTANCE.	10	13	7	17	4	5	3	6	
A	34	A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE TOLERANCE OF RESISTORS.	8	11	6	14	3	5	3	3	
A	35	A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE FAILURE RATE OF RESISTORS.	3	6	2	3	0	0	0	0	
A	36	A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO	4	4	3	8	1	0	0	6	
A	37	A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT ANY OF THE FOLLOWING COMPONENTS: BATTERY,	31	34	28	37	21	29	18	29	
A	38	A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	10	9	8	17	4	0	3	9	
A	39	A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	8	9	6	12	2	0	1	9	
A	40	A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	7	8	5	14	3	0	2	9	
A	41	A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	6	4	5	11	2	0	1	9	
A	42	A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	9	8	7	17	3	0	2	9	
A	43	A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	7	8	6	11	2	0	1	9	
A	44	A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	7	8	5	12	2	0	1	9	
A	45	A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	7	6	6	11	2	0	1	9	
A	46	A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	6	4	4	10	2	0	1	9	
A	47	A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	8	8	6	15	2	0	2	6	
A	48	A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	6	8	5	10	2	0	1	6	
A	49	A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	6	8	4	11	2	0	1	6	
A	50	A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	6	6	4	10	2	0	1	6	
A	51	A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	4	4	3	9	2	0	1	6	
B	52	B1-01 DO YOU MEASURE RESISTANCE.	88	87	89	86	84	81	83	85	
B	53	B1-02 DO YOU REPAIR AN OHMMETER.	2	0	3	0	2	0	4	0	
B	54	B1-03 DO YOU MEASURE VOLTAGE.	86	75	88	85	78	67	79	82	
B	55	B1-04 DO YOU REPAIR A VOLTMETER.	1	0	1	0	2	0	3	0	MULTIMETER USES
B	56	B1-05 DO YOU REPAIR AN AMMETER.	1	0	1	0	1	0	2	0	
B	57	B1-06 DO YOU MEASURE CURRENT.	51	53	54	40	45	43	47	41	
B	58	B1-07 DO YOU USE A MULTIMETER.	87	79	90	85	80	71	80	85	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045
B	59	B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	1	2	1	1	1	0	1	3
B	60	B1-09 DO YOU READ SCHEMATICS.	88	85	88	89	87	86	86	91
B	61	B2-01 DO YOU USE OR REFER THE TERM EFFECTIVE VOLTAGE (RMS).	29	23	25	42	26	33	20	41
B	62	B2-02 DO YOU USE OR REFER THE TERM PEAK TO PEAK VOLTAGE.	26	13	26	33	31	19	31	38
B	63	B2-03 DO YOU USE OR REFER THE TERM AVERAGE VOLTAGE (DC).	36	28	35	44	33	33	31	38
B	64	B2-04 DO YOU USE OR REFER THE TERM WAVE LENGTH.	25	9	27	26	30	14	30	38
B	65	B2-05 DO YOU USE OR REFER THE TERM FREQUENCY.	57	43	57	66	58	38	59	68
B	66	B2-06 DO YOU USE OR REFER THE TERM INSTANTANEOUS VALUE.	9	4	7	18	12	5	10	21
B	67	B3-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.	11	15	10	11	9	10	8	12
B	68	B3-02 DO YOU INSPECT INDUCTORS.	4	8	3	6	2	5	1	3
B	69	B3-03 DO YOU CLEAN INDUCTORS.	1	6	1	1	2	5	1	3
B	70	B3-04 DO YOU ADJUST INDUCTORS.	3	6	3	1	1	5	1	0
B	71	B3-05 DO YOU REMOVE OR REPLACE INDUCTORS.	5	9	5	5	1	5	1	0
B	72	B3-06 DO YOU USE OR REFER TO INDUCTANCE.	6	4	5	8	3	5	1	9
B	73	B3-07 DO YOU USE OR REFER TO HENRIES.	4	4	3	7	2	5	1	6
B	74	B3-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.	4	4	3	6	2	5	1	6
B	75	B3-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.	1	0	1	1	1	0	1	0
B	76	B3-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.	1	0	2	1	1	0	1	0
B	77	B3-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS.	1	0	1	2	1	0	1	3
B	78	B3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE	1	2	0	2	1	5	1	0
B	79	B3-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE	1	0	1	1	1	0	1	0
B	80	B3-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO	1	0	1	1	1	0	1	0
B	81	B3-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE	1	0	1	1	1	0	1	0
B	82	B3-16 DO YOU CALCULATE INDUCTANCE FOR A PARTICULAR INDUCTOR USING FORMULAS.	1	0	2	0	1	0	1	0
B	83	B3-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES.	2	0	2	2	1	0	1	0
B	84	B3-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	2	0	2	2	1	0	1	0
B	85	B3-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	2	0	2	2	1	0	2	0
B	86	B3-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.	3	0	3	6	2	0	2	3
B	87	B3-21 DO YOU CALCULATE INDUCTIVE REACTANCE.	1	0	2	0	1	0	2	0

EXAMPLE OF A HIGH UTILIZATION AREA

ALTERNATING CURRENT

INDUCTORS AND INDUCTIVE REACTANCE

EXAMPLE OF A LOW UTILIZATION AREA

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
B	88	BJ-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO	3	2	2	4	2	5	2	3	
B	89	BJ-23 DO YOU WORK WITH POWER INDUCTORS.	5	8	4	6	4	5	3	9	
B	90	BJ-24 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	2	8	1	4	3	5	2	6	
B	91	BJ-25 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	4	9	3	6	4	5	4	6	
C	92	C1-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS ON YOUR PRESENT JOB.	26	28	27	25	10	5	10	12	
C	93	C1-02 DO YOU INSPECT CAPACITORS.	16	21	16	15	2	0	2	3	
C	94	C1-03 DO YOU CLEAN CAPACITORS.	6	8	6	5	2	0	2	3	
C	95	C1-04 DO YOU ADJUST CAPACITORS.	7	13	6	8	2	0	1	6	CAPACITORS AND
C	96	C1-05 DO YOU TEST CAPACITORS.	17	21	17	15	2	0	1	6	CAPACITIVE REACTANCE
C	97	C1-06 DO YOU DISCHARGE CAPACITORS.	3	6	3	3	2	0	1	6	
C	98	C1-07 DO YOU REMOVE OR REPLACE CAPACITORS.	18	21	19	14	1	5	1	0	
C	99	C1-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	5	2	6	4	1	0	1	0	
C	100	C1-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	1	0	1	0	0	0	0	0	
C	101	C1-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	18	9	18	22	4	0	4	9	
C	102	C1-11 DO YOU USE OR REFER TO CAPACITANCE.	23	21	22	25	7	5	5	15	
C	103	C1-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT.	10	6	12	8	2	0	2	3	
C	104	C1-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS.	7	4	7	8	2	0	2	6	
C	105	C1-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE.	9	4	9	10	4	0	4	6	
C	106	C1-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES.	2	0	2	5	2	0	2	6	
C	107	C1-16 THE CAPACITORS YOU WORK WITH IN DC CIRCUITS.	15	25	14	15	8	5	6	15	
C	108	C1-17 THE CAPACITORS YOU WORK WITH ARE IN AC CIRCUITS.	22	19	22	23	9	5	7	15	
C	109	C1-18 THE CAPACITORS YOU WORK WITH ARE IN CIRCUITS WITH BOTH DC AND AC.	15	15	14	17	8	5	6	15	
C	110	C1-19 THE CAPACITORS YOU WORK WITH ARE DON'T REMEMBER WHICH CIRCUITS.	6	4	7	5	2	0	3	3	
C	111	C1-20 DO YOU CALCULATE CAPACITANCE FOR A PARTICULAR CAPACITOR USING FORMULAS.	8	4	10	6	1	0	1	0	
C	112	C1-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL	7	2	9	4	1	0	1	0	
C	113	C1-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL	4	2	5	4	1	0	1	0	
C	114	C1-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES.	11	4	12	12	1	0	1	0	
C	115	C1-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL.	10	4	11	11	1	0	1	0	
C	116	C1-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS.	11	4	12	12	1	0	1	0	
C	117	C1-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY	9	6	8	10	2	0	2	3	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
C 118	C1-27	DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS.	5	4	5	7	2	0	2	3	
C 119	C1-28	DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO	4	0	4	6	2	0	2	3	
C 120	C1-29	DO YOU CALCULATE CAPACITIVE REACTANCE.	4	2	4	5	1	0	1	0	
C 121	C1-30	DO YOU WORK WITH ROTOR-STATOR CAPACITORS (VARIABLE).	9	6	9	12	4	5	3	9	
C 122	C1-31	DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS.	2	2	2	3	3	0	3	6	
C 123	C1-32	DO YOU WORK WITH ELECTROLYTIC CAPACITORS (FIXED).	10	4	10	16	4	0	3	12	
C 124	C1-33	DO YOU WORK WITH PAPER CAPACITORS (FIXED).	3	2	1	8	4	0	2	12	
C 125	C1-34	DO YOU WORK WITH MICA CAPACITORS (FIXED).	3	2	2	9	4	0	2	12	
C 126	C1-35	DO YOU WORK WITH CERAMIC CAPACITORS (FIXED).	4	6	2	8	5	5	3	12	
C 127	C1-36	DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS.	8	11	9	3	4	5	5	3	
C 128	C2-01	DO YOU WORK WITH TRANSFORMERS ON YOUR PRESENT JOB.	18	6	18	25	13	10	10	29	
C 129	C2-02	DO YOU INSPECT TRANSFORMERS.	12	4	11	18	9	5	6	18	
C 130	C2-03	DO YOU CLEAN TRANSFORMERS.	4	2	4	6	4	0	4	6	
C 131	C2-04	DO YOU ADJUST TRANSFORMERS.	4	0	5	3	2	0	3	3	TRANSFORMERS
C 132	C2-05	DO YOU TROUBLESHOOT TRANSFORMERS.	18	8	17	25	14	10	11	26	
C 133	C2-06	DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS.	13	4	14	17	9	5	9	12	
C 134	C2-07	DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING.	0	0	0	0	1	0	1	0	
C 135	C2-08	DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (M).	0	0	0	0	1	0	1	0	
C 136	C2-09	DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M.	0	0	0	0	1	0	1	0	
C 137	C2-10	DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS.	1	0	0	3	1	0	1	3	
C 138	C2-11	DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS.	2	0	2	5	1	0	1	3	
C 139	C2-12	DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS.	1	0	1	3	1	0	1	0	
C 140	C2-13	DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS.	0	0	0	1	1	0	1	0	
C 141	C2-14	DO YOU WORK WITH AUTOTRANSFORMERS.	6	2	5	11	4	5	1	12	
C 142	C2-15	DO YOU WORK WITH POWER TRANSFORMERS.	14	4	13	22	10	10	6	24	
C 143	C2-16	DO YOU WORK WITH AUDIO TRANSFORMERS.	3	0	2	7	2	0	1	9	
C 144	C2-17	DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS.	3	0	2	7	3	0	1	12	
C 145	C2-18	DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMER.	5	2	5	7	4	0	4	6	
C 146	C2-19	DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE.	15	6	14	22	13	10	9	26	
C 147	C2-20	DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE.	15	6	14	23	13	10	9	26	
C 148	C2-21	DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES.	14	6	13	20	10	10	6	24	
C 149	C2-22	DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR	2	0	2	4	1	0	1	3	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
C 150	C2-23 DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-	6	0	6	10	4	0	3	12	
C 151	C2-24 DO YOU REFER TO THE BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS.	16	4	15	25	12	10	8	24	
C 152	C2-25 DO YOU REFER TO THE MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS.	10	2	9	17	9	5	5	24	
C 153	C2-26 DO YOU REFER TO THE MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS.	12	2	11	20	9	5	6	24	
C 154	C2-27 DO YOU REFER TO THE CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS.	13	2	12	21	10	5	6	26	
C 155	C2-28 DO YOU REFER TO THE AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS.	6	0	6	9	4	0	2	12	
C 156	C2-29 DO YOU REFER TO THE IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS.	8	2	8	11	5	5	3	12	
C 157	C2-30 DO YOU REFER TO THE COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS.	11	4	9	18	7	5	2	24	
C 158	C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING	6	0	4	13	4	0	2	15	
C 159	C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH.	2	0	1	6	2	0	1	9	
C 160	C2-33 DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE	3	0	2	8	2	0	1	9	
C 161	C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS.	6	0	5	13	4	0	2	12	
C 162	C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS.	2	0	3	3	1	0	1	3	
C 163	C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS.	1	0	1	3	1	0	1	3	
C 164	C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH 3 PHASE TRANSFORMERS.	7	6	5	12	9	5	6	18	
C 165	C2-38 DO YOU INSPECT 3 PHASE TRANSFORMERS.	2	0	1	7	2	0	1	6	
C 166	C2-39 DO YOU CLEAN OR LUBRICATE 3 PHASE TRANSFORMERS.	0	0	0	0	1	0	1	0	
C 167	C2-40 DO YOU ADJUST 3 PHASE TRANSFORMERS.	1	0	0	2	1	0	1	3	
C 168	C2-41 DO YOU TROUBLESHOOT 3 PHASE TRANSFORMERS.	4	2	3	8	5	5	4	9	
C 169	C2-42 DO YOU REMOVE OR REPLACE COMPLETE 3 PHASE TRANSFORMER.	2	0	2	6	1	0	1	3	
C 170	C2-43 DO YOU REMOVE OR REPLACE 3 PHASE TRANSFORMER PARTS, SUCH AS A WINDING.	0	0	0	0	1	0	1	0	
C 171	C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS.	19	9	21	17	10	5	13	6	
C 172	C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS.	12	8	14	10	7	5	7	6	
C 173	C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS.	7	0	8	10	3	0	4	3	MAGNETISM
C 174	C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS.	7	4	8	8	3	0	5	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
C	175	C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS.	7	0	8	8	2	0	3	3	
C	176	C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM.	9	8	8	10	3	0	4	3	
C	177	C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX.	32	25	34	30	24	24	24	26	
C	178	C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM.	3	0	3	3	1	0	1	0	
C	179	C3-09 DO YOU USE OR REFER TO THE DOMAIN THEORY OF MAGNETISM.	3	0	2	5	1	0	1	0	
C	180	C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION.	18	11	18	23	10	10	7	18	
C	181	C3-11 DO YOU USE OR REFER TO FLUX DENSITY.	14	9	14	15	13	14	11	18	
C	182	C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES	24	23	25	23	18	19	19	12	
C	183	C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES.	9	11	10	7	9	14	9	3	
C	184	C3-14 DO YOU USE THE LEFT THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL.	7	8	7	4	7	10	8	0	
D	185	D1-01 DO YOU WORK WITH RC, LR, OR RCL CIRCUITS ON YOUR PRESENT JOB.	3	4	2	5	4	5	3	9	
D	186	D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS.	1	2	1	2	3	5	3	3	RCL CIRCUITS
D	187	D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS.	1	0	1	1	1	0	2	0	
D	188	D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS.	1	2	1	4	4	5	2	9	
D	189	D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS.	1	0	1	4	3	0	2	9	
D	190	D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS.	1	0	1	4	3	0	2	9	
D	191	D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS.	2	4	1	3	3	5	2	6	
D	192	D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS.	1	0	0	3	2	0	1	6	
D	193	D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS.	1	0	1	2	2	0	2	3	
D	194	D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS.	1	0	1	3	2	0	2	6	
D	195	D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS.	1	0	1	2	2	0	2	3	
D	196	D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS.	1	0	1	2	2	0	2	3	
D	197	D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS.	2	2	1	3	3	5	2	6	
D	198	D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS.	2	2	2	4	4	5	3	9	
D	199	D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS.	2	2	2	3	4	5	3	6	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045
D 200	D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS.	3	2	2	4	4	5	3	9
D 201	D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS.	1	0	0	2	1	0	0	3
D 202	D1-18 DO YOU USE OR REFER TO BRANDPASS REGION WHEN WORKING WITH RCL CIRCUITS.	1	2	0	3	2	5	0	6
D 203	D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS.	1	0	1	2	1	0	1	3
D 204	D1-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS.	1	2	1	3	2	5	1	3
D 205	D1-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS: SINE OF AN ANGLE = OPPOSITE SIDE	1	0	1	2	2	0	2	3
D 206	D1-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS.	1	0	1	0	2	0	3	0
D 207	D1-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAFACITIVE CIRCUITS.	1	2	1	1	1	5	1	0
D 208	D1-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS.	0	0	1	0	1	0	1	0
D 209	D1-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS.	0	0	1	0	1	0	1	0
D 210	D1-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS.	0	0	1	0	1	0	1	0
D 211	D1-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS.	0	0	0	1	1	0	1	0
D 212	D1-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS.	0	0	0	1	1	0	1	0
D 213	D1-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS.	0	0	0	1	1	0	1	0
D 214	D1-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS.	0	0	0	1	1	0	1	0
D 215	D1-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS.	0	0	0	1	1	0	1	0
D 216	D1-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD.	0	0	1	0	1	0	1	0
D 217	D1-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW.	0	0	0	0	1	0	1	0
D 218	D1-34 DO YOU CHECK CAPACITORS USING OHMMETERS.	3	2	3	4	4	5	4	6
D 219	D1-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION.	1	0	1	2	1	0	1	3
D 220	D1-36 DO YOU CHECK INDUCTORS USING OHMMETERS.	2	2	2	3	2	5	2	3
D 221	D1-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION.	0	0	1	0	1	0	1	0
D 222	D1-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA=0, PF=1, AND PA=PT FOR RESONANT CIRCUITS.	0	0	0	0	0	0	0	0
D 223	D1-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS.	0	0	1	0	1	0	1	0
D 224	D1-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE	1	2	1	1	1	5	1	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
D	225	D1-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT	1	2	1	1	1	5	1	0	
D	226	D1-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK	1	0	1	2	1	0	1	3	
D	227	D1-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q.	1	0	1	2	1	0	1	3	
D	228	D1-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT	0	2	0	0	1	5	1	0	
D	229	D2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANCE CIRCUITS OR	3	6	2	4	2	0	3	0	
D	230	D2-02 DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS.	1	0	1	3	1	0	2	0	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
D	231	D2-03 DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE.	2	4	1	3	2	0	3	0	
D	232	D2-04 DO YOU WORK WITH, USE, OR REFER TO TRANSIENT INTERVALS.	1	0	0	3	1	0	1	0	
D	233	D2-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE	1	2	0	4	0	0	0	0	
D	234	D2-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS.	1	2	0	1	1	0	1	0	
D	235	D2-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUITS CURRENT OR COMPONENT VOLTAGES AFTER A	1	0	1	2	1	0	1	0	
D	236	D2-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT	1	0	0	2	1	0	1	0	
D	237	D2-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND	1	0	0	2	1	0	1	0	
D	238	D2-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR	1	2	0	2	1	0	1	0	
D	239	D3-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS ON YOUR PRESENT JOB.	6	6	5	8	8	5	9	6	
D	240	D3-02 DO YOU INSPECT FILTER CIRCUITS.	1	0	1	1	0	0	0	0	FILTERS
D	241	D3-03 DO YOU CLEAN FILTER CIRCUITS.	0	0	0	0	0	0	0	0	
D	242	D3-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS.	0	0	0	0	0	0	0	0	
D	243	D3-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT.	3	4	3	4	4	5	4	6	
D	244	D3-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF FILTER CIRCUITS.	1	6	1	0	2	5	2	0	
D	245	D3-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT.	3	2	3	3	3	0	4	3	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
D	246	D3-08 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF FILTER CIRCUITS.	1	6	0	0	1	5	1	0	
D	247	D3-09 DO YOU WORK ON LOW PASS FILTERS.	3	2	2	8	4	5	2	9	
D	248	D3-10 DO YOU WORK ON HIGH PASS FILTERS.	3	2	1	8	2	5	1	6	
D	249	D3-11 DO YOU WORK ON BANDPASS FILTERS.	2	4	1	5	2	5	1	3	
D	251	D3-13 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF FILTER	2	4	1	5	3	5	2	6	
D	250	D3-12 DO YOU WORK ON BAND-REJECT FILTERS.	2	2	3	1	5	5	6	3	
D	252	D3-14 DO YOU WORK WITH L-SECTION FILTER CONFIGURATIONS.	1	0	1	3	1	0	1	0	
D	253	D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATIONS.	1	0	1	4	1	0	1	3	
D	254	D3-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATIONS.	1	0	1	3	1	0	2	0	
D	255	D3-17 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF FILTER CONFIGURATIONS.	3	6	3	2	7	10	7	6	
D	256	D3-18 ARE PARALLEL RESONANT CIRCUITS USED IN FILTERS YOU WORK WITH.	1	6	1	2	1	5	1	0	
D	257	D3-19 ARE SERIES-PARALLEL CIRCUITS USED IN FILTERS YOU WORK WITH.	2	6	1	3	2	5	2	0	
D	258	D3-20 ARE SERIES RESONANT CIRCUITS USED IN FILTERS YOU WORK WITH.	1	6	1	2	1	5	1	0	
D	259	D3-21 ARE DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT USED IN FILTERS YOU WORK WITH.	3	4	3	2	6	5	6	6	
D	260	D3-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC	1	6	0	2	2	5	1	3	
E	261	E1-01 DO YOU WORK WITH COUPLING DEVICES ON YOUR PRESENT JOB.	12	23	11	11	5	5	5	9	
E	262	E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED	4	8	2	8	4	0	3	12	COUPLING
E	263	E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED	8	13	6	9	4	0	3	9	
E	264	E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED	5	4	4	8	4	0	3	9	
E	265	E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE RC COUPLING FUNCTIONS.	4	9	2	8	4	5	3	9	
E	266	E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE IMPEDANCE COUPLING FUNCTIONS.	8	15	6	8	3	5	2	6	
E	267	E1-07 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE TRANSFORMER COUPLING FUNCTIONS.	5	6	4	8	3	5	2	6	
E	268	E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS.	4	4	4	6	3	5	2	6	
E	269	E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS.	5	6	4	8	3	5	1	9	
E	270	E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS.	3	6	2	6	2	5	1	6	
E	271	E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS.	3	4	2	7	2	5	1	6	
E	272	E1-12 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUIT.	4	11	3	2	2	0	3	3	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
E	273	E2-01 ON YOUR PRESENT JOB DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS.	71	62	75	64	56	38	61	53	
E	274	E2-02 DO YOU SELECT TYPE OF SOLDER TO USE.	52	51	52	52	39	24	40	44	SOLDERING
E	275	E2-03 DO YOU ADD FLUX TO CONNECTIONS.	42	42	42	43	29	24	29	29	
E	276	E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS.	37	38	35	43	28	19	26	41	
E	277	E2-05 DO YOU STRIP INSULATION FROM WIRES.	73	60	78	64	60	38	66	56	
E	278	E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS.	34	36	32	37	25	29	25	24	
E	279	E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS.	64	55	67	61	51	29	55	50	
E	280	E2-08 DO YOU CUT WIRES.	73	62	78	65	60	43	64	59	
E	281	E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS.	47	36	46	55	34	19	33	44	
E	282	E2-10 DO YOU TIN SOLDERING IRON TIPS.	58	47	60	60	41	24	41	50	
E	283	E2-11 DO YOU CLEAN SOLDERING IRON TIPS.	63	53	65	63	49	24	52	56	
E	284	E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS.	22	21	19	32	18	5	15	35	
E	285	E2-13 DO YOU TIN OR PRE-TIN CONDUCTORS.	51	47	51	56	35	19	35	47	
E	286	E2-14 DO YOU INSPECT SOLDERED CONNECTIONS.	68	57	72	64	52	38	54	53	
E	287	E2-15 DO YOU DESOLDER CONNECTIONS BY WICKING.	22	25	25	14	15	5	16	21	
E	288	E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS.	16	11	15	22	11	10	9	18	
E	289	E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS.	24	17	25	27	17	14	17	21	
E	290	E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL.	6	4	6	6	3	0	3	6	
E	291	E2-19 DO YOU MAKE HARDWIRE CONNECTIONS.	57	58	58	55	49	33	52	50	
E	292	E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	1	2	1	1	1	0	1	0	
E	293	E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	1	0	1	3	1	0	1	3	
E	294	E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	1	4	1	2	1	0	1	0	
E	295	E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	57	43	59	60	52	14	56	65	
E	296	E3-02 DO YOU ADJUST RELAYS	4	9	4	1	3	10	3	0	
E	297	E3-03 DO YOU CLEAN RELAYS	7	8	7	8	9	5	9	12	
E	298	E3-04 DO YOU INSPECT RELAYS	26	23	25	29	20	5	20	29	
E	299	E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS	53	38	53	58	46	19	49	56	RELAYS
E	300	E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS	3	8	3	2	4	5	5	0	
E	301	E3-07 DO YOU TROUBLESHOOT RELAYS	54	49	53	60	48	24	48	62	
E	302	E3-08 DO YOU STRAIGHTEN RELAY CONTACTS	15	9	15	17	15	5	15	24	
E	303	E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS	6	8	6	5	4	5	5	3	
E	304	E3-10 DO YOU PERFORM TASKS ON RELAY CORES	1	6	0	0	1	5	1	0	
E	305	E3-11 DO YOU PERFORM TASKS ON RELAY COILS	1	6	1	1	2	5	1	3	
E	306	E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES	0	2	0	0	1	5	1	0	
E	307	E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS	1	2	1	1	2	5	2	0	
E	308	E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPEN (NO) SCHEMATIC SYMBOLS FOR RELAYS	38	32	36	48	38	24	37	50	
E	309	E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	34	34	35	51	37	24	35	53	
E	310	E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	38	32	35	47	38	24	38	50	
E	311	E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	37	30	35	49	38	24	36	53	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
E	312	E3-18 DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	38	26	34	56	37	24	33	56	
E	313	E3-19 DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	31	32	28	41	26	24	20	44	
F	314	F1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	26	21	27	25	9	14	8	9	
F	315	F1-02 DO YOU INSPECT MICROPHONES	13	15	13	14	3	0	3	6	
F	316	F1-03 DO YOU CLEAN MICROPHONES	7	2	7	8	1	0	2	0	
F	317	F1-04 DO YOU OPERATE MICROPHONES	28	26	29	26	9	14	8	9	MICROPHONES
F	318	F1-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT	21	15	22	20	5	0	6	6	
F	319	F1-06 DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	6	6	5	8	2	5	3	0	
F	320	F1-07 DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	14	9	15	15	4	0	5	6	
F	321	F1-08 DO YOU REMOVE OR REPLACE MICROPHONE PARTS	4	2	5	5	2	0	3	3	
F	322	F1-09 DO YOU PERFORM TASKS ON CARBON MICROPHONES	9	6	9	12	3	0	3	6	
F	323	F1-10 DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	2	0	2	3	1	0	1	0	
F	324	F1-11 DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	3	4	3	5	2	5	2	0	
F	325	F1-12 DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	10	4	9	17	3	0	2	9	
F	326	F1-13 DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	1	0	1	2	1	0	1	0	
F	327	F2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	10	9	11	8	5	5	5	9	
F	328	F2-02 DO YOU INSPECT SPEAKERS	3	2	4	4	2	0	1	6	
F	329	F2-03 DO YOU CLEAN SPEAKERS	2	2	2	2	1	0	1	0	
F	330	F2-04 DO YOU OPERATE SPEAKERS	10	9	11	7	5	5	5	9	
F	331	F2-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT	7	6	8	5	3	0	3	6	SPEAKERS
F	332	F2-06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	1	0	1	1	1	0	1	0	
F	333	F2-07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	4	2	4	5	2	0	1	6	
F	334	F2-08 DO YOU REMOVE OR REPLACE SPEAKER PARTS	0	0	0	1	1	0	1	0	
F	335	F2-09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES	0	0	0	0	1	0	1	0	
F	336	F2-10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	0	0	0	0	1	0	1	0	
F	337	F2-11 DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	0	0	0	0	1	0	1	0	
F	338	F2-12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	0	0	1	0	1	0	1	0	
F	339	F2-13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	0	0	1	0	1	0	1	0	
F	340	F2-14 DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	0	0	0	0	1	0	1	0	
F	341	F2-15 DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES	0	0	0	0	1	0	1	0	
F	342	F3-01 DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	29	15	28	36	33	19	34	38	
F	343	F3-02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	19	8	19	27	20	5	21	24	
F	344	F3-03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	9	6	9	10	13	10	14	12	OSCILLOSCOPES
F	345	F3-04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	23	11	23	30	32	14	33	38	
F	346	F3-05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	16	9	17	17	19	14	21	15	
F	347	F3-06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME	11	8	10	14	12	10	12	12	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
F	348	F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	4	4	4	4	4	5	3	6	
F	349	F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	17	9	15	26	18	10	16	29	
F	350	F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	6	4	6	8	6	5	6	9	
F	351	F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	19	9	20	23	23	14	26	18	
F	352	F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	10	8	8	18	12	14	10	18	
F	353	F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	18	6	17	24	23	10	24	26	
G	354	G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	9	13	7	12	9	14	6	12	
G	355	G1-02 DO YOU INSPECT DIODES	2	4	1	4	2	5	1	6	
G	356	G1-03 DO YOU REMOVE OR REPLACE DIODES	2	0	2	3	1	0	1	0	
G	357	G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT	6	9	5	8	5	10	4	9	
G	358	G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	0	2	0	0	1	5	0	0	SEMICONDUCTOR DIODES
G	359	G1-06 DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE,	1	0	1	0	0	0	0	0	
G	360	G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	1	0	1	3	2	0	1	6	
G	361	G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	4	6	3	5	2	5	1	3	
G	362	G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON	4	6	2	8	4	5	1	12	
G	363	G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	1	0	1	3	0	0	0	0	
G	364	G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	3	8	2	6	3	10	1	6	
G	365	G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING	1	2	1	1	1	5	0	0	
G	366	G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	0	0	0	0	0	0	0	0	
G	367	G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	0	0	0	0	0	0	0	0	
G	368	G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	1	4	0	3	1	5	0	0	
G	369	G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	0	0	0	0	0	0	0	0	
G	370	G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	0	0	0	0	0	0	0	0	
G	371	G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	2	2	1	5	1	0	1	3	
G	372	G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	0	0	0	1	1	0	0	3	
G	373	G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	0	0	0	1	1	0	0	3	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045
G 374	GI-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	0	0	0	0	0	0	0	0
G 375	GI-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	0	0	0	1	1	0	0	3
G 376	GI-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	0	0	0	1	1	0	0	3
G 377	GI-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	5	8	3	9	5	14	2	9
G 378	GI-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	1	2	0	2	1	0	1	3
G 379	GI-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE	2	4	2	4	1	0	0	6
G 380	GI-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT	0	0	0	1	0	0	0	0
G 381	GI-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR	5	4	4	8	4	5	4	3
G 382	GI-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	1	0	1	0
G 383	GI-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0	0
G 384	GI-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	1	0	1	0
G 385	GI-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0	0
G 386	GI-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	0	0	0	1	1	0	0	3
G 387	GI-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	2	0	1	4	1	0	0	3
G 388	GI-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	0	0	0	1	1	0	0	3
G 389	GI-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	0	0	0	1	1	0	0	3
G 390	GI-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	3	4	2	5	2	5	1	6
G 391	GI-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	3	4	2	5	2	5	1	6
G 392	GI-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	1	0	1	1	1	0	0	3
G 393	GI-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	0	0	1	0	0	0	0	0
G 394	GI-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	0	0	0	1	1	0	1	3
G 395	GI-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	1	0	1	1	1	0	1	3
G 396	GI-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	0	0	0	1	1	0	1	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
G 397	G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	3	2	2	6	3	5	1	9	
G 398	G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	0	0	0	2	1	0	0	6	
G 399	G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	0	0	0	1	0	0	0	0	
G 400	G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	0	2	0	1	0	0	0	0	
G 401	G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	0	2	0	1	0	0	0	0	
G 402	G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	1	2	0	1	1	0	1	0	
G 403	G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	1	2	1	2	0	0	0	0	
G 404	G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	8	8	6	12	6	0	6	12	
G 405	G2-02 DO YOU INSPECT TRANSISTORS	1	2	0	2	1	0	0	3	
G 406	G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS	1	2	1	0	1	0	1	0	
G 407	G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	2	2	3	1	2	0	3	3	TRANSISTORS
G 408	G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	2	4	2	3	2	0	1	6	
G 409	G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	2	2	1	3	2	0	1	6	
G 410	G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC) RESISTANCE MEASUREMENTS	2	2	2	3	2	0	2	6	
G 411	G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	2	2	2	1	2	0	2	3	
G 412	G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	2	2	2	1	2	0	2	3	
G 413	G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	1	2	1	0	1	0	1	0	
G 414	G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR	1	2	1	1	1	0	2	0	
G 415	G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	7	8	6	10	5	0	5	12	
G 416	G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	6	8	4	9	4	0	3	9	
G 417	G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	1	2	0	1	0	0	0	0	
G 418	G2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT IB IS NORMALLY SIGNIFICANTLY	1	2	1	4	1	0	1	3	
G 419	G2-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR	2	2	1	4	1	0	1	3	
G 420	G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	1	2	0	2	1	0	1	3	
G 421	G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	1	2	1	2	1	0	2	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
G 422	G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	1	2	1	1	1	0	1	0	
G 423	G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	1	2	1	1	1	0	1	0	
G 424	G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	1	2	1	1	1	0	1	0	
G 425	G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS	0	0	0	0	0	0	0	0	
G 426	G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	0	0	0	0	0	0	0	0	
G 427	G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	0	0	0	0	0	0	0	0	
G 428	G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	7	4	6	9	4	0	5	3	
G 429	G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	2	2	1	4	2	0	1	6	TRANSISTOR AMPLIFIERS
G 430	G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	1	0	1	2	1	0	0	3	
G 431	G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	3	2	3	5	1	0	1	0	
G 432	G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	2	4	2	2	1	0	0	3	
G 433	G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	6	2	6	6	2	0	4	0	
G 434	G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	0	0	0	0	0	0	0	0	
G 435	G3-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE	0	0	0	1	0	0	0	0	
G 436	G3-09 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN	0	0	0	1	0	0	0	0	
G 437	G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE	0	0	0	1	0	0	0	0	
G 438	G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN	0	0	0	1	0	0	0	0	
G 439	G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	0	0	0	1	0	0	0	0	
G 440	G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN	0	0	0	1	0	0	0	0	
G 441	G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A	0	0	0	0	0	0	0	0	
G 442	G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR	0	0	0	0	0	0	0	0	
G 443	G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	0	0	0	0	0	0	0	0	
G 444	G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION	1	2	1	2	0	0	0	0	
G 445	G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION	1	2	1	1	0	0	0	0	
G 446	G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION	1	2	1	0	0	0	0	0	
G 447	G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE	0	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045
G 448	G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE	0	0	0	0	0	0	0	0
G 449	G3-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE	0	0	0	0	0	0	0	0
G 450	G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE	0	0	0	0	0	0	0	0
G 451	G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT [Q] OF A TRANSISTOR AT DIFFERENT TEMPERATURES	0	0	0	0	0	0	0	0
G 452	G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	2	2	1	4	1	0	1	3
G 453	G3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-	2	2	1	3	1	0	1	3
G 454	G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	2	2	1	3	1	0	1	0
G 455	G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	2	2	2	4	1	0	1	3
G 456	G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	2	2	2	4	1	0	1	3
G 457	G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	1	2	1	2	1	0	1	0
G 458	G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	1	2	1	2	1	0	1	3
G 459	G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	1	2	1	1	1	0	1	3
G 460	G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	2	2	2	1	1	0	1	0
G 461	G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	2	2	2	3	2	0	1	6
G 462	G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	1	2	2	1	1	0	1	0
G 463	G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	1	2	1	0	1	0	1	0
G 464	G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	0	0	0	1	0	0	0	0
G 465	G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	0	2	0	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
G 466	G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	1	2	0	1	0	0	0	0	
G 467	G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	1	2	0	1	0	0	0	0	
G 468	G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	0	2	0	0	0	0	0	0	
G 469	G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	0	2	0	0	0	0	0	0	
G 470	G3-43 DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING EMITTER RESISTANCE FOR	0	0	1	0	0	0	0	0	
G 471	G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	1	2	1	1	1	0	0	3	
G 472	G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	1	2	1	1	1	0	0	3	
G 473	G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	1	2	1	1	1	0	0	3	
G 474	G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	1	2	0	1	1	0	0	3	
G 475	G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	1	2	1	1	1	0	0	3	
G 476	G3-49 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	1	2	1	1	1	0	0	3	
H 477	H1-01 DO YOU USE OR REFER TO VARACTORS	2	2	1	5	1	0	1	3	
H 478	H1-02 DO YOU USE OR REFER TO TUNNEL DIODES	3	4	1	8	3	5	1	9	SOLID-STATE SPECIAL PURPOSE DEVICES
H 479	H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	4	2	3	8	3	0	2	9	
H 480	H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	3	2	1	9	3	0	2	9	
H 481	H1-05 DO YOU USE OR REFER TO ZENER DIODES	14	9	12	22	15	10	12	29	
H 482	H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS	25	30	24	26	27	29	25	32	
H 483	H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	27	25	29	23	41	29	45	35	
H 484	H2-02 DO YOU INSPECT POWER SUPPLIES	10	11	10	9	12	14	12	12	
H 485	H2-03 DO YOU CLEAN POWER SUPPLIES	2	0	1	6	2	0	2	6	
H 486	H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES	2	2	3	2	3	0	4	3	POWER SUPPLIES
H 487	H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	12	17	11	12	13	10	13	15	
H 488	H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	9	4	11	6	10	0	13	9	
H 489	H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	24	17	27	20	38	29	41	35	
H 490	H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	3	2	4	2	4	0	5	3	
H 491	H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS	4	2	3	8	5	0	4	15	
H 492	H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	4	2	3	8	6	0	4	18	
H 493	H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS	5	4	4	8	5	0	4	15	
H 494	H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS	3	4	2	7	5	5	3	15	
H 495	H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE	10	4	9	17	13	0	12	26	
H 496	H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY	7	4	6	13	10	0	8	21	
H 497	H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	7	2	6	10	9	0	8	18	
H 498	H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	7	2	6	10	9	0	8	15	
H 499	H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE	3	2	2	6	4	0	3	12	
H 500	H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY	3	2	2	6	4	0	3	12	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
M 501	H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	2	2	2	4	3	0	2	9	
M 502	H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	5	2	4	10	9	0	6	21	
M 503	H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	7	4	6	10	9	0	6	21	
M 504	H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	4	4	3	8	4	0	4	9	
M 505	H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	3	2	3	7	4	0	4	9	
M 506	H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	3	2	2	7	4	0	3	9	
M 507	H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	2	2	2	5	3	0	3	6	
M 508	H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	2	0	1	5	4	0	3	9	
M 509	H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	2	0	2	6	4	0	3	9	
M 510	H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER	5	4	5	5	9	0	9	12	
M 511	H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	0	0	0	1	0	0	0	0	
M 512	H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	6	6	6	5	12	5	16	6	
M 513	H3-02 DO YOU INSPECT OSCILLATORS	1	2	1	2	2	5	2	3	
M 514	H3-03 DO YOU ALIGN OR ADJUST OSCILLATORS	3	2	3	1	7	5	9	3	OSCILLATORS
M 515	H3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	2	4	2	2	5	5	6	3	
M 516	H3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	0	0	0	0	0	0	0	0	
M 517	H3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	1	2	1	1	2	0	3	0	
M 518	H3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	1	0	1	0	2	0	3	0	
M 519	H3-08 DO YOU USE OR REFER TO FEEDBACK	3	4	2	6	4	5	3	9	
M 520	H3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)	2	2	2	3	4	5	4	3	
M 521	H3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY	1	2	1	3	2	5	2	3	
M 522	H3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY	3	2	3	4	7	5	7	6	
M 523	H3-12 DO YOU USE OR REFER TO DAMPING	2	4	0	5	2	5	0	9	
M 524	H3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	2	2	1	4	4	5	3	6	
M 525	H3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	0	0	0	1	0	0	0	0	
M 526	H3-15 DO YOU USE OR REFER TO CRITICAL DAMPING	0	0	0	1	0	0	0	0	
M 527	H3-16 DO YOU USE OR REFER TO UNDER DAMPING	0	0	0	1	0	0	0	0	
M 528	H3-17 DO YOU USE OR REFER TO OVER DAMPING	0	0	0	1	0	0	0	0	
M 529	H3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	1	0	0	3	1	0	0	6	
M 530	H3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	1	0	1	4	2	0	2	6	
M 531	H3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	2	2	1	4	4	5	3	6	
M 532	H3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	2	2	2	2	5	0	6	6	
M 533	H3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	1	0	0	3	1	0	0	6	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
M	534	M3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	0	0	0	2	1	0	0	3	
M	535	M3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	0	0	0	2	1	0	0	3	
M	536	M3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	0	0	0	2	0	0	0	0	
M	537	M3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	0	0	0	1	0	0	0	0	
M	538	M3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	2	4	2	2	5	5	6	6	
I	539	I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	2	2	1	4	2	0	2	6	
I	540	I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	1	2	0	2	1	0	0	3	
I	541	I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	0	0	0	0	0	0	0	0	MULTIVIBRATORS
I	542	I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	0	0	0	0	0	0	0	0	
I	543	I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	1	2	1	2	1	0	1	3	
I	544	I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	1	2	1	2	2	0	2	3	
I	545	I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	1	0	0	2	1	0	0	3	
I	546	I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS	0	0	0	0	1	0	1	0	
I	547	I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	1	0	0	3	1	0	0	6	
I	548	I1-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS	1	0	0	4	1	0	0	6	
I	549	I1-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS	1	0	0	4	1	0	0	6	
I	550	I1-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD	1	0	0	2	2	0	1	6	
I	551	I1-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS	1	0	0	4	1	0	0	6	
I	552	I1-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS	1	0	0	4	1	0	0	6	
I	553	I1-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS	1	0	0	4	1	0	0	6	
I	554	I1-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS	0	0	0	1	1	0	1	3	
I	555	I2-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB	2	0	1	6	2	0	1	9	
I	556	I2-02 DO YOU WORK WITH SERIES DIODE LIMITERS	1	0	0	5	1	0	0	6	LIMITERS AND CLAMPERS
I	557	I2-03 DO YOU WORK WITH SHUNT DIODE LIMITERS	1	0	0	4	1	0	0	6	
I	558	I2-04 DO YOU WORK WITH LIMITERS WITH BIAS	1	0	0	4	1	0	0	6	
I	559	I2-05 DO YOU WORK WITH ZENER DIODE LIMITERS	1	0	0	6	2	0	0	9	
I	560	I2-06 DO YOU WORK WITH TRANSISTOR LIMITERS	1	0	0	5	1	0	0	6	
I	561	I2-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS	1	0	0	2	2	0	1	6	
I	562	I2-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS	1	0	0	4	1	0	0	6	
I	563	I2-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS	1	0	0	3	1	0	0	6	
I	564	I2-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT	1	0	0	2	2	0	1	6	
I	565	I3-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES	2	2	2	3	2	5	2	0	
I	566	I3-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD	0	0	1	0	1	0	2	0	ELECTRON TUBES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045
I 567	13-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES	0	0	0	0	0	0	0	0
I 568	13-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES	0	0	0	0	0	0	0	0
I 569	13-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES	0	0	0	0	1	0	1	0
I 570	13-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES	1	0	1	0	2	0	3	0
I 571	13-07 DO YOU USE OR REFER TO CUTOFF	0	0	0	0	0	0	0	0
I 572	13-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING	0	0	0	0	0	0	0	0
I 573	13-09 DO YOU USE OR REFER TO PEAK CURRENT RATING	0	0	0	0	0	0	0	0
I 574	13-10 DO YOU USE OR REFER TO TRANSIT TIME	0	0	0	0	0	0	0	0
I 575	13-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING	0	0	0	0	0	0	0	0
I 576	13-12 DO YOU USE OR REFER TO SATURATION	0	0	0	0	0	0	0	0
I 577	13-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE	0	0	0	0	0	0	0	0
I 578	13-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES	0	0	0	0	0	0	0	0
I 579	13-15 DO YOU USE OR REFER TO PLATE VOLTAGE	0	0	0	0	0	0	0	0
I 580	13-16 DO YOU USE OR REFER TO PLATE CURRENT	0	0	0	0	0	0	0	0
I 581	13-17 DO YOU USE OR REFER TO GRID VOLTAGE	0	0	0	0	0	0	0	0
I 582	13-18 DO YOU USE OR REFER TO GRID CURRENT	0	0	0	0	0	0	0	0
I 583	13-19 DO YOU USE OR REFER TO CATHODE VOLTAGE	0	0	0	0	0	0	0	0
I 584	13-20 DO YOU USE OR REFER TO CATHODE CURRENT	0	0	0	0	0	0	0	0
I 585	13-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS	0	0	0	0	0	0	0	0
I 586	13-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	0	0	0	0	0	0	0	0
I 587	13-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS	0	0	0	0	0	0	0	0
I 588	13-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)	0	0	0	0	0	0	0	0
I 589	13-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	0	0	0	0	0	0	0	0
I 590	13-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	0	0	0	0	0	0	0	0
I 591	13-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	0	0	0	0	0	0	0	0
I 592	13-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	0	0	0	0	0	0	0	0
I 593	13-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	0	0	0	0	0	0	0	0
I 594	13-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	0	0	0	0	0	0	0	0
I 595	13-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	0	0	0	0	0	0	0	0
I 596	13-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	0	0	0	0	1	0	1	0
I 597	13-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	0	0	0	0	1	0	1	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
I 598	I3-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0	0	0	0	
I 599	I3-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	0	0	0	0	0	0	0	0	
I 600	I3-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0	0	0	0	
I 601	I3-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	1	0	1	0	1	0	
I 602	I3-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0	0	0	0	
I 603	I3-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0	0	0	0	
I 604	I3-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	0	0	0	0	0	0	0	0	
I 605	I3-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	0	0	0	0	0	0	0	0	
I 606	I3-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	0	0	0	0	1	0	1	0	
I 607	I3-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE	0	0	0	0	0	0	0	0	
I 608	I3-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	0	0	0	0	0	0	0	0	
J 609	J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	0	0	0	0	0	0	0	0	
J 610	J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER	0	0	0	0	0	0	0	0	ELECTRON TUBE AMPLIFIERS AND CIRCUITS
J 611	J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	0	0	0	0	0	0	0	0	
J 612	J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	0	0	0	0	0	0	0	0	
J 613	J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	0	0	0	0	0	0	0	0	
J 614	J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	0	0	0	0	0	0	0	0	
J 615	J1-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER	0	0	0	0	0	0	0	0	
J 616	J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	0	0	0	0	0	0	0	0	
J 617	J2-02 DO YOU WORK WITH CATHODE-RAY TUBES	5	8	5	5	11	14	11	9	SPECIAL PURPOSE ELECTRON TUBES
J 618	J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	0	0	0	0	0	0	0	0	
J 619	J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	0	0	0	0	1	0	1	0	
J 620	J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS	0	0	0	1	1	0	1	3	
J 621	J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED	0	0	0	1	1	0	1	3	
J 622	J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)	4	4	4	6	9	10	9	9	
J 623	J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES	4	4	4	5	8	10	8	6	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
J	624	J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES	3	4	2	4	6	10	6	6	
J	625	J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS	4	4	3	7	6	10	4	12	
J	626	J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS	1	0	1	4	2	0	1	9	
J	627	J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS	1	2	1	0	2	5	3	0	
J	628	J2-13 DO YOU USE OR REFER TO PERSISTENCE	1	0	1	3	2	0	1	6	
J	629	J2-14 DO YOU USE OR REFER TO DECAY TIMES	2	4	1	2	2	10	1	3	
J	630	J2-15 DO YOU USE OR REFER TO FLUORESCENCE	2	0	3	2	2	0	4	0	
J	631	J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE	3	0	3	3	3	0	4	3	
J	632	J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	40	42	40	36	51	48	53	44	
J	633	J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	7	13	7	4	13	10	16	9	HETERODYNING, MODULATION, AND DEMODULATION
J	634	J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS	8	13	8	6	16	10	17	15	
J	635	J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	7	11	5	10	6	10	3	15	
J	636	J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS	2	8	2	2	4	5	3	6	
J	637	J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	5	9	5	4	12	14	11	12	
K	638	K1-01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	21	21	20	25	4	10	0	12	
K	639	K1-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	18	17	17	21	2	5	0	6	
K	640	K1-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	5	4	5	8	1	5	0	0	AM SYSTEMS
K	641	K1-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	5	4	6	2	1	5	0	0	
K	642	K1-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	21	19	20	23	2	5	0	6	
K	643	K1-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	9	11	9	8	2	5	0	6	
K	644	K1-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	22	19	20	26	2	5	0	9	
K	645	K1-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	9	13	10	5	1	5	0	3	
K	646	K1-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	2	6	1	1	2	5	2	3	
K	647	K1-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	3	9	2	1	1	5	1	0	
K	648	K1-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	2	8	1	1	1	5	0	0	
K	649	K1-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	4	9	4	3	1	5	0	0	
K	650	K1-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	1	6	1	0	1	5	0	0	
K	651	K1-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	1	6	1	0	1	5	0	0	
K	652	K1-15 DO YOU PERFORM TASKS ON DETECTORS	1	4	1	0	1	5	0	0	
K	653	K1-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE	1	2	1	1	0	0	0	0	
K	654	K1-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	2	8	1	2	2	10	0	3	
K	655	K1-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	3	9	1	7	2	10	0	6	
K	656	K1-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	16	17	15	17	2	5	0	9	
K	657	K1-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	12	11	12	12	1	0	0	3	
K	658	K1-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	1	2	2	1	0	0	0	0	
K	659	K1-22 DO YOU USE OR REFER TO BANDPASS DISTORTION	1	2	1	1	0	0	0	0	
K	660	K1-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	1	2	0	1	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
K 661	K1-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	4	4	5	4	0	0	0	0	
K 662	K1-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	2	2	2	2	0	0	0	0	
K 663	K1-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	3	6	2	3	0	0	0	0	
K 664	K1-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	6	9	6	6	3	10	1	6	
K 665	K1-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	7	9	6	6	3	10	1	6	
K 666	K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	10	17	9	10	6	19	4	6	
K 667	K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	8	15	7	7	5	14	4	3	
K 668	K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	2	4	2	1	1	5	1	0	
K 669	K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	1	2	1	1	2	5	2	0	FM SYSTEMS
K 670	K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	8	9	8	8	3	5	2	6	
K 671	K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	4	9	4	2	2	5	2	0	
K 672	K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	9	13	8	8	5	14	4	6	
K 673	K2-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	3	6	4	2	2	5	2	0	
K 674	K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	1	4	1	0	1	5	1	0	
K 675	K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	1	4	0	0	1	5	1	0	
K 676	K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	1	4	0	0	1	5	0	0	
K 677	K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	2	6	2	0	1	5	1	0	
K 678	K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	1	4	2	0	1	5	1	0	
K 679	K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	1	6	1	0	1	5	1	0	
K 680	K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	1	4	1	0	1	5	1	0	
K 681	K2-16 DO YOU PERFORM TASKS ON LIMITERS	0	4	0	0	1	5	0	0	
K 682	K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	1	4	0	0	1	5	1	0	
K 683	K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	3	8	3	2	2	5	2	0	
K 684	K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	3	8	3	2	2	5	2	0	
K 685	K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	11	13	10	13	24	24	24	24	
K 686	K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	19	26	17	24	30	33	28	32	NUMBERING SYSTEMS
K 687	K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	11	11	11	12	25	19	25	29	
K 688	K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	11	13	11	11	27	29	27	26	
K 689	K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	16	21	14	22	26	19	25	32	
K 690	K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	11	13	11	12	27	29	27	26	
K 691	K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	13	19	11	15	19	19	19	18	
K 692	K3-08 DO YOU SUBRRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	6	6	6	8	12	5	12	15	
K 693	K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	8	9	7	10	13	5	15	15	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
K 694	K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	8	8	7	10	20	14	19	29	
L 695	L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	16	17	14	21	19	19	17	26	
L 696	L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	5	8	3	9	5	0	3	15	
L 697	L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	4	6	3	8	4	0	2	12	LOGIC FUNCTIONS
L 698	L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	4	6	3	8	4	0	2	15	
L 699	L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	5	6	3	9	4	0	2	15	
L 700	L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	12	8	10	18	13	10	10	29	
L 701	K1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	12	8	10	19	13	10	9	26	
L 702	K1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	10	4	8	16	11	5	7	26	
L 703	L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	9	4	8	14	11	5	9	21	
L 704	L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	14	11	13	20	18	14	16	26	
L 705	L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	14	11	12	20	17	14	15	26	
L 706	L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	14	11	13	20	18	14	16	26	
L 707	L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	11	4	10	16	15	10	14	24	
L 708	L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC	2	2	1	6	3	0	3	6	
L 709	L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	1	0	1	3	2	0	1	6	
L 710	L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	1	0	1	2	1	0	1	3	BOOLEAN EQUATIONS
L 711	L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	1	2	1	3	3	5	1	9	
L 712	L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	4	4	3	7	5	10	9	6	
L 713	L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	3	2	3	5	4	5	3	9	
L 714	L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	4	2	4	6	5	5	5	9	
L 715	L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	3	4	2	5	2	5	3	0	
L 716	L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	2	4	2	2	2	5	2	0	
L 717	L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	7	6	5	13	9	10	6	18	
L 718	L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	2	0	1	4	3	0	2	9	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
L 719	L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	3	0	3	6	5	0	5	9	
L 720	L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	3	0	2	8	4	0	3	12	
L 721	L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	4	2	3	8	5	0	5	9	
L 722	L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	3	2	2	8	4	0	3	9	
L 723	L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	4	2	3	8	4	0	3	12	
L 724	L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	3	2	1	8	3	0	1	12	
L 725	L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	4	2	3	8	5	0	4	12	
L 726	L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	3	2	2	7	3	0	2	9	
L 727	L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	2	2	2	4	2	0	3	3	
L 728	L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	2	2	2	4	2	0	3	3	
L 729	L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	1	0	0	2	2	0	1	6	
L 730	L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	3	4	2	7	4	5	3	9	
L 731	L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	3	4	2	5	4	5	3	6	
L 732	L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	1	0	1	0	1	0	1	0	
L 733	L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	12	17	12	10	13	14	13	12	
L 734	L3-02 DO YOU USE OR REFER TO UP-COUNTERS	8	11	7	8	8	14	6	9	
L 735	L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS	9	17	8	8	8	14	6	9	COUNTERS
L 736	L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS	5	11	3	7	8	14	6	12	
L 737	L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS	4	11	2	5	7	14	6	9	
L 738	L3-06 DO YOU USE OR REFER TO RING COUNTERS	3	9	1	3	4	10	3	6	
L 739	L3-07 DO YOU USE OR REFER TO DECADE COUNTERS	3	9	2	3	5	10	4	6	
L 740	L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	4	11	3	6	5	10	4	9	
L 741	L3-09 DO YOU USE OR REFER TO DOWN CLOCKS	4	9	3	6	5	10	4	9	
L 742	L3-10 DO YOU USE OR REFER TO UP CLOCKS	5	11	4	6	6	10	5	9	
L 743	L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	4	8	2	6	6	14	4	9	
L 744	L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-	4	8	2	6	6	14	4	9	
L 745	L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	1	6	0	3	3	10	1	6	
L 746	L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	1	4	0	2	3	10	1	6	
L 747	L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	3	9	1	4	6	19	3	9	
L 748	L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	3	6	2	5	6	10	4	12	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
L 749	L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	3	9	2	5	4	10	2	9	
L 750	L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	1	4	1	2	3	10	2	3	
L 751	L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENT-	1	4	1	2	2	5	3	0	
L 752	L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE	1	4	1	0	2	5	3	0	
L 753	L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	1	4	1	0	1	5	1	0	
L 754	L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	0	2	0	0	1	5	1	0	
L 755	L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	1	2	1	0	1	5	1	0	
L 756	L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	1	2	1	0	2	5	2	0	
M 757	M1-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	6	2	5	8	12	5	11	21	
M 758	M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	2	2	2	4	5	5	5	9	
M 759	M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	4	0	4	6	6	0	6	12	
M 760	M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	4	2	3	6	7	5	6	12	TIMING CIRCUITS
M 761	M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	3	4	2	6	6	5	5	12	
M 762	M1-06 DO YOU USE OR REFER TO RISE TIME	4	2	3	8	7	0	6	15	
M 763	M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	4	2	3	8	8	0	6	18	
M 764	M1-08 DO YOU USE OR REFER TO SWEEP TIME	7	6	7	9	13	10	13	18	
M 765	M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	3	0	2	9	5	0	3	18	
M 766	M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	2	0	1	8	4	0	2	12	
M 767	M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	3	0	1	8	5	0	3	18	
M 768	M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	2	0	1	8	5	0	3	18	
M 769	M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	10	23	10	7	4	10	3	3	
M 770	M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	11	26	10	8	4	10	3	3	
M 771	M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL	3	13	2	2	2	5	1	3	USE OF SIGNAL GENERATORS
M 772	M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	8	19	7	5	3	5	3	3	
M 773	M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	2	8	1	0	1	0	1	0	
M 774	M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	1	2	1	3	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 38	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
M 775	M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	1	4	0	3	1	5	0	0	
M 776	M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	5	9	5	6	2	5	2	3	
M 777	M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	5	8	6	4	4	5	4	3	
M 778	M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	4	8	4	4	4	5	4	3	
M 779	M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR	15	15	15	14	12	10	12	15	
M 780	M3-02 DO YOU INSPECT MOTORS	5	6	5	7	8	10	8	6	MOTORS AND GENERATORS
M 781	M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	1	0	1	2	1	0	1	3	
M 782	M3-04 DO YOU OPERATE MOTORS	8	8	9	8	9	10	8	9	
M 783	M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	7	9	6	6	3	0	3	6	
M 784	M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	0	0	0	0	0	0	0	0	
M 785	M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	10	11	10	10	10	10	9	12	
M 786	M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	1	2	1	1	1	5	0	3	
M 787	M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	0	0	0	0	0	0	0	0	
M 788	M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	0	0	0	0	0	0	0	0	
M 789	M3-11 DO YOU PERFORM ANY TASKS ON ROTORS	0	0	0	0	0	0	0	0	
M 790	M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	0	0	0	0	0	0	0	0	
M 791	M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	0	0	0	0	0	0	0	0	
M 792	M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	0	0	0	0	0	0	0	0	
M 793	M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	0	0	0	0	0	0	0	0	
M 794	M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	1	4	1	1	2	5	2	3	
M 795	M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	1	4	1	1	2	5	3	0	
M 796	M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	1	4	1	1	1	5	1	0	
M 797	M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	9	13	9	9	7	10	5	12	
M 798	M3-20 DO YOU WORK WITH INDUCTION MOTORS	7	6	7	10	4	5	4	6	
M 799	M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	4	6	3	5	4	5	3	6	
M 800	M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	8	9	7	8	7	10	6	9	
M 801	M3-23 DO YOU INSPECT GENERATORS	3	4	3	3	2	0	3	0	
M 802	M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	0	0	0	2	0	0	0	0	
M 803	M3-25 DO YOU OPERATE GENERATORS	3	0	4	3	2	0	3	3	
M 804	M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	4	8	4	3	0	0	0	0	
M 805	M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	0	0	0	0	0	0	0	0	
M 806	M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	6	6	6	5	1	0	1	3	
M 807	M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	0	0	0	1	1	0	0	3	
M 808	M1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	68	69	69	66	63	93	68	62	
M 809	M1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	6	0	6	8	4	0	4	9	METER MOVEMENTS
M 810	M1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	7	2	7	10	4	0	4	9	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
N	811	N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	6	2	6	8	4	0	4	9	
N	812	N1-05 DO YOU READ METER SCALES	69	64	70	66	63	48	67	62	
N	813	N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	18	21	19	14	23	24	23	21	
N	814	N1-07 DO YOU ZERO OHMMETERS	68	66	69	67	63	52	65	65	
N	815	N1-08 DO YOU ZERO AMMETERS	23	28	23	19	25	24	27	21	
N	816	N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	30	28	31	27	29	19	28	38	
N	817	N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	26	23	24	36	24	19	25	26	
N	818	N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	0	0	0	1	1	0	1	0	
N	819	N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	1	0	1	0	SATURABLE REACTORS AND MAGNETIC
N	820	N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	1	0	1	0	AMPLIFIERS
N	821	N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	1	0	1	0	
N	822	N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	1	1	0	1	0	
N	823	N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	1	1	0	1	0	
N	824	N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	0	0	0	0	1	0	1	0	
N	825	N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS	0	0	0	1	1	0	1	0	
N	826	N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF	0	0	0	0	1	0	1	0	
N	827	N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE	0	0	0	0	1	0	1	0	
N	828	N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS	0	0	0	1	1	0	1	0	
N	829	N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N	830	N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N	831	N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N	832	N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N	833	N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS	0	0	0	0	0	0	0	0	
N	834	N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB	8	8	7	11	14	5	14	21	
N	835	N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS	3	6	3	4	5	5	6	6	
N	836	N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)	8	8	7	12	15	5	14	29	WAVESHAPING
N	837	N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	6	6	5	11	12	5	10	29	CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
N	838	N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	7	6	6	11	14	5	13	24	
N	839	N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS	5	4	4	10	10	5	7	21	
N	840	N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS	6	4	5	10	12	5	10	21	
N	841	N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT	6	6	5	8	10	5	10	15	
N	842	N3-09 DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS DIFFERENTIATING OR INTEGRATING BASED ON THE TIME CONSTANT	1	0	1	1	1	0	2	0	
N	843	N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS	2	0	1	6	4	0	3	12	
N	844	N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS	2	0	1	5	3	0	2	9	
O	845	01-01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB	26	25	27	24	0	0	0	0	
O	846	01-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS	22	21	23	22	0	0	0	0	
O	847	01-03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS	7	4	6	9	0	0	0	0	
O	848	01-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS	4	4	5	0	0	0	0	0	SINGLE SIDEBAND
O	849	01-05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS	25	25	26	22	0	0	0	0	SYSTEMS
O	850	01-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS	11	9	13	7	0	0	0	0	
O	851	01-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS	24	23	24	24	0	0	0	0	
O	852	01-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS	11	11	13	6	0	0	0	0	
O	853	01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	2	6	3	0	0	0	0	0	
O	854	01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS	1	2	1	0	0	0	0	0	
O	855	01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	0	2	0	0	0	0	0	0	
O	856	01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS	0	2	0	0	0	0	0	0	
O	857	01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	0	2	0	0	1	5	0	0	
O	858	01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	0	0	0	0	0	0	0	0	
O	859	01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS	1	4	1	0	1	5	0	0	
O	860	01-16 DO YOU PERFORM TASKS ON SSB MIXERS	0	4	0	0	1	5	0	0	
O	861	01-17 DO YOU PERFORM TASKS ON SSB DRIVERS	1	4	0	0	0	0	0	0	
O	862	01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	5	11	6	1	1	5	0	0	
O	863	01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS	3	4	5	0	0	0	0	0	
O	864	01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	0	4	0	0	1	5	0	0	
O	865	01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS	1	4	1	0	0	0	0	0	
O	866	01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS	1	2	1	0	0	0	0	0	
O	867	01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES	1	6	0	1	0	0	0	0	
O	868	01-24 DO YOU USE OR REFER TO SELECTIVE FADING	4	9	4	3	0	0	0	0	
O	869	01-25 DO YOU USE OR REFER TO PEAK POWER	11	13	11	8	0	0	0	0	
O	870	01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY	8	11	8	6	0	0	0	0	
O	871	01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS	1	2	1	0	0	0	0	0	
O	872	01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS	2	0	3	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
0 873	01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS	7	9	8	3	0	0	0	0	
0 874	01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS	7	9	9	2	0	0	0	0	
0 875	02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB	14	17	14	13	21	19	21	21	
0 876	02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	9	13	8	7	10	19	9	9	
0 877	02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	3	0	4	3	4	0	5	3	PULSE MODULATION
0 878	02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	4	4	4	3	7	5	6	9	SYSTEMS
0 879	02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	12	19	12	8	16	19	17	12	
0 880	02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS	5	4	6	4	6	0	7	6	
0 881	02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	12	17	12	9	18	19	19	15	
0 882	02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS	5	6	6	4	7	5	7	6	
0 883	02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS	4	2	5	3	4	0	5	6	
0 884	02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS	3	2	4	4	3	0	3	6	
0 885	02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS	4	2	3	6	3	5	2	6	
0 886	02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	2	2	3	2	1	0	0	3	
0 887	02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	1	0	0	2	1	0	0	6	
0 888	02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM	6	8	6	5	10	10	10	9	
0 889	02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	3	6	3	3	6	10	6	6	
0 890	02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	0	0	0	2	1	0	0	3	
0 891	02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	2	6	2	2	5	10	5	3	
0 892	02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	1	4	1	2	4	10	3	3	
0 893	02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	0	2	0	0	1	5	0	0	
0 894	02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	1	2	1	2	2	5	2	3	
0 895	02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	1	0	0	2	1	0	0	6	
0 896	02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	2	4	3	1	4	5	5	3	
0 897	02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	1	0	1	2	3	0	4	3	
0 898	02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	1	2	1	2	4	5	3	6	
0 899	02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	1	4	1	3	3	5	2	6	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
0 900	02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	3	2	3	3	5	5	5	9	
0 901	02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	2	2	1	3	4	5	2	9	
0 902	02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	2	2	2	2	3	5	3	3	
0 903	02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	10	9	11	10	15	10	15	18	
0 904	02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	7	8	7	7	7	5	6	9	
0 905	02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	11	13	12	9	16	14	17	15	
0 906	02-32 DO YOU USE OR REFER TO PULSE SHAPE	4	4	7	7	9	0	9	15	
0 907	02-33 DO YOU USE OR REFER TO PEAK POWER	9	2	9	9	12	0	13	15	
0 908	02-34 DO YOU USE OR REFER TO AVERAGE POWER	6	2	6	7	9	0	8	15	
0 909	02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	2	2	2	3	2	0	2	6	
0 910	02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	3	4	3	3	6	5	6	9	
0 911	02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	1	0	1	2	2	0	1	6	
0 912	02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	8	4	8	8	14	5	15	18	
0 913	02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	9	13	10	6	18	19	18	15	
0 914	03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	62	64	62	58	86	86	88	79	
0 915	03-02 DO YOU INSPECT ANTENNAS	60	58	61	58	82	71	84	79	
0 916	03-03 DO YOU CLEAN ANTENNAS	31	30	29	38	32	24	32	38	ANTENNAS
0 917	03-04 DO YOU PHYSICALLY ALIGN ANTENNAS	29	32	26	15	43	43	46	32	
0 918	03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS	21	21	23	19	46	38	50	38	
0 919	03-06 DO YOU TROUBLESHOOT TO ANTENNAS	60	62	62	56	87	81	90	79	
0 920	03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	22	36	21	20	35	48	34	32	
0 921	03-08 DO YOU REMOVE OR INSTALL ANTENNAS	62	64	63	57	87	86	90	79	
0 922	03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	13	23	13	8	19	33	18	12	
0 923	03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	5	11	4	5	7	14	6	9	
0 924	03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	4	11	2	5	7	14	5	9	
0 925	03-12 DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS	3	9	1	3	4	14	2	3	
0 926	03-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE OF CORRECT LENGTH (HALF-WAVE) ACT AS	4	6	3	5	4	5	3	6	
0 927	03-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE LONGER THAN A HALF-WAVE ACT AS INDUCTIVE LOADS	4	9	2	6	4	10	3	6	
0 928	03-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE SHORTER THAN A HALF-WAVE ACT AS CAPACITIVE LOADS	3	8	2	5	3	10	1	6	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
O 929	03-16 DO YOU WORK WITH HERTZ ANTENNAS	5	2	6	3	6	5	7	3	
O 930	03-17 DO YOU WORK WITH MARCONI ANTENNAS	3	0	3	7	2	0	2	3	
O 931	03-18 DO YOU WORK WITH BROADSIDE ARRAYS	3	0	4	4	3	0	4	3	
O 932	03-19 DO YOU WORK WITH END-FIRE ARRAYS	2	0	2	1	2	0	4	0	
O 933	03-20 DO YOU WORK WITH CARDIOID ARRAYS	8	11	7	8	2	0	2	3	
O 934	03-21 DO YOU WORK WITH COLLINEAR ARRAYS	6	6	7	3	8	0	10	6	
O 935	03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	3	8	3	2	3	10	3	0	
O 936	03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	1	0	2	1	1	0	1	3	
O 937	03-24 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS	10	15	9	8	16	19	16	18	
O 938	03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	4	4	4	2	4	5	4	6	
O 939	03-26 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA RADIATION	1	2	1	2	3	5	3	3	
O 940	03-27 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD	1	4	1	1	2	5	2	0	
O 941	03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	25	19	26	24	54	38	57	56	
O 942	03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	25	23	26	25	62	48	63	68	
O 943	03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	6	6	7	6	15	14	15	15	
O 944	03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR	1	2	1	0	1	5	1	0	
O 945	03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	5	9	5	5	8	19	7	3	
O 946	03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS	4	4	4	5	3	5	3	3	
O 947	03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	6	4	6	6	8	5	9	6	
O 948	03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS	22	28	22	20	32	33	35	24	
O 949	03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	25	34	24	24	23	33	21	24	
O 850	03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS	21	21	22	18	18	10	21	15	
O 851	03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	15	17	16	12	27	24	29	24	
O 852	03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS	11	21	10	9	19	19	18	21	
P 953	P1-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS	37	40	36	37	27	29	28	26	
P 954	P1-02 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN TRANSMISSION LINES	3	8	2	3	1	5	0	0	TRANSMISSION LINES
P 955	P1-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	5	6	4	7	4	0	4	6	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 090	SPC 091	SPC 092	SPC 093	SPC 094	SPC 095
P 956	P1-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	12	13	12	13	5	5	5	9
P 957	P1-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	4	8	4	6	1	0	1	0
P 958	P1-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	15	23	15	13	6	5	7	3
P 959	P1-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	7	11	8	3	2	0	3	0
P 960	P1-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	6	8	7	3	1	0	2	0
P 961	P1-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	4	9	4	2	1	0	2	0
P 962	P1-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	37	38	37	36	27	24	29	21
P 963	P1-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	29	34	29	26	12	14	13	6
P 964	P1-12 DO YOU TROUBLESHOOT TRANSMISSION LINES	35	36	35	35	25	24	26	24
P 965	P1-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION	6	4	7	2	2	0	4	0
P 966	P1-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	2	2	2	2	1	0	2	0
P 967	P1-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	7	8	8	6	6	0	8	3
P 968	P1-16 DO YOU MEASURE STANDING WAVE RATIOS (SR) OF TRANSMISSION LINES	19	19	18	21	1	0	1	0
P 969	P1-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	5	4	5	5	1	0	1	0
P 970	P1-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH	1	2	1	0	1	0	1	0
P 971	P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	4	6	5	3	2	0	3	0
P 972	P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	1	2	1	3	1	0	1	0
P 973	P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA	0	0	1	0	1	0	1	0
P 974	P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	5	6	4	8	1	0	1	0
P 975	P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	1	2	1	0	1	0	1	0
P 976	P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES	2	0	2	1	1	0	1	0
P 977	P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	1	2	1	2	1	0	1	0
P 978	P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	1	2	2	0	1	0	2	0
P 979	P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	3	4	2	5	1	0	2	0
P 980	P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF	2	0	2	4	1	0	2	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
P 981	P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	5	8	4	7	1	0	2	0	
P 982	P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	10	8	10	8	4	0	6	0	
P 983	P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	3	2	2	5	1	0	1	0	
P 984	P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	50	53	50	45	76	67	79	71	
P 985	P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	46	40	47	44	71	48	75	71	WAVEGUIDES AND CAVITY RESONATORS
P 986	P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	17	23	16	20	26	33	24	26	
P 987	P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	12	21	12	6	20	24	22	9	
P 988	P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	6	9	8	1	10	10	13	3	
P 989	P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	43	34	46	41	68	38	72	74	
P 990	P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	20	21	21	17	24	14	23	32	
P 991	P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	43	43	43	42	65	48	69	65	
P 992	P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	48	51	49	43	77	71	79	74	
P 993	P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	47	45	47	46	71	57	72	79	
P 994	P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	13	11	13	13	15	10	16	18	
P 995	P2-12 DO YOU REMOVE OR INSTALL E BENDS	8	13	8	6	11	14	11	9	
P 996	P2-13 DO YOU REMOVE OR INSTALL H BENDS	7	11	7	6	10	10	10	9	
P 997	P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS	20	23	22	14	32	29	33	29	
P 998	P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS	4	8	5	2	5	10	5	3	
P 999	P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	7	9	7	4	12	14	11	12	
P1000	P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	14	17	14	14	14	14	13	18	
P1001	P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS	10	15	10	8	9	14	9	6	
P1002	P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES	2	6	2	2	3	14	1	3	
P1003	P2-20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES	2	6	1	2	3	14	1	3	
P1004	P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES	2	8	2	2	4	14	2	6	
P1005	P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	2	4	2	1	3	10	2	3	
P1006	P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	1	2	1	0	2	5	2	0	
P1007	P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS	1	4	1	0	2	10	2	0	
P1008	P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	1	4	1	0	2	10	2	0	
P1009	P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	1	4	1	1	4	10	4	3	
P1010	P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS	1	4	1	0	2	5	3	0	
P1011	P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35	1	4	1	0	2	5	3	0	
P1012	P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	4	4	5	4	9	0	9	12	
P1013	P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	1	4	1	0	2	5	3	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
P1014	P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR	1	2	1	1	2	0	2	3	
P1015	P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES	1	2	1	0	1	0	2	0	
P1016	P2-33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	1	0	1	0	
P1017	P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES	0	2	0	0	1	5	1	0	
P1018	P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	1	2	1	0	1	0	1	0	
P1019	P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	2	4	2	1	3	5	3	3	
P1020	P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	1	0	1	0	2	0	
P1021	P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	6	2	6	8	12	0	14	15	
P1022	P2-39 ARE DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	17	23	18	12	24	24	28	12	
P1023	P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO	0	0	0	0	1	0	1	0	
P1024	P2-41 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO	0	0	0	0	1	0	1	0	
P1025	P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO	0	0	1	0	1	0	2	0	
P1026	P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	5	11	4	6	7	14	5	9	
P1027	P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	12	9	12	13	30	19	28	41	
P1028	P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	17	23	17	13	23	19	26	15	
P1029	P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	1	0	1	3	4	0	3	9	
P1030	P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	1	0	1	1	2	0	2	3	
P1031	P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	1	0	1	0	1	0	2	0	
P1032	P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	9	15	9	8	15	14	16	15	
P1033	P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	1	2	1	1	3	0	4	3	
P1034	P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR	17	19	16	17	41	33	41	44	MICROWAVE AMPLIFIERS AND OSCILLATORS
P1035	P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE	0	0	0	2	0	0	0	0	
P1036	P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME	1	0	1	1	1	0	2	0	
P1037	P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE	1	0	1	1	1	0	2	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045
P1038	P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	3	4	3	2	7	5	9	3
P1039	P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	1	0	1	1	2	0	3	0
P1040	P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING	1	0	1	2	1	0	1	0
P1041	P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	2	2	2	2	6	5	6	6
P1042	P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	2	2	2	1	5	5	6	3
P1043	P3-10 DO YOU WORK WITH REFLEX KLYSTRONS	6	2	5	10	16	5	14	29
P1044	P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)	6	8	6	7	12	10	12	12
P1045	P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	0	2	0	0	1	5	1	0
P1046	P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	0	2	0	0	1	5	1	0
P1047	P3-14 DO YOU WORK WITH MAGNETRONS	11	4	11	13	30	10	32	38
P1048	P3-15 DO YOU INSPECT KLYSTRONS OR TWT	3	4	3	3	5	5	5	6
P1049	P3-16 DO YOU CLEAN KLYSTRONS OR TWT	0	0	1	0	0	0	0	0
P1050	P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	5	4	5	7	14	5	14	21
P1051	P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	10	6	10	11	28	14	28	35
P1052	P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	8	6	9	6	20	10	23	18
P1053	P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	5	4	6	3	12	5	14	9
P1054	P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	4	4	4	2	7	5	9	3
P1055	P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	0	0	1	0	1	0	1	0
P1056	P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	0	0	0	1	0	0	0	0
P1057	P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1058	P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1059	P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	0	0	0	0	1	0	1	0
P1060	P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	1	2	1	1	3	5	3	3
P1061	P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	0	0	0	0	1	0	1	0
P1062	P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIER	0	0	0	0	1	0	1	0
P1063	P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	0	0	0	0	1	0	1	0
P1064	P3-31 DO YOU INSPECT MAGNETRONS	1	0	2	1	4	0	5	3
P1065	P3-32 DO YOU CLEAN MAGNETRONS	0	0	1	0	1	0	2	0
P1066	P3-33 DO YOU ADJUST MAGNETRONS	4	6	4	3	10	14	10	9
P1067	P3-34 DO YOU TUNE MAGNETRONS	6	6	6	8	17	14	16	24
P1068	P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	9	8	9	8	24	19	26	24
P1069	P3-36 DO YOU TROUBLESHOOT MAGNETRONS	6	4	6	7	17	10	17	21
P1070	P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	4	0	6	3	12	0	16	9
P1071	P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	0	0	0	0	1	0	1	0
P1072	P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	0	0	0	0	1	0	1	0
P1073	P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES	0	0	0	0	1	0	1	0
P1074	P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	0	0	0	0	1	0	1	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 090	SPC 091	SPC 092	SPC 093	SPC 094	SPC 095
P1075	P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS	0	0	0	0	1	0	1	0
P1076	P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	0	0	0	0	0	0	0	0
P1077	P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS	0	0	0	0	0	0	0	0
P1078	P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	0	0	0	0	0	0	0	0
P1079	P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	0	2	0	0	0	0	0	0
P1080	P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES	0	0	0	0	0	0	0	0
P1081	P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	1	2	0	2	2	5	0	6
P1082	P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	0	2	0	0	1	5	0	0
P1083	P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRID CAVITY GAPS	0	2	0	0	1	5	0	0
P1084	P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	1	2	1	1	2	5	2	3
P1085	P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON MAGNETIC COUPLING LOOPS	0	2	0	0	1	5	1	0
P1086	P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	0	2	0	0	1	5	0	0
P1087	P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES	0	2	0	0	1	5	0	0
P1088	P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	0	2	0	0	1	5	1	0
P1089	P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	1	0	1	1	1	0	1	0
P1090	P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	1	0	1	1	1	0	1	0
P1091	P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	1	2	1	1	2	5	2	0
P1092	P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	0	0	0	1	1	0	1	0
P1093	P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	1	0	1	1	1	0	1	0
P1094	P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	0	0	0	1	1	0	1	0
P1095	P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	1	0	1	1	1	0	1	0
P1096	P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	1	2	0	1	1	0	1	0
P1097	P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	0	0	0	0	0	0	0	0
P1098	P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	0	0	0	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
P1099	P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	0	0	0	0	0	0	0	0	
P1100	P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	0	0	0	0	0	0	0	0	
P1101	P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	0	0	0	0	0	0	0	0	
P1102	P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	0	0	0	0	0	0	0	0	
P1103	P3-70 DO YOU PERFORM TASKS ON ANODES	0	0	0	0	0	0	0	0	
P1104	P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS	0	0	0	0	0	0	0	0	
P1105	P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	0	0	0	0	1	0	1	0	
P1106	P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	0	0	0	0	0	0	0	0	
P1107	P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	0	0	1	0	1	0	2	0	
P1108	P3-75 DO YOU PERFORM TASKS ON CATHODES	0	0	0	0	0	0	0	0	
P1109	P3-76 DO YOU PERFORM TASKS ON MAGNETS	0	0	0	0	0	0	0	0	
Q1110	Q1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	5	4	4	9	12	10	9	21	
Q1111	Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	4	2	3	9	10	5	7	21	
Q1112	Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	4	2	3	7	8	5	6	15	REGISTERS
Q1113	Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	4	4	3	7	9	10	6	15	
Q1114	Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	4	2	4	7	8	5	7	12	
Q1115	Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	5	4	5	6	9	10	9	9	
Q1116	Q1-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES	2	0	1	4	3	0	3	6	
Q1117	Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	11	6	11	13	21	10	21	26	
Q1118	Q2-02 DO YOU USE OR REFER TO DELAY LINES	3	0	3	6	8	0	7	15	STORAGE DEVICES
Q1119	Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES	5	0	4	9	12	0	11	24	
Q1120	Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS	1	0	1	3	3	0	3	6	
Q1121	Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES	4	0	4	8	6	0	6	9	
Q1122	Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR MEMORY SYSTEMS	7	4	6	8	16	5	17	21	
Q1123	Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	8	2	7	12	20	5	19	29	
Q1124	Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	4	2	3	6	9	5	8	12	
Q1125	Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	1	0	1	3	4	0	4	9	
Q1126	Q3-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D)	14	11	14	15	29	24	28	32	
Q1127	Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT	1	2	1	1	1	0	2	0	DIGITAL TO ANALOG CONVERTERS
Q1128	Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A)	1	0	1	1	1	0	1	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
Q1129	Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	1	2	1	0	2	0	4	0	
Q1130	Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0	2	1	0	0	6	
Q1131	Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0	1	1	0	0	3	
Q1132	Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0	1	1	0	0	3	
Q1133	Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0	1	1	0	0	3	
Q1134	Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER	3	2	2	6	5	5	4	12	
Q1135	Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	2	0	2	3	5	0	5	9	
Q1136	Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	1	0	1	1	3	0	4	3	
Q1137	Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	1	0	2	2	4	0	5	6	
Q1138	Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	3	2	3	4	8	5	7	12	
Q1139	Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	2	0	2	3	5	0	6	6	
R1140	R1-01 DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB	1	0	1	1	0	0	0	0	PHANTASTRONS
R1141	R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	4	2	4	4	9	5	9	9	
R1142	R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	2	2	3	2	6	5	6	6	SCHMITT TRIGGERS
R1143	R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	2	2	2	3	5	5	6	6	
R1144	R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	30	25	28	39	25	14	26	29	CABLE FABRICATION
R1145	R3-02 DO YOU FABRICATE COAXIAL CABLES	41	34	39	51	36	19	38	41	
S1146	S1-01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	38	40	40	29	61	43	66	56	
S1147	S1-02 DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS	15	8	17	15	39	19	41	44	INPUT/OUTPUT DEVICES
S1148	S1-03 DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA	2	0	2	3	4	0	4	9	
S1149	S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	3	4	4	1	8	5	10	3	PHOTO SENSITIVE DEVICES
S1150	S3-01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	1	2	1	0	1	0	2	0	
S1151	S3-02 DO YOU MEASURE EXCITATION FREQUENCIES	0	0	0	0	0	0	0	0	
S1152	S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	0	0	0	0	0	0	0	0	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
S1153	S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES	0	2	0	0	0	0	0	0	
S1154	S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	0	0	0	0	0	0	0	0	
S1155	S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	1	2	1	0	1	0	2	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
S1156	S3-07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	1	2	1	0	1	0	2	0	
S1157	S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	1	2	1	0	1	0	2	0	
S1158	S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	1	2	1	0	1	0	1	0	
T1159	T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	26	21	27	26	1	0	1	3	
T1160	T1-02 DO YOU INSPECT INFRARED SYSTEMS	24	23	24	26	1	0	0	3	
T1161	T1-03 DO YOU CLEAN INFRARED SYSTEMS	19	15	19	21	1	0	0	3	INFRARED
T1162	T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	6	8	6	5	1	0	0	3	
T1163	T1-05 DO YOU OPERATE INFRARED SYSTEMS	25	21	25	25	1	0	0	3	
T1164	T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	25	23	25	25	1	0	0	3	
T1165	T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	21	21	22	18	1	0	0	3	
T1166	T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	7	11	6	8	0	0	0	0	
T1167	T1-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	24	23	25	23	1	0	0	3	
T1168	T1-10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	5	8	5	4	0	0	0	0	
T1169	T1-11 DO YOU USE OR REFER TO FAR REGION	2	2	2	3	0	0	0	0	
T1170	T1-12 DO YOU USE OR REFER TO INTERMEDIATE REGION	2	2	2	3	0	0	0	0	
T1171	T1-13 DO YOU USE OR REFER TO NEAR REGION	2	4	2	3	0	0	0	0	
T1172	T1-14 DO YOU USE OR REFER TO MICRON	3	6	3	3	0	0	0	0	
T1173	T1-15 DO YOU USE OR REFER TO GRAY BODIES	3	8	2	3	0	0	0	0	
T1174	T1-16 DO YOU USE OR REFER TO BLACK BODIES	4	8	3	4	0	0	0	0	
T1175	T1-17 DO YOU USE OR REFER TO ABSORPTION	3	4	3	4	0	0	0	0	
T1176	T1-18 DO YOU USE OR REFER TO SCATTERING	3	2	2	5	0	0	0	0	
T1177	T1-19 DO YOU USE OR REFER TO ABSOLUTE ZERO	6	13	5	5	0	0	0	0	
T1178	T1-20 DO YOU PERFORM TASKS ON BLITZ	0	0	0	0	0	0	0	0	
T1179	T1-21 DO YOU PERFORM TASKS ON TARGET BUTTONS	1	0	1	0	1	0	1	0	
T1180	T1-22 DO YOU PERFORM TASKS ON ERECTOR LENSES	0	0	0	0	0	0	0	0	
T1181	T1-23 DO YOU PERFORM TASKS ON OCULAR LENSES	0	2	0	0	0	0	0	0	
T1182	T1-24 DO YOU PERFORM TASKS ON CORRECTION LENSES	0	0	0	0	0	0	0	0	
T1183	T1-25 DO YOU PERFORM TASKS ON FILTERS	1	2	2	1	0	0	0	0	
T1184	T1-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	0	2	0	0	0	0	0	0	
T1185	T1-27 DO YOU PERFORM TASKS ON PLANE MIRRORS	0	0	0	0	0	0	0	0	
T1186	T2-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH LASERS	0	0	0	0	0	0	0	0	
T1187	T2-02 DO YOU INSPECT LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1188	T2-03 DO YOU CLEAN LASER SYSTEMS	0	0	0	0	0	0	0	0	LASERS
T1189	T2-04 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1190	T2-05 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1191	T2-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
T1192	T2-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1193	T2-08 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1194	T2-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1195	T2-10 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1196	T2-11 DO YOU USE OR REFER TO ANGSTROMS (A)	0	0	0	0	0	0	0	0	
T1197	T2-12 DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	0	0	0	0	0	0	0	0	
T1198	T2-13 DO YOU USE OR REFER TO GROUND STATE	0	0	0	0	0	0	0	0	
T1199	T2-14 DO YOU USE OR REFER TO EXCITED STATE	0	0	0	0	0	0	0	0	
T1200	T2-15 DO YOU USE OR REFER TO PACKET OF RADIATION	0	0	0	0	0	0	0	0	
T1201	T2-16 DO YOU USE OR REFER TO PHOTONS	0	0	0	0	0	0	0	0	
T1202	T2-17 DO YOU USE OR REFER TO SPONTANEOUS EMISSION	0	0	0	0	0	0	0	0	
T1203	T2-18 DO YOU USE OR REFER TO STIMULATED EMISSION	0	0	0	0	0	0	0	0	
T1204	T2-19 DO YOU USE OR REFER TO COHERENCE OR INCOHERENCE	0	0	0	0	0	0	0	0	
T1205	T2-20 DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0	0	0	0	0	0	
T1206	T2-21 DO YOU USE OR REFER TO MONOCHROMATIC	0	0	0	0	0	0	0	0	
T1207	T2-22 DO YOU WORK WITH ACTIVE MATERIALS	0	0	0	0	0	0	0	0	
T1208	T2-23 DO YOU WORK WITH PUMPING SOURCES	0	0	0	0	0	0	0	0	
T1209	T2-24 DO YOU WORK WITH FULL SILVERED (100% REFLECTIVE) MIRRORS	0	0	0	0	0	0	0	0	
T1210	T2-25 DO YOU WORK WITH HALF SILVERED (92% REFLECTIVE) MIRRORS	0	0	0	0	0	0	0	0	
T1211	T2-26 DO YOU WORK WITH HELICAL FLASHTUBES	0	0	0	0	0	0	0	0	
T1212	T2-27 DO YOU WORK WITH RUBY	0	0	0	0	0	0	0	0	
T1213	T2-28 DO YOU WORK WITH HELIUM-NEON	0	0	0	0	0	0	0	0	
T1214	T2-29 DO YOU WORK WITH HELIUM-XENON	0	0	0	0	0	0	0	0	
T1215	T2-30 DO YOU WORK WITH XENON	0	0	0	0	0	0	0	0	
T1216	T2-31 DO YOU WORK WITH CESIUM-HELIUM	0	0	0	0	0	0	0	0	
T1217	T2-32 DO YOU WORK WITH ARGON	0	0	0	0	0	0	0	0	
T1218	T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS	0	0	0	0	0	0	0	0	
T1219	T2-34 DO YOU WORK WITH GALLIUM ARSENIDE	0	0	0	0	0	0	0	0	
T1220	T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE	18	15	19	16	46	38	48	47	
T1221	T3-02 DO YOU INSPECT DVST OR MMST	6	6	7	5	17	14	18	15	
T1222	T3-03 DO YOU CLEAN DVST OR MMST	3	0	5	2	9	0	12	6	
T1223	T3-04 DO YOU ADJUST OR CALIBRATE DVST OR MMST	4	2	5	4	11	5	12	12	DISPLAY TUBES
T1224	T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR MMST	17	15	18	16	45	38	45	50	
T1225	T3-06 DO YOU TROUBLESHOOT DVST OR MMST CIRCUITS	4	4	4	6	12	10	10	18	
T1226	T3-07 DO YOU REMOVE OR REPLACE DVST OR MMST TUBES FROM MAJOR ASSEMBLIES OR UNITS	3	4	2	3	7	10	6	9	
T1227	T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST	1	2	2	1	4	5	5	3	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 038	SPC 039	SPC 040	SPC 041	SPC 042	SPC 043	SPC 044	SPC 045	
T1228	T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF MMST	0	0	0	1	1	0	0	3	
T1229	T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS	0	0	0	0	0	0	0	0	
T1230	T3-11 DO YOU PERFORM TASKS ON WRITE GUNS	1	0	2	1	4	0	5	3	
T1231	T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS	0	0	0	0	0	0	0	0	
T1232	T3-13 DO YOU PERFORM TASKS ON ERASE GUNS	0	0	0	0	1	0	1	0	
T1233	T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS	1	0	1	1	2	0	3	3	
U1234	U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING TASKS	15	17	16	9	36	33	41	21	
U1235	U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS	7	8	8	5	19	14	23	9	PROGRAMMING
U1236	U1-03 DO YOU USE OR REFER TO PROGRAMS	8	9	9	6	22	24	25	12	
U1237	U1-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS	4	2	4	7	10	5	9	15	
U1238	U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS	3	2	3	2	6	5	7	3	
U1239	U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS	1	2	2	0	3	5	4	0	
U1240	U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS	7	8	7	7	20	19	21	15	
U1241	U1-08 DO YOU USE OR REFER TO TIME-SHARING	3	2	3	4	7	5	6	12	
U1242	U1-09 DO YOU USE OR REFER TO DATA WORDS	11	13	13	7	28	29	32	15	
U1243	U1-10 DO YOU USE OR REFER TO ADDRESS WORDS	11	11	13	7	29	29	33	15	
U1244	U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS	9	6	10	7	22	14	26	15	
U1245	U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION	11	11	14	5	29	24	35	12	
U1246	U1-13 DO YOU USE OR REFER TO INFORMATION WORDS	9	11	10	4	23	24	27	9	
U1247	U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING	4	2	5	3	10	5	12	9	
U1248	U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING	3	6	4	1	9	14	10	3	
U1249	U1-16 DO YOU PERFORM TASKS ON INPUT DEVICES	6	6	6	3	15	14	18	6	
U1250	U1-17 DO YOU PERFORM TASKS ON STORAGE DEVICES	4	2	5	2	11	5	14	6	
U1251	U1-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	2	2	3	2	7	5	7	6	
U1252	U1-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS	4	4	5	2	12	10	15	6	
U1253	U1-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES	4	6	5	3	12	14	19	6	
U1254	U1-21 DO YOU PERFORM TASKS ON POWER SUPPLIES	3	0	4	2	8	0	10	6	
U1255	U2-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	12	11	12	14	8	0	6	21	
U1256	U2-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	0	0	1	0	1	0	2	0	DB AND POWER RATIOS
U1257	U2-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	0	0	1	0	1	0	2	0	

PERCENT MEMBERS ANSWERING 'YES' TO EPI ITEMS BY DAFSC GROUPS IN THE 326X2 CAREER LADDER.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY = SPC046 ALL AMN 326X2B	CONTAINING	146 MEMBERS.
GROUP IDENTITY = SPC047 ALL AMN 32632B	CONTAINING	15 MEMBERS.
GROUP IDENTITY = SPC048 ALL AMN 32652B	CONTAINING	97 MEMBERS.
GROUP IDENTITY = SPC049 ALL AMN 32672B	CONTAINING	34 MEMBERS.
GROUP IDENTITY = SPC050 ALL AMN 326X2C	CONTAINING	155 MEMBERS.
GROUP IDENTITY = SPC051 ALL AMN 32632C	CONTAINING	16 MEMBERS.
GROUP IDENTITY = SPC052 ALL AMN 32652C	CONTAINING	103 MEMBERS.
GROUP IDENTITY = SPC053 ALL AMN 32672C	CONTAINING	36 MEMBERS.

DUTY GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DUTY	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053
A	MATHEMATICS, DIRECT CURRENT, VOLTAGE, AND RESISTANCE	99	100	99	97	95	88	95	97
B	MULTIMETER USES, ALTERNATING CURRENT, INDUCTORS, AND INDUCTIVE	99	100	99	97	97	88	98	97
C	CAPACITORS, CAPACITIVE REACTANCE, TRANSFORMERS, AND MAGNETISM	88	73	90	88	37	56	36	31
D	RCL CIRCUITS, SERIES AND PARALLEL RESONANCE (TIME CONSTANTS), AND FILTERS	13	13	11	18	10	25	10	3
E	COUPLING, SOLDERING, AND RELAYS	93	87	96	88	93	81	95	92
F	MICROPHONES, SPEAKERS, AND OSCILLOSCOPES	12	13	9	18	83	69	83	86
G	SEMICONDUCTOR DIODES, TRANSISTORS, AND TRANSISTOR AMPLIFIERS	22	13	23	24	12	13	11	17
H	SOLID STATE SPECIAL PURPOSE DEVICES, POWER SUPPLIES, AND OSCILLATORS	44	27	48	38	34	50	35	22
I	MULTIVIBRATORS, LIMITERS, CLAMPERS, AND ELECTRON TUBES	2	0	1	6	6	6	5	8
J	ELECTRON TUBE AMPLIFIERS AND CIRCUITS, SPECIAL PURPOSE ELECTRON TUBES, HETERODYNING, MODULATION,	1	0	0	3	68	75	68	64
K	AM SYSTEMS, FM SYSTEMS, AND NUMBERING SYSTEMS	27	27	22	41	73	75	73	72
L	LOGIC FUNCTIONS, BOOLEAN EQUATIONS, AND COUNTERS	34	33	34	32	12	25	12	6
M	TIMING CIRCUITS, USE OF SIGNAL GENERATORS, MOTORS, AND GENERATORS	36	40	37	29	28	56	25	22
N	METER MOVEMENTS, SATURABLE REACTORS, MAGNETIC AMPLIFIERS, AND WAVESHAPING CIRCUITS	76	87	75	74	74	69	75	72
O	SINGLE SIDEBAND SYSTEMS, PULSE MODULATION SYSTEMS, AND ANTENNAS	3	7	2	3	97	100	97	94
P	TRANSMISSION LINES, WAVEGUIDES AND CAVITY RESONATORS, AND MICROWAVE AMPLIFIERS AND OSCILLATORS	1	0	0	3	89	94	88	89
Q	REGISTERS, STORAGE DEVICES, AND DIGITAL TO ANALOG CONVERTERS	14	7	11	24	8	6	10	6
R	PHANTASTRONS, SCHMITT TRIGGERS, AND CABLE FABRICATION	29	20	28	38	63	69	56	81
S	INPUT\OUTPUT DEVICES, PHOTO SENSITIVE DEVICES, AND SYNCHRONOUS VIBRATIONS	31	53	32	18	23	25	24	17
T	INFRARED, LASERS, AND DISPLAY TUBES	1	0	0	3	78	81	80	72
U	PROGRAMMING, DB AND POWER RATIOS	4	7	3	6	30	44	31	22

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
A	1	A1-01 DO YOU USE AN INSTRUMENT, SUCH AS METER OR AN OSCILLOSCOPE, IN WHICH IT IS NECESSARY TO AMPLIFY OR	58	67	56	59	52	56	56	36	
A	2	A1-02 DO YOU USE A PUBLICATION, SUCH AS A TECHNICAL ORDER OR MAINTENANCE MANUAL, IN WHICH IT IS NECESSARY	38	33	38	41	12	6	13	11	
A	3	A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	42	27	42	50	6	6	7	6	MATHEMATICS
A	4	A1-04 DO YOU FIND THE SQUARE ROOT OF A QUANTITY.	3	0	2	9	4	0	5	3	
A	5	A1-05 DO YOU SOLVE FOR AN UNKNOWN QUANTITY.	27	33	28	24	5	6	5	3	
A	6	A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	5	13	4	3	1	0	2	0	
A	7	A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	4	13	4	0	3	0	3	3	
A	8	A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.	4	7	5	0	1	0	1	3	
A	9	A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS (THIS IS THE LOGARITHM SYSTEM WHICH USES THE NUMBER 2.718 AS	1	7	1	0	0	0	0	0	
A	10	A1-10 DO YOU WORK WITH VECTOR QUANTITIES, SUCH AS ADDING OR SUBTRACTING TWO VECTORS.	7	7	5	12	2	0	3	0	
A	11	A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	7	7	4	15	3	0	4	0	
A	12	A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES, SUCH AS AREAS OF CIRCLES OR TRIANGLES.	5	7	4	6	1	0	2	0	
A	13	A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	5	7	5	6	1	0	2	0	
A	14	A1-14 DO YOU SOLVE OR USE PROPORTIONS.	15	13	13	21	8	6	10	3	
A	15	A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT.	94	87	97	88	88	75	88	94	
A	16	A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	34	20	32	44	25	50	19	28	
A	17	A2-03 DO YOU USE THE TERM OHM.	92	87	94	88	88	81	86	94	DIRECT CURRENT AND VOLTAGE
A	18	A2-04 DO YOU USE THE TERM ION.	3	7	3	3	6	25	3	6	
A	19	A2-05 DO YOU USE THE TERM DYNE.	3	7	2	3	5	13	3	6	
A	20	A2-06 DO YOU USE THE TERM AMPERE.	72	73	74	65	67	69	69	75	
A	21	A2-07 DO YOU USE THE TERM NEUTRON.	5	7	4	6	6	25	3	6	
A	22	A2-08 DO YOU USE THE TERM COULOMB.	8	7	5	18	9	25	7	8	
A	23	A2-09 DO YOU USE THE TERM PROTON.	5	7	5	6	6	25	4	6	
A	24	A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	30	27	29	35	32	38	27	44	
A	25	A3-02 DO YOU INSPECT RESISTORS.	14	7	14	15	24	19	18	42	
A	26	A3-03 DO YOU CLEAN RESISTORS.	6	7	6	6	5	0	4	8	
A	27	A3-04 DO YOU ADJUST RESISTORS.	18	20	15	26	12	6	11	19	RESISTANCE
A	28	A3-05 DO YOU CHECK OHMIC VALUE OF RESISTORS.	32	27	31	35	25	38	20	31	
A	29	A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	15	7	15	18	20	19	17	28	
A	30	A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS IN YOUR PRESENT JOB.	9	0	6	21	1	0	2	0	
A	31	A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS, SUCH AS FOR FIXED RESISTORS OR FOR TAPPED RESISTORS.	32	33	28	41	17	13	14	28	
A	32	A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT OR	21	20	19	26	12	19	10	17	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
A	33	A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE OHMIC VALUE OF RESISTANCE.	10	13	7	15	16	19	12	28	
A	34	A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE TOLERANCE OF RESISTORS.	8	7	6	12	14	19	9	25	
A	35	A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE FAILURE RATE OF RESISTORS.	3	7	2	3	5	6	4	6	
A	36	A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO	4	7	3	6	7	6	6	11	
A	37	A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT ANY OF THE FOLLOWING COMPONENTS: BATTERY,	38	40	37	38	34	31	30	47	
A	38	A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	20	13	15	35	7	13	7	6	
A	39	A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	14	13	11	21	7	13	7	6	
A	40	A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	14	13	10	26	5	6	4	6	
A	41	A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	10	0	8	18	5	6	5	6	
A	42	A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	19	13	14	35	6	6	6	6	
A	43	A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	13	13	11	18	6	6	6	6	
A	44	A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	14	13	12	21	4	6	3	6	
A	45	A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	13	7	12	18	5	6	4	6	
A	46	A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	9	0	8	15	5	6	4	6	
A	47	A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	17	13	12	32	5	6	5	6	
A	48	A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	11	13	8	18	5	6	5	6	
A	49	A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	12	13	8	21	4	6	3	6	
A	50	A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	11	7	9	18	4	6	3	6	
A	51	A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	7	0	5	15	4	6	3	6	
B	52	B1-01 DO YOU MEASURE RESISTANCE.	94	100	95	88	87	81	88	86	
B	53	B1-02 DO YOU REPAIR AN OHMMETER.	1	0	2	0	1	0	2	0	
B	54	B1-03 DO YOU MEASURE VOLTAGE.	95	93	98	88	85	69	87	86	
B	55	B1-04 DO YOU REPAIR A VOLTMETER.	0	0	0	0	0	0	0	0	MULTIMETER USES
B	56	B1-05 DO YOU REPAIR AN AMMETER.	0	0	0	0	1	0	1	0	
B	57	B1-06 DO YOU MEASURE CURRENT.	55	60	63	32	52	56	54	44	
B	58	B1-07 DO YOU USE A MULTIMETER.	95	93	98	88	88	75	92	83	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
B	59	B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	1	7	1	0	1	0	1	0	
B	60	B1-09 DO YOU READ SCHEMATICS.	94	87	97	88	83	81	83	86	
B	61	B2-01 DO YOU USE OR REFER THE TERM EFFECTIVE VOLTAGE (RMS).	31	13	29	44	28	13	26	42	
B	62	B2-02 DO YOU USE OR REFER THE TERM PEAK TO PEAK VOLTAGE.	18	0	15	32	27	13	29	28	ALTERNATING CURRENT
B	63	B2-03 DO YOU USE OR REFER THE TERM AVERAGE VOLTAGE (DC).	39	27	36	53	36	19	37	42	
B	64	B2-04 DO YOU USE OR REFER THE TERM WAVE LENGTH.	9	0	8	15	34	13	41	25	
B	65	B2-05 DO YOU USE OR REFER THE TERM FREQUENCY.	42	33	41	50	71	56	70	81	
B	66	B2-06 DO YOU USE OR REFER THE TERM INSTANTANEOUS VALUE.	7	0	5	15	7	0	5	17	
B	67	B3-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.	16	20	18	12	8	19	6	8	
B	68	B3-02 DO YOU INSPECT INDUCTORS.	8	13	7	6	3	6	2	6	INDUCTORS AND INDUCTIVE REACTANCE
B	69	B3-03 DO YOU CLEAN INDUCTORS.	1	7	1	0	1	6	0	0	
B	70	B3-04 DO YOU ADJUST INDUCTORS.	7	13	7	3	1	6	1	0	
B	71	B3-05 DO YOU REMOVE OR REPLACE INDUCTORS.	12	13	13	9	3	13	1	6	
B	72	B3-06 DO YOU USE OR REFER TO INDUCTANCE.	9	0	11	6	5	6	4	8	
B	73	B3-07 DO YOU USE OR REFER TO HENRIES.	3	0	3	6	5	6	4	6	
B	74	B3-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.	5	0	5	6	4	6	4	3	
B	75	B3-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.	1	0	1	0	1	0	2	0	
B	76	B3-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.	1	0	2	0	1	0	2	0	
B	77	B3-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS.	1	0	2	0	1	0	1	0	
B	78	B3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE	1	0	0	3	0	0	0	0	
B	79	B3-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE	1	0	1	0	1	0	1	0	
B	80	B3-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO	1	0	1	0	0	0	0	0	
B	81	B3-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE	1	0	2	0	0	0	0	0	
B	82	B3-16 DO YOU CALCULATE INDUCTANCE FOR A PARTICULAR INDUCTOR USING FORMULAS.	3	0	4	0	0	0	0	0	
B	83	B3-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES.	3	0	4	3	1	0	1	3	
B	84	B3-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	3	0	4	3	1	0	1	3	
B	85	B3-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	3	0	3	3	2	0	2	3	
B	86	B3-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.	5	0	5	6	3	0	2	6	
B	87	B3-21 DO YOU CALCULATE INDUCTIVE REACTANCE.	2	0	3	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
B	88	B3-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO	4	0	5	3	1	0	0	3	
B	89	B3-23 DO YOU WORK WITH POWER INDUCTORS.	8	13	8	6	2	6	2	0	
B	90	B3-24 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	1	13	0	0	2	6	1	3	
B	91	B3-25 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	2	13	1	0	6	13	5	8	
C	92	C1-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS ON YOUR PRESENT JOB.	49	53	52	41	22	31	20	22	CAPACITORS AND CAPACITIVE REACTANCE
C	93	C1-02 DO YOU INSPECT CAPACITORS.	32	33	33	26	17	31	16	14	
C	94	C1-03 DO YOU CLEAN CAPACITORS.	13	13	14	9	3	13	2	3	
C	95	C1-04 DO YOU ADJUST CAPACITORS.	20	33	19	18	1	6	1	0	
C	96	C1-05 DO YOU TEST CAPACITORS.	40	47	41	32	11	25	10	8	
C	97	C1-06 DO YOU DISCHARGE CAPACITORS.	5	13	5	0	4	6	4	3	
C	98	C1-07 DO YOU REMOVE OR REPLACE CAPACITORS.	36	27	38	32	19	31	20	11	
C	99	C1-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	16	7	20	9	0	0	0	0	
C	100	C1-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	2	0	3	0	0	0	0	0	
C	101	C1-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	49	27	53	50	2	0	1	6	
C	102	C1-11 DO YOU USE OR REFER TO CAPACITANCE.	56	53	60	47	7	6	6	11	
C	103	C1-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT.	28	13	33	21	1	0	2	0	
C	104	C1-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS.	15	7	16	15	3	0	3	3	
C	105	C1-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE.	20	7	22	21	3	0	3	3	
C	106	C1-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES.	3	0	3	3	1	0	0	3	
C	107	C1-16 THE CAPACITORS YOU WORK WITH IN DC CIRCUITS.	28	53	26	24	10	19	10	6	
C	108	C1-17 THE CAPACITORS YOU WORK WITH ARE IN AC CIRCUITS.	44	27	46	44	14	25	14	8	
C	109	C1-18 THE CAPACITORS YOU WORK WITH ARE IN CIRCUITS WITH BOTH DC AND AC.	27	27	26	29	9	13	10	6	
C	110	C1-19 THE CAPACITORS YOU WORK WITH ARE DON'T REMEMBER WHICH CIRCUITS.	12	0	14	9	4	6	4	3	
C	111	C1-20 DO YOU CALCULATE CAPACITANCE FOR A PARTICULAR CAPACITOR USING FORMULAS.	25	7	31	18	0	0	0	0	
C	112	C1-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL	21	7	28	9	1	0	1	0	
C	113	C1-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL	10	0	12	9	1	6	1	0	
C	114	C1-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES.	33	13	35	35	1	0	1	3	
C	115	C1-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL.	32	13	35	32	1	0	0	3	
C	116	C1-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS.	34	13	36	35	1	0	0	3	
C	117	C1-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY	23	13	24	24	2	6	1	3	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

			SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
C 118	C1-27	DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS.	12	13	11	15	1	0	2	0	
C 119	C1-28	DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO	9	0	9	12	1	0	2	0	
C 120	C1-29	DO YOU CALCULATE CAPACITIVE REACTANCE.	10	0	10	15	0	0	0	0	
C 121	C1-30	DO YOU WORK WITH ROTOR-STATOR CAPACITORS (VARIABLE).	11	0	11	15	12	6	13	11	
C 122	C1-31	DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS.	2	0	3	0	1	0	1	0	
C 123	C1-32	DO YOU WORK WITH ELECTROLYTIC CAPACITORS (FIXED).	23	0	25	29	4	6	3	6	
C 124	C1-33	DO YOU WORK WITH PAPER CAPACITORS (FIXED).	1	0	0	6	2	0	1	6	
C 125	C1-34	DO YOU WORK WITH MICA CAPACITORS (FIXED).	4	0	2	12	1	0	1	3	
C 126	C1-35	DO YOU WORK WITH CERAMIC CAPACITORS (FIXED).	3	0	2	9	2	6	1	3	
C 127	C1-36	DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS.	15	20	18	6	5	13	6	0	
C 128	C2-01	DO YOU WORK WITH TRANSFORMERS ON YOUR PRESENT JOB.	38	7	41	41	5	0	4	11	
C 129	C2-02	DO YOU INSPECT TRANSFORMERS.	25	7	27	29	3	0	2	6	
C 130	C2-03	DO YOU CLEAN TRANSFORMERS.	8	7	8	9	1	0	0	3	
C 131	C2-04	DO YOU ADJUST TRANSFORMERS.	9	0	11	6	1	0	1	0	TRANSFORMERS
C 132	C2-05	DO YOU TROUBLESHOOT TRANSFORMERS.	37	13	39	41	4	0	3	8	
C 133	C2-06	DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS.	31	7	33	35	2	0	1	6	
C 134	C2-07	DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING.	0	0	0	0	0	0	0	0	
C 135	C2-08	DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (M).	0	0	0	0	0	0	0	0	
C 136	C2-09	DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M.	0	0	0	0	0	0	0	0	
C 137	C2-10	DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS.	1	0	0	3	0	0	0	0	
C 138	C2-11	DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS.	5	0	4	9	1	0	0	3	
C 139	C2-12	DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS.	1	0	0	6	1	0	1	0	
C 140	C2-13	DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS.	1	0	0	3	0	0	0	0	
C 141	C2-14	DO YOU WORK WITH AUTOTRANSFORMERS.	12	0	12	15	3	0	2	6	
C 142	C2-15	DO YOU WORK WITH POWER TRANSFORMERS.	28	0	31	32	4	0	3	8	
C 143	C2-16	DO YOU WORK WITH AUDIO TRANSFORMERS.	2	0	2	3	3	0	3	6	
C 144	C2-17	DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS.	1	0	1	3	3	0	3	3	
C 145	C2-18	DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMER.	12	7	12	15	0	0	0	0	
C 146	C2-19	DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE.	30	7	32	35	3	0	2	6	
C 147	C2-20	DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE.	30	7	31	38	3	0	2	6	
C 148	C2-21	DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES.	32	7	34	35	1	0	1	3	
C 149	C2-22	DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR	6	0	6	9	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
C	150	C2-23 DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-	14	0	13	21	1	0	1	0	
C	151	C2-24 DO YOU REFER TO THE BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS.	34	0	36	41	3	0	1	8	
C	152	C2-25 DO YOU REFER TO THE MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS.	21	0	25	21	1	0	0	6	
C	153	C2-26 DO YOU REFER TO THE MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS.	27	0	30	29	1	0	0	6	
C	154	C2-27 DO YOU REFER TO THE CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS.	27	0	32	26	3	0	1	8	
C	155	C2-28 DO YOU REFER TO THE AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS.	13	0	15	12	1	0	1	3	
C	156	C2-29 DO YOU REFER TO THE IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS.	19	0	23	18	1	0	1	3	
C	157	C2-30 DO YOU REFER TO THE COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS.	24	7	27	24	2	0	1	6	
C	158	C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING	10	0	9	18	3	0	2	6	
C	159	C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH.	3	0	2	6	1	0	1	0	
C	160	C2-33 DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE	5	0	4	12	1	0	1	0	
C	161	C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS.	12	0	11	21	3	0	2	6	
C	162	C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS.	5	0	6	6	1	0	1	0	
C	163	C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS.	3	0	2	6	1	0	1	0	
C	164	C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH 3 PHASE TRANSFORMERS.	10	13	7	15	1	0	1	3	
C	165	C2-38 DO YOU INSPECT 3 PHASE TRANSFORMERS.	3	0	2	9	1	0	0	3	
C	166	C2-39 DO YOU CLEAN OR LUBRICATE 3 PHASE TRANSFORMERS.	0	0	0	0	0	0	0	0	
C	167	C2-40 DO YOU ADJUST 3 PHASE TRANSFORMERS.	1	0	0	3	0	0	0	0	
C	168	C2-41 DO YOU TROUBLESHOOT 3 PHASE TRANSFORMERS.	7	0	5	15	1	0	0	3	
C	169	C2-42 DO YOU REMOVE OR REPLACE COMPLETE 3 PHASE TRANSFORMER.	5	0	4	12	1	0	0	3	
C	170	C2-43 DO YOU REMOVE OR REPLACE 3 PHASE TRANSFORMER PARTS, SUCH AS A WINDING.	0	0	0	0	0	0	0	0	
C	171	C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS.	12	13	15	29	5	6	6	0	
C	172	C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS.	25	7	29	21	5	6	6	3	
C	173	C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS.	9	0	10	26	1	0	1	0	MAGNETISM
C	174	C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS.	8	7	10	21	1	0	1	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
C	175	C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS.	18	0	21	21	1	0	1	0	
C	176	C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM.	22	13	22	26	1	6	1	0	
C	177	C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX.	69	47	75	62	5	0	6	3	
C	178	C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM.	6	0	7	6	1	0	2	0	
C	179	C3-09 DO YOU USE OR REFER TO THE DOMAIN THEORY OF MAGNETISM.	6	0	5	12	1	0	1	0	
C	180	C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION.	42	13	45	47	4	6	4	3	
C	181	C3-11 DO YOU USE OR REFER TO FLUX DENSITY.	27	7	30	26	1	0	2	0	
C	182	C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES	47	33	48	47	9	13	9	8	
C	183	C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES.	11	7	12	9	7	6	8	6	
C	184	C3-14 DO YOU USE THE LEFT THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL.	7	0	8	6	5	6	6	3	
D	185	D1-01 DO YOU WORK WITH RC, LR, OR RCL CIRCUITS ON YOUR PRESENT JOB.	3	0	3	3	1	6	1	0	
D	186	D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	0	0	0	0	RCL CIRCUITS
D	187	D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	0	0	0	0	
D	188	D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	0	0	0	0	
D	189	D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	0	0	0	0	
D	190	D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	0	0	0	0	
D	191	D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	2	6	2	0	
D	192	D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	0	0	0	0	
D	193	D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	1	0	1	0	
D	194	D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	0	0	0	0	
D	195	D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	0	0	0	0	
D	196	D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	0	0	0	0	
D	197	D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS.	1	0	1	0	1	0	1	0	
D	198	D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS.	1	0	1	0	1	0	2	0	
D	199	D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS.	1	0	1	0	1	0	1	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053
D 200	D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS.	1	0	1	0	2	0	3	0
D 201	D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	1	0	1	0
D 202	D1-18 DO YOU USE OR REFER TO BRANDPASS REGION WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	1	0	1	0
D 203	D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS.	0	0	0	0	1	0	1	0
D 204	D1-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS.	1	0	1	3	1	0	1	0
D 205	D1-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS: SINE OF AN ANGLE = OPPOSITE SIDE	0	0	0	0	0	0	0	0
D 206	D1-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS.	0	0	0	0	1	0	1	0
D 207	D1-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS.	1	0	1	3	0	0	0	0
D 208	D1-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS.	1	0	1	0	0	0	0	0
D 209	D1-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS.	1	0	1	0	0	0	0	0
D 210	D1-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS.	1	0	1	0	0	0	0	0
D 211	D1-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS.	1	0	0	3	0	0	0	0
D 212	D1-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS.	1	0	0	3	0	0	0	0
D 213	D1-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS.	1	0	0	3	0	0	0	0
D 214	D1-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS.	1	0	0	3	0	0	0	0
D 215	D1-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS.	1	0	0	3	0	0	0	0
D 216	D1-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD.	1	0	1	0	0	0	0	0
D 217	D1-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW.	0	0	0	0	0	0	0	0
D 218	D1-34 DO YOU CHECK CAPACITORS USING OHMMETERS.	4	0	4	6	1	0	1	0
D 219	D1-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION.	2	0	2	3	0	0	0	0
D 220	D1-36 DO YOU CHECK INDUCTORS USING OHMMETERS.	4	0	4	6	1	0	1	0
D 221	D1-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION.	1	0	1	0	0	0	0	0
D 222	D1-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA=0, PF=1, AND PA=PT FOR RESONANT CIRCUITS.	0	0	0	0	1	0	1	0
D 223	D1-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS.	0	0	0	0	1	0	1	0
D 224	D1-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE	1	0	1	0	1	0	1	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
D 225	D1-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT	1	0	1	0	1	0	1	0	
D 226	D1-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK	0	0	0	0	1	0	1	0	
D 227	D1-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q.	0	0	0	0	1	0	1	0	
D 228	D1-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT	0	0	0	0	0	0	0	0	
D 229	D2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANCE CIRCUITS OR	3	0	1	9	3	19	1	0	
D 230	D2-02 DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS.	1	0	0	6	0	0	0	0	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
D 231	D2-03 DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE.	1	0	0	6	1	13	0	0	
D 232	D2-04 DO YOU WORK WITH, USE, OR REFER TO TRANSIENT INTERVALS.	1	0	0	6	0	0	0	0	
D 233	D2-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE	3	0	1	9	1	6	0	0	
D 234	D2-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS.	0	0	0	0	1	6	0	0	
D 235	D2-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUITS CURRENT OR COMPONENT VOLTAGES AFTER A	2	0	1	6	0	0	0	0	
D 236	D2-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT	1	0	0	6	0	0	0	0	
D 237	D2-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND	1	0	0	6	0	0	0	0	
D 238	D2-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR	1	0	0	3	1	6	0	0	
D 239	D3-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS ON YOUR PRESENT JOB.	3	0	1	12	5	13	5	3	
D 240	D3-02 DO YOU INSPECT FILTER CIRCUITS.	0	0	0	0	2	0	3	0	FILTERS
D 241	D3-03 DO YOU CLEAN FILTER CIRCUITS.	0	0	0	0	0	0	0	0	
D 242	D3-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS.	0	0	0	0	0	0	0	0	
D 243	D3-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT.	2	0	1	6	4	6	5	0	
D 244	D3-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF FILTER CIRCUITS.	1	13	0	0	0	0	0	0	
D 245	D3-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT.	1	0	1	3	4	6	4	3	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
D	246	D3-08 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF FILTER CIRCUITS.	1	13	0	0	0	0	0	0	
D	247	D3-09 DO YOU WORK ON LOW PASS FILTERS.	3	0	0	12	3	0	4	3	
D	248	D3-10 DO YOU WORK ON HIGH PASS FILTERS.	3	0	0	12	2	0	2	3	
D	249	D3-11 DO YOU WORK ON BANDPASS FILTERS.	2	0	0	9	2	6	2	0	
D	251	D3-13 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF FILTER	1	0	0	6	1	6	1	0	
D	250	D3-12 DO YOU WORK ON BAND-REJECT FILTERS.	1	0	1	0	1	0	2	0	
D	252	D3-14 DO YOU WORK WITH L-SECTION FILTER CONFIGURATIONS.	1	0	0	6	1	0	1	0	
D	253	D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATIONS.	1	0	0	6	1	0	1	0	
D	254	D3-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATIONS.	1	0	0	6	1	0	1	0	
D	255	D3-17 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF FILTER CONFIGURATIONS.	1	0	1	0	1	6	1	0	
D	256	D3-18 ARE PARALLEL RESONANT CIRCUITS USED IN FILTERS YOU WORK WITH.	2	13	0	3	1	0	1	0	
D	257	D3-19 ARE SERIES-PARALLEL CIRCUITS USED IN FILTERS YOU WORK WITH.	3	13	0	6	1	0	1	0	
D	258	D3-20 ARE SERIES RESONANT CIRCUITS USED IN FILTERS YOU WORK WITH.	2	13	0	3	1	0	1	0	
D	259	D3-21 ARE DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT USED IN FILTERS YOU WORK WITH.	1	0	1	0	2	6	2	0	
D	260	D3-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC	2	13	0	3	0	0	0	0	
E	261	E1-01 DO YOU WORK WITH COUPLING DEVICES ON YOUR PRESENT JOB.	11	20	8	15	20	44	20	8	
E	262	E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED	5	7	2	12	3	13	2	0	COUPLING
E	263	E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED	6	7	4	12	12	31	12	6	
E	264	E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED	9	7	7	15	1	0	1	0	
E	265	E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE RC COUPLING FUNCTIONS.	3	7	1	9	4	13	3	3	
E	266	E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE IMPEDANCE COUPLING FUNCTIONS.	5	7	3	9	14	31	14	8	
E	267	E1-07 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE TRANSFORMER COUPLING FUNCTIONS.	8	7	7	12	2	0	2	3	
E	268	E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS.	6	0	6	9	2	0	3	0	
E	269	E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS.	5	0	4	9	6	6	8	3	
E	270	E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS.	3	0	3	6	3	6	3	3	
E	271	E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS.	6	0	5	12	1	0	1	0	
E	272	E1-12 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUIT.	2	0	2	3	6	31	5	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
E	273	E2-01 ON YOUR PRESENT JOB DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS.	74	80	79	56	84	75	85	83	
E	274	E2-02 DO YOU SELECT TYPE OF SOLDER TO USE.	55	73	53	56	62	63	63	58	SOLDERING
E	275	E2-03 DO YOU ADD FLUX TO CONNECTIONS.	46	53	43	47	54	50	54	56	
E	276	E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS.	38	47	33	47	47	50	48	44	
E	277	E2-05 DO YOU STRIP INSULATION FROM WIRES.	75	73	80	59	85	75	88	81	
E	278	E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS.	31	27	28	41	45	50	44	47	
E	279	E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS.	65	73	66	59	79	69	81	78	
E	280	E2-08 DO YOU CUT WIRES.	75	73	80	59	86	75	89	81	
E	281	E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS.	37	33	34	47	72	63	72	75	
E	282	E2-10 DO YOU TIN SOLDERING IRON TIPS.	53	53	52	56	83	75	86	78	
E	283	E2-11 DO YOU CLEAN SOLDERING IRON TIPS.	58	67	57	56	83	75	85	81	
E	284	E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS.	14	13	9	26	35	50	33	36	
E	285	E2-13 DO YOU TIN OR PRE-TIN CONDUCTORS.	44	53	40	50	76	75	78	72	
E	286	E2-14 DO YOU INSPECT SOLDERED CONNECTIONS.	69	60	74	59	85	75	87	81	
E	287	E2-15 DO YOU DESOLDER CONNECTIONS BY WICKING.	21	27	22	15	32	44	38	8	
E	288	E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS.	10	13	6	21	27	13	29	28	
E	289	E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS.	30	13	30	38	26	19	28	25	
E	290	E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL.	5	0	4	9	8	6	11	3	
E	291	E2-19 DO YOU MAKE HARDWIRE CONNECTIONS.	53	67	53	50	70	81	70	67	
E	292	E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	1	0	1	3	1	6	0	0	
E	293	E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	1	0	1	3	1	0	0	3	
E	294	E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	3	13	2	3	1	0	0	3	
E	295	E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	79	80	82	68	93	94	90	50	
E	296	E3-02 DO YOU ADJUST RELAYS	7	13	7	3	1	0	2	0	
E	297	E3-03 DO YOU CLEAN RELAYS	10	13	9	9	4	6	3	6	
E	298	E3-04 DO YOU INSPECT RELAYS	38	33	39	35	19	31	17	22	
E	299	E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS	74	73	74	74	40	31	39	47	RELAYS
E	300	E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS	5	13	4	3	2	6	1	3	
E	301	E3-07 DO YOU TROUBLESHOOT RELAYS	79	80	80	76	37	50	32	47	
E	302	E3-08 DO YOU STRAIGHTEN RELAY CONTACTS	25	20	26	26	4	6	4	3	
E	303	E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS	10	13	10	6	3	6	2	6	
E	304	E3-10 DO YOU PERFORM TASKS ON RELAY CORES	1	13	0	0	0	0	0	0	
E	305	E3-11 DO YOU PERFORM TASKS ON RELAY COILS	1	13	0	0	1	0	1	0	
E	306	E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES	0	0	0	0	0	0	0	0	
E	307	E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS	1	0	0	3	1	0	2	0	
E	308	E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPER (NO) SCHEMATIC SYMBOLS FOR RELAYS	53	47	53	56	25	31	18	39	
E	309	E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	54	47	54	59	26	38	18	42	
E	310	E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	51	47	51	56	24	31	18	36	
E	311	E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	49	47	46	59	26	25	22	36	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
E 312	E3-18	DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	58	40	57	71	21	19	14	42	
E 313	E3-19	DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	55	53	55	56	14	19	10	25	
F 314	F1-01	IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	5	0	7	3	63	50	65	64	
F 315	F1-02	DO YOU INSPECT MICROPHONES	1	0	1	0	36	50	34	36	
F 316	F1-03	DO YOU CLEAN MICROPHONES	1	0	1	0	18	6	18	22	MICROPHONES
F 317	F1-04	DO YOU OPERATE MICROPHONES	6	13	6	3	70	56	74	67	
F 318	F1-05	DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT	1	0	1	0	56	50	58	53	
F 319	F1-06	DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	0	0	0	0	15	13	13	25	
F 320	F1-07	DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	1	0	1	0	38	31	39	39	
F 321	F1-08	DO YOU REMOVE OR REPLACE MICROPHONE PARTS	0	0	0	0	10	6	11	11	
F 322	F1-09	DO YOU PERFORM TASKS ON CARBON MICROPHONES	0	0	0	0	25	19	24	31	
F 323	F1-10	DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	0	0	0	0	5	0	4	8	
F 324	F1-11	DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	0	0	0	0	8	6	7	14	
F 325	F1-12	DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	1	0	1	0	28	13	25	42	
F 326	F1-13	DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	0	0	0	0	3	0	2	6	
F 327	F2-01	IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	1	0	1	0	25	25	28	14	
F 328	F2-02	DO YOU INSPECT SPEAKERS	0	0	0	0	8	6	10	6	
F 329	F2-03	DO YOU CLEAN SPEAKERS	0	0	0	0	5	6	5	6	SPEAKERS
F 330	F2-04	DO YOU OPERATE SPEAKERS	1	0	1	0	23	25	26	11	
F 331	F2-05	DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT	0	0	0	0	18	19	21	8	
F 332	F2-06	DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	0	0	0	0	2	0	2	3	
F 333	F2-07	DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	0	0	0	0	10	6	11	8	
F 334	F2-08	DO YOU REMOVE OR REPLACE SPEAKER PARTS	0	0	0	0	1	0	0	3	
F 335	F2-09	DO YOU PERFORM ANY TASKS ON SPEAKER CONES	0	0	0	0	0	0	0	0	
F 336	F2-10	DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	0	0	0	0	0	0	0	0	
F 337	F2-11	DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	0	0	0	0	0	0	0	0	
F 338	F2-12	DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	0	0	0	0	1	0	1	0	
F 339	F2-13	DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	0	0	0	0	1	0	1	0	
F 340	F2-14	DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	0	0	0	0	0	0	0	0	
F 341	F2-15	DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES	0	0	0	0	0	0	0	0	
F 342	F3-01	DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	5	0	2	15	46	25	48	53	
F 343	F3-02	DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	4	0	1	15	39	19	33	42	
F 344	F3-03	DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	2	0	1	6	10	6	11	11	OSCILLOSCOPES
F 345	F3-04	DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	4	0	1	15	33	19	33	39	
F 346	F3-05	DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	3	0	1	12	25	13	28	22	
F 347	F3-06	DO YOU USE OSCILLOSCOPES TO MEASURE TIME	2	0	1	6	18	13	17	22	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
F 348	F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	1	0	0	3	6	6	8	0	
F 349	F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	3	0	1	12	28	19	26	36	
F 350	F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	1	0	0	3	11	6	12	11	
F 351	F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	5	0	2	15	29	13	30	33	
F 352	F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	3	0	1	9	15	6	19	25	
F 353	F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	4	0	2	12	25	6	25	31	
G 354	G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	11	7	10	15	7	13	6	8	
G 355	G1-02 DO YOU INSPECT DIODES	1	0	1	0	2	0	2	3	SEMICONDUCTOR DIODES
G 356	G1-03 DO YOU REMOVE OR REPLACE DIODES	3	0	3	6	2	0	2	3	
G 357	G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT	6	0	6	9	5	13	9	6	
G 358	G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	0	0	0	0	0	0	0	0	
G 359	G1-06 DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE,	1	0	1	0	1	0	2	0	
G 360	G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	2	0	2	3	1	0	1	0	
G 361	G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	6	0	7	6	3	6	2	3	
G 362	G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON	6	7	5	9	1	6	0	3	
G 363	G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	3	0	2	6	0	0	0	0	
G 364	G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	3	0	3	6	2	6	1	3	
G 365	G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING	1	0	2	0	0	0	0	0	
G 366	G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	1	0	1	0	0	0	0	0	
G 367	G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	1	0	1	0	0	0	0	0	
G 368	G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	1	0	0	6	1	6	0	0	
G 369	G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	1	0	1	0	0	0	0	0	
G 370	G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	1	0	1	0	0	0	0	0	
G 371	G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	3	0	2	6	1	0	1	3	
G 372	G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	1	0	1	0	0	0	0	0	
G 373	G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	0	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053
G 374 GI-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	0	0	0	0	0	0	0	0
G 375 GI-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	1	0	1	0	0	0	0	0
G 376 GI-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	1	0	1	0	0	0	0	0
G 377 GI-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	8	0	6	15	1	6	0	3
G 378 GI-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	1	0	0	3	1	6	0	0
G 379 GI-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE	3	0	4	3	2	13	1	0
G 380 GI-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT	0	0	0	0	0	0	0	0
G 381 GI-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR	8	0	7	15	2	0	2	3
G 382 GI-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0	0
G 383 GI-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0	0
G 384 GI-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0	0
G 385 GI-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	0	0	0	0	0	0	0	0
G 386 GI-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	1	0	1	0	0	0	0	0
G 387 GI-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	3	0	4	3	1	0	0	3
G 388 GI-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	0	0	0	0	0	0	0	0
G 389 GI-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	0	0	0	0	0	0	0	0
G 390 GI-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	4	0	4	6	1	6	0	0
G 391 GI-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	4	0	4	6	1	6	0	0
G 392 GI-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	1	0	2	0	0	0	0	0
G 393 GI-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	1	0	2	0	0	0	0	0
G 394 GI-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	0	0	0	0	0	0	0	0
G 395 GI-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	1	0	1	0	0	0	0	0
G 396 GI-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	1	0	0	3	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
G	397	G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	1	0	1	3	4	0	4	6	
G	398	G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	0	0	0	0	0	0	0	0	
G	399	G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	1	0	1	3	0	0	0	0	
G	400	G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	0	0	0	0	0	0	0	0	
G	401	G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	0	0	0	0	0	0	0	0	
G	402	G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	0	0	0	0	0	0	0	0	
G	403	G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	2	0	2	3	0	0	0	0	
G	404	G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	14	13	12	21	3	6	2	3	
G	405	G2-02 DO YOU INSPECT TRANSISTORS	0	0	0	0	1	6	1	0	
G	406	G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS	1	0	2	0	1	6	0	0	
G	407	G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	3	0	4	0	1	0	1	0	TRANSISTORS
G	408	G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	3	0	4	0	1	6	0	0	
G	409	G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	2	0	3	0	1	6	0	0	
G	410	G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC) RESISTANCE MEASUREMENTS	2	0	3	0	1	6	0	0	
G	411	G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	3	0	4	0	1	6	0	0	
G	412	G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	3	0	4	0	1	6	0	0	
G	413	G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	1	0	1	0	1	6	0	0	
G	414	G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR	1	0	0	3	1	6	0	0	
G	415	G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	13	13	12	15	2	6	1	3	
G	416	G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	10	13	8	15	2	6	1	3	
G	417	G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	1	0	1	0	1	6	0	0	
G	418	G2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT IB IS NORMALLY SIGNIFICANTLY	2	0	1	6	1	6	0	0	
G	419	G2-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR	3	0	3	6	1	6	0	0	
G	420	G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	1	0	0	3	1	6	0	0	
G	421	G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	1	0	0	3	1	6	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
G	422	G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	2	0	2	3	1	6	0	0	
G	423	G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	1	0	1	3	1	6	0	0	
G	424	G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	1	0	1	3	1	6	0	0	
G	425	G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS	0	0	0	0	0	0	0	0	
G	426	G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	0	0	0	0	0	0	0	0	
G	427	G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	0	0	0	0	0	0	0	0	
G	428	G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	12	7	11	15	5	6	4	8	
G	429	G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	2	0	2	3	1	6	1	0	
G	430	G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	1	0	1	3	1	0	1	0	TRANSISTOR
G	431	G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	7	0	6	12	2	6	1	3	AMPLIFIERS
G	432	G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	5	7	5	3	1	6	1	0	
G	433	G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	12	7	13	9	4	0	3	8	
G	434	G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	0	0	0	0	1	0	1	0	
G	435	G3-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE	1	0	1	0	0	0	0	0	
G	436	G3-09 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN	0	0	0	0	0	0	0	0	
G	437	G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE	0	0	0	0	0	0	0	0	
G	438	G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN	0	0	0	0	1	0	1	0	
G	439	G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	0	0	0	0	0	0	0	0	
G	440	G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN	0	0	0	0	0	0	0	0	
G	441	G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A	0	0	0	0	0	0	0	0	
G	442	G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR	0	0	0	0	0	0	0	0	
G	443	G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	0	0	0	0	0	0	0	0	
G	444	G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION	3	0	3	6	1	6	1	0	
G	445	G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION	1	0	1	3	1	6	1	0	
G	446	G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION	1	0	1	0	2	6	2	0	
G	447	G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE	0	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053
G 448	GJ-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE	0	0	0	0	0	0	0	0
G 449	GJ-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE	0	0	0	0	0	0	0	0
G 450	GJ-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE	0	0	0	0	0	0	0	0
G 451	GJ-24 DO YOU COMPUTE THE STATIC OPERATING POINT (Q) OF A TRANSISTOR AT DIFFERENT TEMPERATURES	0	0	0	0	0	0	0	0
G 452	GJ-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	3	0	2	9	1	6	0	0
G 453	GJ-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-	3	0	3	6	1	6	0	0
G 454	GJ-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	4	0	3	9	1	6	0	0
G 455	GJ-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	5	0	4	9	1	6	0	0
G 456	GJ-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	5	0	4	9	1	6	0	0
G 457	GJ-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH	3	0	2	6	1	6	0	0
G 458	GJ-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	3	0	3	3	1	6	0	0
G 459	GJ-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	2	0	3	0	1	6	0	0
G 460	GJ-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	4	0	5	3	1	6	0	0
G 461	GJ-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	3	0	4	3	1	6	0	0
G 462	GJ-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	3	0	4	3	1	6	0	0
G 463	GJ-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	2	0	3	0	1	6	0	0
G 464	GJ-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	0	0	0	0	1	0	1	0
G 465	GJ-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	1	0	1	0	1	6	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
G	466	G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	0	0	0	0	1	6	1	0	
G	467	G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	0	0	0	0	1	6	1	0	
G	468	G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	0	0	0	0	1	6	0	0	
G	469	G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	0	0	0	0	1	6	0	0	
G	470	G3-43 DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING EMITTER RESISTANCE FOR	1	0	1	0	1	0	1	0	
G	471	G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	1	0	2	0	1	6	1	0	
G	472	G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	1	0	2	0	1	6	1	0	
G	473	G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	1	0	2	0	2	6	2	0	
G	474	G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	1	0	1	0	1	6	0	0	
G	475	G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	1	0	2	0	1	6	1	0	
G	476	G3-49 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	1	0	1	0	1	6	1	0	
H	477	H1-01 DO YOU USE OR REFER TO VARACTORS	1	0	0	3	3	6	1	6	
H	478	H1-02 DO YOU USE OR REFER TO TUNNEL DIODES	2	0	0	9	3	6	1	6	
H	479	H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	6	0	7	6	2	0	1	6	SOLID-STATE
H	480	H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	4	7	1	12	2	0	1	6	SPECIAL PURPOSE
H	481	H1-05 DO YOU USE OR REFER TO ZENER DIODES	21	7	21	29	5	6	5	6	DEVICES
H	482	H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS	34	20	35	38	19	38	12	8	
H	483	H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	15	13	16	12	23	31	23	19	
H	484	H2-02 DO YOU INSPECT POWER SUPPLIES	4	0	5	3	13	19	13	11	
H	485	H2-03 DO YOU CLEAN POWER SUPPLIES	0	0	0	0	4	0	2	11	POWER SUPPLIES
H	486	H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES	1	0	2	0	3	6	2	3	
H	487	H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	10	13	9	12	12	31	10	11	
H	488	H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	10	7	11	6	6	6	8	3	
H	489	H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	12	0	15	9	21	19	23	17	
H	490	H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	3	7	4	0	2	0	2	3	
H	491	H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS	3	0	3	3	3	6	2	3	
H	492	H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	3	0	3	3	3	6	2	3	
H	493	H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS	5	7	6	3	3	6	2	6	
H	494	H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS	1	0	2	0	3	6	2	3	
H	495	H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE	9	7	8	12	8	6	8	11	
H	496	H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY	4	7	2	9	6	6	6	8	
H	497	H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	3	0	4	3	6	6	6	8	
H	498	H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	5	0	5	9	5	6	5	6	
H	499	H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE	1	0	1	3	1	6	1	0	
H	500	H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY	1	0	0	3	2	6	2	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
M 501	H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	0	0	0	0	3	6	4	0	
M 502	H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	2	0	1	6	3	6	3	3	
M 503	H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	5	7	3	9	6	6	8	0	
M 504	H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	5	0	3	12	3	13	2	3	
M 505	H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	3	0	2	6	3	6	2	3	
M 506	H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	3	0	2	6	1	6	0	3	
M 507	H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	2	0	2	3	1	6	0	3	
M 508	H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	1	0	1	3	0	0	0	0	
M 509	H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	2	0	1	6	1	0	1	0	
M 510	H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER	4	13	4	0	1	0	1	3	
M 511	H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	1	0	0	3	0	0	0	0	
M 512	H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	2	0	1	6	2	13	1	0	
M 513	H3-02 DO YOU INSPECT OSCILLATORS	0	0	0	0	0	0	0	0	
M 514	H3-03 DO YOU ALIGN OR ADJUST OSCILLATORS	0	0	0	0	0	0	0	0	OSCILLATORS
M 515	H3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	1	0	0	3	1	6	0	0	
M 516	H3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	0	0	0	0	0	0	0	0	
M 517	H3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	1	0	1	3	1	6	0	0	
M 518	H3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	0	0	0	0	0	0	0	0	
M 519	H3-08 DO YOU USE OR REFER TO FEEDBACK	2	0	1	6	2	6	2	0	
M 520	H3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)	1	0	0	3	1	0	1	0	
M 521	H3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY	1	0	0	3	0	0	0	0	
M 522	H3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY	1	0	0	3	0	0	0	0	
M 523	H3-12 DO YOU USE OR REFER TO DAMPING	1	0	1	3	1	6	0	0	
M 524	H3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	1	0	1	3	0	0	0	0	
M 525	H3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	0	0	0	0	0	0	0	0	
M 526	H3-15 DO YOU USE OR REFER TO CRITICAL DAMPING	0	0	0	0	0	0	0	0	
M 527	H3-16 DO YOU USE OR REFER TO UNDER DAMPING	0	0	0	0	0	0	0	0	
M 528	H3-17 DO YOU USE OR REFER TO OVER DAMPING	0	0	0	0	0	0	0	0	
M 529	H3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	0	0	0	0	1	0	1	0	
M 530	H3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	1	0	0	3	1	0	1	0	
M 531	H3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	1	0	0	3	0	0	0	0	
M 532	H3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	0	0	0	0	1	6	0	0	
M 533	H3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	0	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
H	534	H3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	0	0	0	0	0	0	0	0	
H	535	H3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	0	0	0	0	0	0	0	0	
H	536	H3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	1	0	0	3	0	0	0	0	
H	537	H3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	0	0	0	0	0	0	0	0	
H	538	H3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	0	0	0	0	1	6	0	0	
I	539	I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	1	0	1	3	1	6	0	0	
I	540	I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	0	0	0	0	1	6	0	0	
I	541	I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	0	0	0	0	0	0	0	0	MULTIVIBRATORS
I	542	I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	0	0	0	0	0	0	0	0	
I	543	I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	1	0	1	3	1	6	0	0	
I	544	I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	1	0	0	3	1	6	0	0	
I	545	I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	1	0	1	3	0	0	0	0	
I	546	I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS	0	0	0	0	0	0	0	0	
I	547	I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	1	0	1	0	0	0	0	0	
I	548	I1-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS	1	0	1	3	0	0	0	0	
I	549	I1-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS	1	0	1	3	0	0	0	0	
I	550	I1-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD	0	0	0	0	0	0	0	0	
I	551	I1-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS	1	0	1	3	0	0	0	0	
I	552	I1-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS	1	0	1	3	0	0	0	0	
I	553	I1-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS	1	0	1	3	0	0	0	0	
I	554	I1-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS	0	0	0	0	0	0	0	0	
I	555	I2-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB	1	0	0	6	1	0	1	0	
I	556	I2-02 DO YOU WORK WITH SERIES DIODE LIMITERS	1	0	0	6	0	0	0	0	LIMITERS AND CLAMPERS
I	557	I2-03 DO YOU WORK WITH SHUNT DIODE LIMITERS	1	0	0	3	0	0	0	0	
I	558	I2-04 DO YOU WORK WITH LIMITERS WITH BIAS	1	0	0	3	0	0	0	0	
I	559	I2-05 DO YOU WORK WITH ZENER DIODE LIMITERS	1	0	0	6	0	0	0	0	
I	560	I2-06 DO YOU WORK WITH TRANSISTOR LIMITERS	1	0	0	6	0	0	0	0	
I	561	I2-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS	0	0	0	0	0	0	0	0	
I	562	I2-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS	1	0	0	3	0	0	0	0	
I	563	I2-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS	0	0	0	0	0	0	0	0	
I	564	I2-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT	0	0	0	0	0	0	0	0	
I	565	I3-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES	0	0	0	0	5	0	5	8	
I	566	I3-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD	0	0	0	0	0	0	0	0	ELECTRON TUBES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053
I 567	13-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES	0	0	0	0	0	0	0	0
I 568	13-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES	0	0	0	0	1	0	1	0
I 569	13-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES	0	0	0	0	0	0	0	0
I 570	13-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES	0	0	0	0	0	0	0	0
I 571	13-07 DO YOU USE OR REFER TO CUTOFF	0	0	0	0	0	0	0	0
I 572	13-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING	0	0	0	0	0	0	0	0
I 573	13-09 DO YOU USE OR REFER TO PEAK CURRENT RATING	0	0	0	0	0	0	0	0
I 574	13-10 DO YOU USE OR REFER TO TRANSIT TIME	0	0	0	0	0	0	0	0
I 575	13-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING	0	0	0	0	0	0	0	0
I 576	13-12 DO YOU USE OR REFER TO SATURATION	0	0	0	0	0	0	0	0
I 577	13-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE	0	0	0	0	0	0	0	0
I 578	13-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES	0	0	0	0	0	0	0	0
I 579	13-15 DO YOU USE OR REFER TO PLATE VOLTAGE	0	0	0	0	0	0	0	0
I 580	13-16 DO YOU USE OR REFER TO PLATE CURRENT	0	0	0	0	0	0	0	0
I 581	13-17 DO YOU USE OR REFER TO GRID VOLTAGE	0	0	0	0	0	0	0	0
I 582	13-18 DO YOU USE OR REFER TO GRID CURRENT	0	0	0	0	0	0	0	0
I 583	13-19 DO YOU USE OR REFER TO CATHODE VOLTAGE	0	0	0	0	0	0	0	0
I 584	13-20 DO YOU USE OR REFER TO CATHODE CURRENT	0	0	0	0	0	0	0	0
I 585	13-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS	0	0	0	0	0	0	0	0
I 586	13-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	0	0	0	0	0	0	0	0
I 587	13-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS	0	0	0	0	0	0	0	0
I 588	13-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)	0	0	0	0	0	0	0	0
I 589	13-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	0	0	0	0	0	0	0	0
I 590	13-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	0	0	0	0	0	0	0	0
I 591	13-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	0	0	0	0	0	0	0	0
I 592	13-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	0	0	0	0	0	0	0	0
I 593	13-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	0	0	0	0	0	0	0	0
I 594	13-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	0	0	0	0	0	0	0	0
I 595	13-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	0	0	0	0	0	0	0	0
I 596	13-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	0	0	0	0	0	0	0	0
I 597	13-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	0	0	0	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
I	598	I3-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0	0	0	0	
I	599	I3-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	0	0	0	0	0	0	0	0	
I	600	I3-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0	0	0	0	
I	601	I3-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	1	0	1	0	
I	602	I3-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0	0	0	0	
I	603	I3-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0	0	0	0	
I	604	I3-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	0	0	0	0	0	0	0	0	
I	605	I3-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	0	0	0	0	0	0	0	0	
I	606	I3-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	0	0	0	0	0	0	0	0	
I	607	I3-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE	0	0	0	0	0	0	0	0	
I	608	I3-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	0	0	0	0	0	0	0	0	
J	609	J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	0	0	0	0	0	0	0	0	
J	610	J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER	0	0	0	0	0	0	0	0	ELECTRON TUBE AMPLIFIERS AND CIRCUITS
J	611	J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	0	0	0	0	0	0	0	0	
J	612	J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	0	0	0	0	0	0	0	0	
J	613	J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	0	0	0	0	0	0	0	0	
J	614	J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	0	0	0	0	0	0	0	0	
J	615	J1-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER	0	0	0	0	0	0	0	0	
J	616	J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	0	0	0	0	0	0	0	0	
J	617	J2-02 DO YOU WORK WITH CATHODE-RAY TUBES	1	0	0	3	3	6	3	3	SPECIAL PURPOSE ELECTRON TUBES
J	618	J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	0	0	0	0	0	0	0	0	
J	619	J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	0	0	0	0	0	0	0	0	
J	620	J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS	0	0	0	0	0	0	0	0	
J	621	J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED	0	0	0	0	0	0	0	0	
J	622	J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)	1	0	0	3	3	0	2	6	
J	623	J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES	1	0	0	3	3	0	2	6	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
J 629	J2-09	DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES	1	0	0	3	1	0	1	3	
J 625	J2-10	DO YOU USE OR REFER TO PHOSPHOR SCREENS	1	0	0	3	4	0	4	6	
J 626	J2-11	DO YOU USE OR REFER TO AQUADAG COATINGS	0	0	0	0	2	0	2	3	
J 627	J2-12	DO YOU USE OR REFER TO ELECTRON OPTICS	0	0	0	0	1	0	1	0	
J 628	J2-13	DO YOU USE OR REFER TO PERSISTENCE	0	0	0	0	3	0	3	3	
J 629	J2-14	DO YOU USE OR REFER TO DECAY TIMES	0	0	0	0	3	0	3	3	
J 630	J2-15	DO YOU USE OR REFER TO FLUORESCENCE	0	0	0	0	5	0	5	6	
J 631	J2-16	DO YOU USE OR REFER TO PHOSPHORESCENCE	0	0	0	0	5	0	5	6	
J 632	J3-01	DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0	0	0	0	65	75	65	61	
J 633	J3-02	DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	0	0	0	0	7	31	5	3	HETERODYNING, MODULATION, AND DEMODULATION
J 634	J3-03	DO YOU PERFORM TASKS ON FREQUENCY MIXERS	0	0	0	0	8	31	6	3	
J 635	J3-04	DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	14	25	13	14	
J 636	J3-05	DO YOU PERFORM TASKS ON REACTANCE MODULATORS	0	0	0	0	3	19	2	0	
J 637	J3-06	DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	0	0	0	0	3	13	3	0	
K 638	K1-01	DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0	0	0	0	61	56	61	61	
K 639	K1-02	DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	52	50	51	56	AM SYSTEMS
K 640	K1-03	DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	15	6	15	22	
K 641	K1-04	DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	14	6	17	6	
K 642	K1-05	DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	60	56	60	61	
K 643	K1-06	DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	25	31	27	17	
K 644	K1-07	DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	63	56	61	69	
K 645	K1-08	DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	26	38	29	11	
K 646	K1-09	DO YOU PERFORM TASKS ON RF OSCILLATORS	0	0	0	0	3	13	2	0	
K 647	K1-10	DO YOU PERFORM TASKS ON RF AMPLIFIERS	0	0	0	0	7	25	6	3	
K 648	K1-11	DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	0	0	0	0	5	19	4	3	
K 649	K1-12	DO YOU PERFORM TASKS ON POWER AMPLIFIERS	0	0	0	0	12	25	11	8	
K 650	K1-13	DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	0	0	0	0	3	13	2	0	
K 651	K1-14	DO YOU PERFORM TASKS ON IF AMPLIFIERS	0	0	0	0	4	13	4	0	
K 652	K1-15	DO YOU PERFORM TASKS ON DETECTORS	0	0	0	0	3	6	3	0	
K 653	K1-16	DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE	0	0	0	0	3	6	2	3	
K 654	K1-17	DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	0	0	0	0	4	13	4	0	
K 655	K1-18	DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	0	0	0	0	7	19	4	11	
K 656	K1-19	DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	0	0	0	0	44	50	45	39	
K 657	K1-20	DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	0	0	0	0	35	38	36	31	
K 658	K1-21	DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	0	0	0	0	4	6	5	0	
K 659	K1-22	DO YOU USE OR REFER TO BANDPASS DISTORTION	0	0	0	0	2	6	2	0	
K 660	K1-23	DO YOU USE OR REFER TO SQUARE LAW DISTORTION	0	0	0	0	1	6	1	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
K 661	K1-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	0	0	0	0	13	13	15	8	
K 662	K1-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	0	0	0	0	5	6	6	3	
K 663	K1-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	0	0	0	0	7	19	6	6	
K 664	K1-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	0	0	0	0	16	19	17	11	
K 665	K1-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	0	0	0	0	17	19	18	11	
K 666	K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0	0	0	0	23	31	22	22	
K 667	K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	19	31	18	14	
K 668	K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	4	6	4	3	FM SYSTEMS
K 669	K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	2	0	2	3	
K 670	K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	22	25	22	19	
K 671	K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	10	25	9	6	
K 672	K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	21	25	21	19	
K 673	K2-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	8	13	9	6	
K 674	K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	0	0	0	0	1	6	1	0	
K 675	K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	0	0	0	0	1	6	0	0	
K 676	K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	0	0	0	0	1	6	1	0	
K 677	K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	0	0	0	0	5	13	6	0	
K 678	K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	0	0	0	0	3	6	4	0	
K 679	K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	0	0	0	0	2	13	1	0	
K 680	K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	0	0	0	0	1	6	1	0	
K 681	K2-16 DO YOU PERFORM TASKS ON LIMITERS	0	0	0	0	1	6	0	0	
K 682	K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	0	0	0	0	1	6	0	0	
K 683	K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	0	0	0	0	6	19	6	3	
K 684	K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	0	0	0	0	6	19	6	3	
K 685	K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	7	0	4	18	3	13	2	0	
K 686	K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	19	20	14	32	9	25	7	8	NUMBERING SYSTEMS
K 687	K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	5	0	4	9	3	13	2	0	
K 688	K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	4	0	3	9	2	6	2	0	
K 689	K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	16	27	10	26	8	19	6	8	
K 690	K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	4	0	2	12	2	6	2	0	
K 691	K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	16	27	11	26	4	13	3	3	
K 692	K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	4	0	2	12	3	13	2	0	
K 693	K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	8	13	3	18	3	13	2	0	

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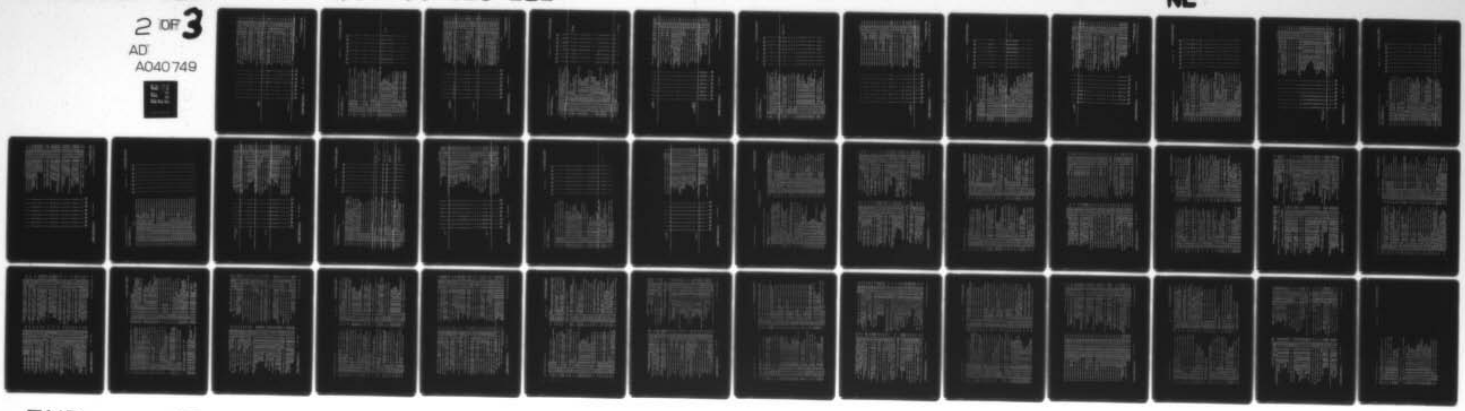

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TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
K 694	K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	3	0	1	9	1	6	1	0	
L 695	L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	26	27	24	32	3	6	2	3	
L 696	L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	10	27	6	15	1	0	1	0	LOGIC FUNCTIONS
L 697	L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	10	20	6	15	1	0	1	0	
L 698	L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	9	20	6	12	1	0	1	0	
L 699	L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	10	20	6	15	1	0	1	0	
L 700	L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	20	13	19	26	2	0	2	3	
L 701	K1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	20	13	19	26	2	0	2	3	
L 702	K1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	16	7	16	18	2	0	2	3	
L 703	L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	14	7	13	21	1	0	2	0	
L 704	L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	23	13	21	32	2	6	2	0	
L 705	L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	23	13	21	32	2	6	2	0	
L 706	L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	23	13	22	32	2	6	2	0	
L 707	L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	16	0	15	24	1	0	2	0	
L 708	L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC	3	0	0	12	1	6	1	0	BOOLEAN EQUATIONS
L 709	L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	1	0	0	3	1	0	1	0	
L 710	L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	2	0	2	3	1	0	1	0	
L 711	L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	1	0	1	0	1	0	1	0	
L 712	L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	7	0	5	15	1	0	1	0	
L 713	L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	3	0	3	6	1	0	2	0	
L 714	L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	5	0	4	9	1	0	2	0	
L 715	L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	3	0	1	12	1	6	1	0	
L 716	L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	3	0	3	3	1	6	1	0	
L 717	L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	9	0	6	21	1	6	1	0	
L 718	L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	1	0	1	3	1	0	1	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
L 719	L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	3	0	2	9	1	0	1	0	
L 720	L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	4	0	2	12	1	0	1	0	
L 721	L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	4	0	2	12	1	6	1	0	
L 722	L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	4	0	2	12	1	6	1	0	
L 723	L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	5	0	5	9	1	6	1	0	
L 724	L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	3	0	2	9	1	6	1	0	
L 725	L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	6	0	5	12	1	6	1	0	
L 726	L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	3	0	2	9	1	6	1	0	
L 727	L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	2	0	1	6	1	6	1	0	
L 728	L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	2	0	1	6	1	6	1	0	
L 729	L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	0	0	0	0	0	0	0	0	
L 730	L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	5	0	3	12	1	6	1	0	
L 731	L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	3	0	2	9	1	6	1	0	
L 732	L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	1	0	1	0	1	0	1	0	
L 733	L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	14	13	13	15	10	25	10	3	
L 734	L3-02 DO YOU USE OR REFER TO UP-COUNTERS	10	13	9	12	5	6	6	0	
L 735	L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS	8	13	7	9	10	25	10	3	
L 736	L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS	4	13	2	6	1	6	1	0	COUNTERS
L 737	L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS	3	13	1	3	1	6	0	0	
L 738	L3-06 DO YOU USE OR REFER TO RING COUNTERS	2	13	1	0	1	6	0	0	
L 739	L3-07 DO YOU USE OR REFER TO DECADE COUNTERS	2	13	1	0	1	6	0	0	
L 740	L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	5	13	3	6	3	13	2	0	
L 741	L3-09 DO YOU USE OR REFER TO DOWN CLOCKS	5	13	3	6	2	6	2	0	
L 742	L3-10 DO YOU USE OR REFER TO UP CLOCKS	5	13	4	6	3	13	2	0	
L 743	L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	3	0	2	9	1	6	1	0	
L 744	L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-	3	0	2	9	1	6	1	0	
L 745	L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	1	0	0	3	1	6	0	0	
L 746	L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	0	0	0	0	0	0	0	0	
L 747	L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	1	0	0	3	1	6	1	0	
L 748	L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	1	0	1	3	1	6	1	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
L	749	L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	3	0	3	6	2	19	0	0	
L	750	L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	1	0	0	3	0	0	0	0	
L	751	L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENT-	1	0	0	6	1	6	0	0	
L	752	L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE	0	0	0	0	1	6	0	0	
L	753	L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	1	0	1	0	1	6	0	0	
L	754	L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	0	0	0	0	0	0	0	0	
L	755	L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	0	0	0	0	1	0	1	0	
L	756	L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	0	0	0	0	1	0	1	0	
M	757	M1-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	3	0	4	3	0	0	0	0	
M	758	M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	0	0	0	0	0	0	0	0	
M	759	M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	4	0	5	3	1	0	1	0	TIMING CIRCUITS
M	760	M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	3	0	4	3	0	0	0	0	
M	761	M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	1	0	0	3	1	6	0	0	
M	762	M1-06 DO YOU USE OR REFER TO RISE TIME	1	0	0	3	3	6	2	3	
M	763	M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	1	0	0	3	1	6	1	0	
M	764	M1-08 DO YOU USE OR REFER TO SWEEP TIME	1	0	1	3	6	6	7	6	
M	765	M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	3	0	2	6	1	0	1	3	
M	766	M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	2	0	0	9	1	0	0	3	
M	767	M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	1	0	0	3	1	0	0	3	
M	768	M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	1	0	0	3	0	0	0	0	
M	769	M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	5	13	6	0	22	50	20	14	
M	770	M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	7	27	6	0	23	50	20	19	
M	771	M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL	4	27	2	0	3	13	2	3	USE OF SIGNAL GENERATORS
M	772	M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	6	27	5	0	15	31	14	11	
M	773	M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	2	13	1	0	3	13	2	0	
M	774	M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	0	0	0	0	4	6	3	6	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
M	775	M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	0	0	0	0	3	6	1	6	
M	776	M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	0	0	0	0	13	25	12	11	
M	777	M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	0	0	0	0	12	19	13	6	
M	778	M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	1	7	1	0	8	13	8	8	
M	779	M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR	29	27	31	24	3	6	2	3	
M	780	M3-02 DO YOU INSPECT MOTORS	7	7	6	9	1	0	0	3	
M	781	M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	1	0	1	3	0	0	0	0	MOTORS AND
M	782	M3-04 DO YOU OPERATE MOTORS	15	7	18	12	2	6	1	3	GENERATORS
M	783	M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	16	20	18	12	1	6	0	0	
M	784	M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	1	0	1	0	0	0	0	0	
M	785	M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	21	20	23	18	1	0	0	3	
M	786	M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	2	0	3	0	0	0	0	0	
M	787	M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	1	0	1	0	0	0	0	0	
M	788	M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	1	0	1	0	0	0	0	0	
M	789	M3-11 DO YOU PERFORM ANY TASKS ON ROTORS	1	0	1	0	0	0	0	0	
M	790	M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	1	0	1	0	0	0	0	0	
M	791	M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	1	0	1	0	0	0	0	0	
M	792	M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	1	0	1	0	0	0	0	0	
M	793	M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	1	0	1	0	0	0	0	0	
M	794	M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	1	7	1	0	0	0	0	0	
M	795	M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	2	7	1	3	0	0	0	0	
M	796	M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	3	7	2	3	0	0	0	0	
M	797	M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	21	27	23	12	1	6	0	3	
M	798	M3-20 DO YOU WORK WITH INDUCTION MOTORS	18	13	18	21	1	0	0	3	
M	799	M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	7	7	6	9	0	0	0	0	
M	800	M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	16	13	15	18	1	0	1	0	
M	801	M3-23 DO YOU INSPECT GENERATORS	6	7	6	6	0	0	0	0	
M	802	M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	1	0	0	6	0	0	0	0	
M	803	M3-25 DO YOU OPERATE GENERATORS	8	0	9	6	1	0	1	0	
M	804	M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	12	20	11	9	0	0	0	0	
M	805	M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	0	0	0	0	0	0	0	0	
M	806	M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	17	13	20	12	0	0	0	0	
M	807	M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	1	0	1	0	0	0	0	0	
M	808	M1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	70	87	69	65	70	69	70	72	
M	809	M1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	8	0	9	9	5	0	5	6	
M	810	M1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	10	7	10	12	6	0	7	8	METER MOVEMENTS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
N 811	N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	7	0	8	6	6	6	5	8	
N 812	N1-05 DO YOU READ METER SCALES	73	87	72	68	70	63	72	69	
N 813	N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	16	27	16	9	16	6	18	14	
N 814	N1-07 DO YOU ZERO OHMMETERS	73	87	72	71	68	63	69	69	
N 815	N1-08 DO YOU ZERO AMMETERS	20	20	19	29	23	38	29	14	
N 816	N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	34	47	34	29	26	19	30	17	
N 817	N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	28	27	22	47	26	19	29	33	
N 818	N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	1	0	0	3	0	0	0	0	
N 819	N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	0	0	0	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
N 820	N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N 821	N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N 822	N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	1	0	0	3	0	0	0	0	
N 823	N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	1	0	0	3	0	0	0	0	
N 824	N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	0	0	0	0	0	0	0	0	
N 825	N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS	1	0	0	3	0	0	0	0	
N 826	N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF	0	0	0	0	0	0	0	0	
N 827	N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE	0	0	0	0	0	0	0	0	
N 828	N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS	1	0	0	3	0	0	0	0	
N 829	N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N 830	N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N 831	N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N 832	N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS	0	0	0	0	0	0	0	0	
N 833	N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS	0	0	0	0	0	0	0	0	
N 834	N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB	3	7	2	6	6	13	5	6	
N 835	N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS	0	0	0	0	3	13	2	3	
N 836	N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)	3	7	2	6	6	13	5	6	WAVESHAPING
N 837	N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	1	0	1	3	5	13	3	6	CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

			DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
N	838	N3-05	DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	1	0	0	3	5	13	3	6	
N	839	N3-06	DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS	2	0	1	6	3	6	2	3	
N	840	N3-07	DO YOU USE OR REFER TO INTEGRATING CIRCUITS	3	0	2	6	3	6	2	3	
N	841	N3-08	DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (T_C) AS LONG, MEDIUM, OR SHORT	3	7	2	3	3	6	2	3	
N	842	N3-09	DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS DIFFERENTIATING OR INTEGRATING, BASED ON THE TIME CONSTANT	1	0	0	3	1	0	2	0	
N	843	N3-10	DO YOU WORK WITH SQUARE WAVE GENERATORS	1	0	0	3	1	0	1	0	
N	844	N3-11	DO YOU WORK WITH RECTANGULAR WAVE GENERATORS	1	0	0	3	1	0	1	0	
O	845	01-01	DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB	0	0	0	0	77	81	80	69	
O	846	01-02	DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	67	69	68	64	SINGLE SIDEBAND
O	847	01-03	DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	21	13	19	28	SYSTEMS
O	848	01-04	DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	11	13	15	0	
O	849	01-05	DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	75	81	79	64	
O	850	01-06	DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	33	31	38	19	
O	851	01-07	DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	72	75	73	69	
O	852	01-08	DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	34	38	39	17	
O	853	01-09	DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	0	0	0	0	7	19	8	0	
O	854	01-10	DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS	0	0	0	0	2	6	2	0	
O	855	01-11	DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	0	0	0	0	1	6	1	0	
O	856	01-12	DO YOU PERFORM TASKS ON SSB LC FILTERS	0	0	0	0	1	6	0	0	
O	857	01-13	DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	0	0	0	0	0	0	0	0	
O	858	01-14	DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	0	0	0	0	0	0	0	0	
O	859	01-15	DO YOU PERFORM TASKS ON SSB OSCILLATORS	0	0	0	0	2	6	2	0	
O	860	01-16	DO YOU PERFORM TASKS ON SSB MIXERS	0	0	0	0	1	6	0	0	
O	861	01-17	DO YOU PERFORM TASKS ON SSB DRIVERS	0	0	0	0	2	13	1	0	
O	862	01-18	DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	0	0	0	0	15	31	17	3	
O	863	01-19	DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS	0	0	0	0	10	13	14	0	
O	864	01-20	DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	0	0	0	0	1	6	0	0	
O	865	01-21	DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS	0	0	0	0	3	13	2	0	
O	866	01-22	DO YOU PERFORM TASKS ON SSB DEMODULATORS	1	0	1	0	1	6	1	0	
O	867	01-23	DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES	0	0	0	0	3	19	1	3	
O	868	01-24	DO YOU USE OR REFER TO SELECTIVE FADING	0	0	0	0	13	31	12	8	
O	869	01-25	DO YOU USE OR REFER TO PEAK POWER	0	0	0	0	32	44	34	22	
O	870	01-26	DO YOU USE OR REFER TO FREQUENCY STABILITY	0	0	0	0	24	38	24	17	
O	871	01-27	DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS	0	0	0	0	3	6	4	0	
O	872	01-28	DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS	0	0	0	0	6	0	10	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
0	873	01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS	0	0	0	0	21	31	23	8	
0	874	01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS	0	0	0	0	22	31	26	6	
0	875	02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB	1	0	1	3	19	31	18	14	
0	876	02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	0	0	0	0	14	19	16	8	PULSE MODULATION SYSTEMS
0	877	02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	0	0	0	0	6	0	7	6	
0	878	02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	0	0	0	0	4	6	5	0	
0	879	02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	2	7	1	3	17	31	17	11	
0	880	02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS	1	0	1	0	8	13	9	6	
0	881	02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	1	0	1	3	16	31	16	11	
0	882	02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS	0	0	0	0	8	13	9	6	
0	883	02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS	1	0	0	3	6	6	9	0	
0	884	02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS	1	0	0	3	6	6	8	3	
0	885	02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS	1	0	0	3	7	0	8	6	
0	886	02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	0	0	0	0	6	6	8	3	
0	887	02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	0	0	0	0	1	0	1	0	
0	888	02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM	0	0	0	0	7	13	7	6	
0	889	02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	1	0	0	3	2	6	2	0	
0	890	02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	1	0	0	3	0	0	0	0	
0	891	02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	1	0	0	3	1	6	0	0	
0	892	02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	1	0	0	3	0	0	0	0	
0	893	02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	0	0	0	0	0	0	0	0	
0	894	02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	1	0	0	3	1	0	1	0	
0	895	02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	0	0	0	0	1	0	1	0	
0	896	02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	0	0	0	0	3	6	3	0	
0	897	02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	1	0	0	3	0	0	0	0	
0	898	02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	0	0	0	0	1	0	1	0	
0	899	02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	1	0	0	3	1	6	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
0 900	02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	0	0	0	0	3	0	4	0	
0 901	02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	0	0	0	0	1	0	2	0	
0 902	02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	0	0	0	0	2	0	2	3	
0 903	02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	1	0	0	3	15	19	17	8	
0 904	02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	1	0	0	3	13	19	15	6	
0 905	02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	2	7	1	3	14	19	16	8	
0 906	02-32 DO YOU USE OR REFER TO PULSE SHAPE	1	0	0	3	8	13	11	0	
0 907	02-33 DO YOU USE OR REFER TO PEAK POWER	0	0	0	0	13	6	15	11	
0 908	02-34 DO YOU USE OR REFER TO AVERAGE POWER	0	0	0	0	8	6	10	3	
0 909	02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	0	0	0	0	3	6	3	0	
0 910	02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	0	0	0	0	2	6	2	0	
0 911	02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	0	0	0	0	1	0	2	0	
0 912	02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	1	0	1	3	7	6	9	3	
0 913	02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	1	0	1	3	9	19	10	3	
0 914	03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	0	0	0	0	94	100	93	94	
0 915	03-02 DO YOU INSPECT ANTENNAS	0	0	0	0	95	100	94	94	
0 916	03-03 DO YOU CLEAN ANTENNAS	0	0	0	0	60	69	53	75	ANTENNAS
0 917	03-04 DO YOU PHYSICALLY ALIGN ANTENNAS	0	0	0	0	28	50	30	14	
0 918	03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS	0	0	0	0	14	19	16	6	
0 919	03-06 DO YOU TROUBLESHOOT TO ANTENNAS	0	0	0	0	91	100	90	89	
0 920	03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	0	0	0	0	30	56	26	28	
0 921	03-08 DO YOU REMOVE OR INSTALL ANTENNAS	0	0	0	0	94	100	93	92	
0 922	03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	0	0	0	0	20	31	20	14	
0 923	03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	0	0	0	0	7	19	7	3	
0 924	03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	0	0	0	0	3	19	1	3	
0 925	03-12 DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS	0	0	0	0	3	13	2	3	
0 926	03-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE OF CORRECT LENGTH (HALF-WAVE) ACT AS	0	0	0	0	6	13	6	6	
0 927	03-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE LONGER THAN A HALF-WAVE ACT AS INDUCTIVE LOADS	0	0	0	0	6	19	3	8	
0 928	03-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE SHORTER THAN A HALF-WAVE ACT AS CAPACITIVE LOADS	0	0	0	0	6	13	5	6	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
O 929	03-16 DO YOU WORK WITH HERTZ ANTENNAS	0	0	0	0	9	0	12	6	
O 930	03-17 DO YOU WORK WITH MARCONI ANTENNAS	0	0	0	0	8	0	6	17	
O 931	03-18 DO YOU WORK WITH BROADSIDE ARRAYS	0	0	0	0	6	0	8	6	
O 932	03-19 DO YOU WORK WITH END-FIRE ARRAYS	0	0	0	0	2	0	3	0	
O 933	03-20 DO YOU WORK WITH CARDIOID ARRAYS	0	0	0	0	21	38	19	19	
O 934	03-21 DO YOU WORK WITH COLLINEAR ARRAYS	0	0	0	0	9	19	11	0	
O 935	03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	6	13	6	3	
O 936	03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	0	0	0	0	3	0	5	0	
O 937	03-24 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	12	25	12	6	
O 938	03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	0	0	0	0	6	6	9	0	
O 939	03-26 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA RADIATION	0	0	0	0	1	0	1	0	
O 940	03-27 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD	0	0	0	0	1	6	1	0	
O 941	03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	0	0	0	0	17	13	18	17	
O 942	03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	0	0	0	0	11	13	11	11	
O 943	03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	0	0	0	0	4	0	5	3	
O 944	03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR	0	0	0	0	1	0	1	0	
O 945	03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	0	0	0	0	7	6	7	8	
O 946	03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS	0	0	0	0	8	6	8	8	
O 947	03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	0	0	0	0	8	6	8	8	
O 948	03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS	0	0	0	0	34	50	30	36	
O 949	03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	0	0	0	0	50	69	49	47	
O 850	03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS	0	0	0	0	45	56	45	39	
O 851	03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	0	0	0	0	16	25	16	14	
O 852	03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS	0	0	0	0	14	44	11	8	
P 953	P1-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS	0	0	0	0	81	94	80	81	
P 954	P1-02 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN TRANSMISSION LINES	0	0	0	0	8	19	7	6	TRANSMISSION LINES
P 955	P1-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	0	0	0	0	10	19	9	11	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053
P 956 P1-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	0	0	0	0	31	38	31	28
P 957 P1-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	0	0	0	0	12	25	10	14
P 958 P1-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	0	0	0	0	39	69	36	33
P 959 P1-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	1	0	0	3	20	38	22	6
P 960 P1-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	0	0	0	0	17	25	18	8
P 961 P1-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	1	0	0	3	11	31	11	3
P 962 P1-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	1	0	0	3	82	94	80	83
P 963 P1-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	0	0	0	0	75	94	74	72
P 964 P1-12 DO YOU TROUBLESHOOT TRANSMISSION LINES	1	0	0	3	78	88	77	78
P 965 P1-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION	0	0	0	0	15	13	18	6
P 966 P1-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	0	0	0	0	4	6	3	6
P 967 P1-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	0	0	0	0	15	25	15	14
P 968 P1-16 DO YOU MEASURE STANDING WAVE RATIOS (SR) OF TRANSMISSION LINES	0	0	0	0	57	63	54	61
P 969 P1-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	0	0	0	0	14	13	15	14
P 970 P1-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH	0	0	0	0	2	6	2	0
P 971 P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	0	0	0	0	11	19	12	6
P 972 P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DEL A MATCHING	0	0	0	0	3	6	1	6
P 973 P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	1	0	1	0
P 974 P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	0	0	0	0	14	19	12	19
P 975 P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	0	0	0	0	2	6	2	0
P 976 P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES	0	0	0	0	9	0	6	0
P 977 P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	0	0	0	0	3	6	2	3
P 978 P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	0	0	0	0	3	6	3	0
P 979 P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	0	0	0	0	8	13	5	14
P 980 P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF	0	0	0	0	5	0	5	8

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
P 981	P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	0	0	0	0	13	25	9	19	
P 982	P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	0	0	0	0	25	25	25	25	
P 983	P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	0	0	0	0	7	6	5	14	
P 984	P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	0	0	0	0	70	88	68	67	
P 985	P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	63	69	62	69	WAVEGUIDES AND CAVITY RESONATORS
P 986	P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	25	31	21	33	
P 987	P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	14	38	13	8	
P 988	P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	8	19	10	0	
P 989	P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	59	63	61	50	
P 990	P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	36	50	40	19	
P 991	P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	60	81	56	61	
P 992	P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	0	0	0	0	63	75	63	58	
P 993	P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	0	0	0	0	65	75	65	61	
P 994	P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	0	0	0	0	23	25	23	22	
P 995	P2-12 DO YOU REMOVE OR INSTALL E BENDS	0	0	0	0	13	25	13	8	
P 996	P2-13 DO YOU REMOVE OR INSTALL H BENDS	0	0	0	0	12	25	12	8	
P 997	P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS	0	0	0	0	28	38	31	14	
P 998	P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS	0	0	0	0	8	13	10	3	
P 999	P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	0	0	0	0	8	13	10	0	
P1000	P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	0	0	0	0	28	38	28	25	
P1001	P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS	0	0	0	0	20	31	19	17	
P1002	P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES	0	0	0	0	3	0	4	3	
P1003	P2-20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES	0	0	0	0	3	0	3	3	
P1004	P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES	0	0	0	0	3	6	3	0	
P1005	P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	2	0	3	0	
P1006	P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	1	0	2	0	
P1007	P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS	0	0	0	0	1	0	1	0	
P1008	P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	0	0	0	0	1	0	1	0	
P1009	P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	0	0	0	0	0	0	0	0	
P1010	P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS	0	0	0	0	1	6	0	0	
P1011	P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35	0	0	0	0	1	6	0	0	
P1012	P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	0	0	0	0	5	13	5	0	
P1013	P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	0	0	0	0	1	6	1	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
P1014	P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR	0	0	0	0	1	6	0	0	
P1015	P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	1	6	0	0	
P1016	P2-33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	0	0	0	0	
P1017	P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0	0	0	0	0	
P1018	P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	3	6	3	0	
P1019	P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	2	6	2	0	
P1020	P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	0	
P1021	P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	4	6	2	8	
P1022	P2-39 ARE DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	26	44	23	25	
P1023	P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO	0	0	0	0	0	0	0	0	
P1024	P2-41 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO	0	0	0	0	0	0	0	0	
P1025	P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO	0	0	0	0	0	0	0	0	
P1026	P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	9	19	8	8	
P1027	P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	4	6	5	0	
P1028	P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	26	50	23	25	
P1029	P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	0	0	0	0	1	0	1	0	
P1030	P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	0	0	0	0	1	0	1	0	
P1031	P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	0	0	0	0	1	0	1	0	
P1032	P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	0	0	0	0	12	31	11	8	
P1033	P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	0	0	0	0	1	6	0	0	
P1034	P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR	0	0	0	0	6	19	5	6	
P1035	$P3\text{-}0_2$ DO YOU USE OR REFER TO INTERELLECTRODE CAPACITANCE	0	0	0	0	1	0	0	3	MICROWAVE
P1036	P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME	0	0	0	0	0	0	0	0	AMPLIFIERS AND
P1037	P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE	0	0	0	0	0	0	0	0	OSCILLATORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053
P1038	P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	0	0	0	0	1	6	0	0
P1039	P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	0	0	0	0	0	0	0	0
P1040	P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING	0	0	0	0	1	0	1	3
P1041	P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	0	0	0	0	0	0	0	0
P1042	P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	0	0	0	0	0	0	0	0
P1043	P3-10 DO YOU WORK WITH REFLEX KLYSTRONS	0	0	0	0	0	0	0	0
P1044	P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)	0	0	0	0	6	13	5	6
P1045	P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1046	P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1047	P3-14 DO YOU WORK WITH MAGNETRONS	0	0	0	0	0	0	0	0
P1048	P3-15 DO YOU INSPECT KLYSTRONS OR TWT	0	0	0	0	3	6	3	0
P1049	P3-16 DO YOU CLEAN KLYSTRONS OR TWT	0	0	0	0	1	0	2	0
P1050	P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	0	0	0	0	1	6	0	0
P1051	P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	0	0	0	0	0	0	0	0
P1052	P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	0	0	0	0	2	6	2	0
P1053	P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	0	0	0	0	2	6	2	0
P1054	P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	0	0	0	0	3	6	3	3
P1055	P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	0	0	0	0	1	0	1	0
P1056	P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1057	P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1058	P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1059	P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1060	P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1061	P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1062	P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIER	0	0	0	0	0	0	0	0
P1063	P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	0	0	0	0	0	0	0	0
P1064	P3-31 DO YOU INSPECT MAGNETRONS	0	0	0	0	0	0	0	0
P1065	P3-32 DO YOU CLEAN MAGNETRONS	0	0	0	0	0	0	0	0
P1066	P3-33 DO YOU ADJUST MAGNETRONS	0	0	0	0	0	0	0	0
P1067	P3-34 DO YOU TUNE MAGNETRONS	0	0	0	0	0	0	0	0
P1068	P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	0	0	0	0	0	0	0	0
P1069	P3-36 DO YOU TROUBLESHOOT MAGNETRONS	0	0	0	0	0	0	0	0
P1070	P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	0	0	0	0	0	0	0	0
P1071	P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	0	0	0	0	0	0	0	0
P1072	P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	0	0	0	0	0	0	0	0
P1073	P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES	0	0	0	0	0	0	0	0
P1074	P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	0	0	0	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053
P1075	P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS	0	0	0	0	0	0	0	0
P1076	P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	0	0	0	0	0	0	0	0
P1077	P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS	0	0	0	0	0	0	0	0
P1078	P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	0	0	0	0	0	0	0	0
P1079	P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	0	0	0	0	1	6	0	0
P1080	P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES	0	0	0	0	0	0	0	0
P1081	P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	0	0	0	0	0	0	0	0
P1082	P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	0	0	0	0	0	0	0	0
P1083	P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRID CAVITY GAPS	0	0	0	0	0	0	0	0
P1084	P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	0	0	0	0	0	0	0	0
P1085	P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON MAGNETIC COUPLING LOOPS	0	0	0	0	0	0	0	0
P1086	P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	0	0	0	0	0	0	0	0
P1087	P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES	0	0	0	0	0	0	0	0
P1088	P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	0	0	0	0	0	0	0	0
P1089	P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	0	0	0	0	1	0	1	0
P1090	P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	0	0	0	0	1	0	1	0
P1091	P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	0	0	0	0	0	0	0	0
P1092	P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	0	0	0	0	0	0	0	0
P1093	P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	0	0	0	0	1	0	1	0
P1094	P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	0	0	0	0	0	0	0	0
P1095	P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	0	0	0	0	1	0	1	0
P1096	P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	0	0	0	0	1	6	0	0
P1097	P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	0	0	0	0	0	0	0	0
P1098	P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	0	0	0	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
P1099	P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	0	0	0	0	0	0	0	0	
P1100	P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	0	0	0	0	0	0	0	0	
P1101	P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	0	0	0	0	0	0	0	0	
P1102	P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	0	0	0	0	0	0	0	0	
P1103	P3-70 DO YOU PERFORM TASKS ON ANODES	0	0	0	0	0	0	0	0	
P1104	P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS	0	0	0	0	0	0	0	0	
P1105	P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	0	0	0	0	0	0	0	0	
P1106	P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	0	0	0	0	0	0	0	0	
P1107	P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	0	0	0	0	0	0	0	0	
P1108	P3-75 DO YOU PERFORM TASKS ON CATHODES	0	0	0	0	0	0	0	0	
P1109	P3-76 DO YOU PERFORM TASKS ON MAGNETS	0	0	0	0	0	0	0	0	
Q1110	Q1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	1	0	0	3	2	0	2	3	
Q1111	Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	1	0	1	3	1	0	1	3	
Q1112	Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	1	0	2	0	1	0	1	3	REGISTERS
Q1113	Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	1	0	1	0	2	0	2	3	
Q1114	Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	2	0	2	3	1	0	1	3	
Q1115	Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	3	0	3	3	1	0	1	3	
Q1116	Q1-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES	1	0	1	3	1	0	0	3	
Q1117	Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	5	0	5	9	5	6	5	3	
Q1118	Q2-02 DO YOU USE OR REFER TO DELAY LINES	0	0	0	0	1	0	2	0	
Q1119	Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES	1	0	0	3	1	0	1	0	STORAGE DEVICES
Q1120	Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS	1	0	0	3	0	0	0	0	
Q1121	Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES	7	0	6	12	0	0	0	0	
Q1122	Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR MEMORY SYSTEMS	2	0	1	6	1	6	1	0	
Q1123	Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	2	0	1	6	1	0	0	3	
Q1124	Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	1	0	1	3	1	0	0	3	
Q1125	Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	0	0	0	0	0	0	0	0	
Q1126	Q3-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D)	8	7	6	12	9	0	5	3	
Q1127	Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT	1	7	0	3	0	0	0	0	DIGITAL TO ANALOG CONVERTERS
Q1128	Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A)	1	0	1	3	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
Q1129	Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	1	7	0	0	0	0	0	0	
Q1130	Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0	0	0	0	0	0	
Q1131	Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0	0	0	0	0	0	
Q1132	Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0	0	0	0	0	0	
Q1133	Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0	0	0	0	0	0	
Q1134	Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER	3	0	2	6	1	0	1	0	
Q1135	Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	0	0	0	0	0	0	0	0	
Q1136	Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	0	0	0	0	0	0	0	0	
Q1137	Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	0	0	0	0	0	0	0	0	
Q1138	Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	0	0	0	0	0	0	0	0	
Q1139	Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	1	0	1	3	0	0	0	0	
R1140	R1-01 DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB	0	0	0	0	2	0	2	3	PHANTASTRONS
R1141	R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	1	0	1	0	1	0	1	0	SCHMITT TRIGGERS
R1142	R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	1	0	1	0	0	0	0	0	
R1143	R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	1	0	1	0	0	0	0	0	
R1144	R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	20	20	19	24	45	44	39	64	CABLE FABRICATION
R1145	R3-02 DO YOU FABRICATE COAXIAL CABLES	27	20	26	32	62	69	54	81	
S1146	S1-01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	29	47	31	18	21	25	22	17	INPUT/OUTPUT DEVICES
S1147	S1-02 DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS	1	0	1	0	5	0	6	3	
S1148	S1-03 DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA	0	0	0	0	1	0	1	0	
S1149	S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	1	0	1	0	1	0	0	0	PHOTO SENSITIVE DEVICES
S1150	S3-01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	1	7	1	0	0	0	0	0	
S1151	S3-02 DO YOU MEASURE EXCITATION FREQUENCIES	1	0	1	0	0	0	0	0	
S1152	S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	1	0	1	0	0	0	0	0	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
S1153	S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES	1	0	1	0	0	0	0	0	
S1154	S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	1	0	1	0	0	0	0	0	
S1155	S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	2	7	2	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	Dy-TSk	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
S1156	S3-07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	2	7	2	0	0	0	0	0	
S1157	S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	2	7	2	0	0	0	0	0	
S1158	S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	2	7	2	0	0	0	0	0	
T1159	T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	0	0	0	0	76	69	79	72	
T1160	T1-02 DO YOU INSPECT INFRARED SYSTEMS	0	0	0	0	72	75	72	72	
T1161	T1-03 DO YOU CLEAN INFRARED SYSTEMS	0	0	0	0	56	50	56	58	INFRARED
T1162	T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	0	0	0	0	17	25	18	11	
T1163	T1-05 DO YOU OPERATE INFRARED SYSTEMS	0	0	0	0	74	69	76	69	
T1164	T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	0	0	0	0	74	75	75	69	
T1165	T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	0	0	62	69	65	50	
T1166	T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	0	0	0	0	21	38	18	22	
T1167	T1-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	0	0	72	75	75	64	
T1168	T1-10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	0	0	0	0	14	25	14	11	
T1169	T1-11 DO YOU USE OR REFER TO FAR REGION	0	0	0	0	5	6	5	6	
T1170	T1-12 DO YOU USE OR REFER TO INTERMEDIATE REGION	0	0	0	0	5	6	5	6	
T1171	T1-13 DO YOU USE OR REFER TO NEAR REGION	0	0	0	0	6	13	5	6	
T1172	T1-14 DO YOU USE OR REFER TO MICRON	0	0	0	0	10	19	10	6	
T1173	T1-15 DO YOU USE OR REFER TO GRAY BODIES	0	0	0	0	8	25	7	6	
T1174	T1-16 DO YOU USE OR REFER TO BLACK BODIES	0	0	0	0	10	25	9	8	
T1175	T1-17 DO YOU USE OR REFER TO ABSORPTION	0	0	0	0	8	13	8	8	
T1176	T1-18 DO YOU USE OR REFER TO SCATTERING	0	0	0	0	7	6	6	11	
T1177	T1-19 DO YOU USE OR REFER TO ABSOLUTE ZERO	0	0	0	0	16	44	19	11	
T1178	T1-20 DO YOU PERFORM TASKS ON BLITZ	0	0	0	0	0	0	0	0	
T1179	T1-21 DO YOU PERFORM TASKS ON TARGET BUTTONS	0	0	0	0	2	0	3	0	
T1180	T1-22 DO YOU PERFORM TASKS ON ERECTOR LENSES	0	0	0	0	0	0	0	0	
T1181	T1-23 DO YOU PERFORM TASKS ON OCULAR LENSES	0	0	0	0	1	6	0	0	
T1182	T1-24 DO YOU PERFORM TASKS ON CORRECTION LENSES	0	0	0	0	0	0	0	0	
T1183	T1-25 DO YOU PERFORM TASKS ON FILTERS	0	0	0	0	5	6	5	3	
T1184	T1-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	0	0	0	0	1	6	1	0	
T1185	T1-27 DO YOU PERFORM TASKS ON PLANE MIRRORS	0	0	0	0	0	0	0	0	
T1186	T2-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH LASERS	0	0	0	0	0	0	0	0	
T1187	T2-02 DO YOU INSPECT LASER SYSTEMS	0	0	0	0	0	0	0	0	LASERS
T1188	T2-03 DO YOU CLEAN LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1189	T2-04 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1190	T2-05 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1191	T2-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
T1192	T2-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1193	T2-08 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1194	T2-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1195	T2-10 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0	0	
T1196	T2-11 DO YOU USE OR REFER TO ANGSTROMS (A)	0	0	0	0	0	0	0	0	
T1197	T2-12 DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	0	0	0	0	0	0	0	0	
T1198	T2-13 DO YOU USE OR REFER TO GROUND STATE	0	0	0	0	0	0	0	0	
T1199	T2-14 DO YOU USE OR REFER TO EXCITED STATE	0	0	0	0	0	0	0	0	
T1200	T2-15 DO YOU USE OR REFER TO PACKET OF RADIATION	0	0	0	0	0	0	0	0	
T1201	T2-16 DO YOU USE OR REFER TO PHOTONS	0	0	0	0	0	0	0	0	
T1202	T2-17 DO YOU USE OR REFER TO SPONTANEOUS EMISSION	0	0	0	0	0	0	0	0	
T1203	T2-18 DO YOU USE OR REFER TO STIMULATED EMISSION	0	0	0	0	0	0	0	0	
T1204	T2-19 DO YOU USE OR REFER TO COHERENCE OR INCOHERENCE	0	0	0	0	0	0	0	0	
T1205	T2-20 DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0	0	0	0	0	0	
T1206	T2-21 DO YOU USE OR REFER TO MONOCHROMATIC	0	0	0	0	0	0	0	0	
T1207	T2-22 DO YOU WORK WITH ACTIVE MATERIALS	0	0	0	0	0	0	0	0	
T1208	T2-23 DO YOU WORK WITH PUMPING SOURCES	0	0	0	0	0	0	0	0	
T1209	T2-24 DO YOU WORK WITH FULL SILVERED (100% REFLECTIVE) MIRRORS	0	0	0	0	0	0	0	0	
T1210	T2-25 DO YOU WORK WITH HALF SILVERED (92% REFLECTIVE) MIRRORS	0	0	0	0	0	0	0	0	
T1211	T2-26 DO YOU WORK WITH HELICAL FLASHTUBES	0	0	0	0	0	0	0	0	
T1212	T2-27 DO YOU WORK WITH RUBY	0	0	0	0	0	0	0	0	
T1213	T2-28 DO YOU WORK WITH HELIUM-NEON	0	0	0	0	0	0	0	0	
T1214	T2-29 DO YOU WORK WITH HELIUM-XENON	0	0	0	0	0	0	0	0	
T1215	T2-30 DO YOU WORK WITH XENON	0	0	0	0	0	0	0	0	
T1216	T2-31 DO YOU WORK WITH CESIUM-HELIUM	0	0	0	0	0	0	0	0	
T1217	T2-32 DO YOU WORK WITH ARGON	0	0	0	0	0	0	0	0	
T1218	T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS	0	0	0	0	0	0	0	0	
T1219	T2-34 DO YOU WORK WITH GALLIUM ARSENIDE	0	0	0	0	0	0	0	0	
T1220	T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE	1	0	0	3	4	0	6	0	
T1221	T3-02 DO YOU INSPECT DVST OR MMST	0	0	0	0	1	0	2	0	
T1222	T3-03 DO YOU CLEAN DVST OR MMST	0	0	0	0	1	0	1	0	DISPLAY TUBES
T1223	T3-04 DO YOU ADJUST OR CALIBRATE DVST OR MMST	0	0	0	0	1	0	1	0	
T1224	T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR MMST	0	0	0	0	4	0	6	0	
T1225	T3-06 DO YOU TROUBLESHOOT DVST OR MMST CIRCUITS	0	0	0	0	0	0	0	0	
T1226	T3-07 DO YOU REMOVE OR REPLACE DVST OR MMST TUBES FROM MAJOR ASSEMBLIES OR UNITS	0	0	0	0	1	0	1	0	
T1227	T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST	0	0	0	0	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 046	SPC 047	SPC 048	SPC 049	SPC 050	SPC 051	SPC 052	SPC 053	
T1228	T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF MMST	0	0	0	0	1	0	1	0	
T1229	T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS	0	0	0	0	0	0	0	0	
T1230	T3-11 DO YOU PERFORM TASKS ON WRITE GUNS	0	0	0	0	1	0	1	0	
T1231	T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS	0	0	0	0	0	0	0	0	
T1232	T3-13 DO YOU PERFORM TASKS ON ERASE GUNS	0	0	0	0	0	0	0	0	
T1233	T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS	0	0	0	0	0	0	0	0	
U1234	U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING TASKS	4	7	3	6	3	6	2	3	
U1235	U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS	1	0	0	6	1	6	1	0	PROGRAMMING
U1236	U1-03 DO YOU USE OR REFER TO PROGRAMS	1	0	0	3	1	0	1	3	
U1237	U1-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS	1	0	0	3	1	0	1	3	
U1238	U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS	1	0	0	3	1	0	1	0	
U1239	U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS	0	0	0	0	1	0	1	0	
U1240	U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS	1	0	0	6	0	0	0	0	
U1241	U1-08 DO YOU USE OR REFER TO TIME-SHARING	0	0	0	0	1	0	1	0	
U1242	U1-09 DO YOU USE OR REFER TO DATA WORDS	3	7	2	6	1	0	2	0	
U1243	U1-10 DO YOU USE OR REFER TO ADDRESS WORDS	3	0	2	6	1	0	1	0	
U1244	U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS	2	0	1	6	1	0	1	0	
U1245	U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION	3	7	3	3	1	0	1	0	
U1246	U1-13 DO YOU USE OR REFER TO INFORMATION WORDS	1	7	0	3	1	0	2	0	
U1247	U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING	0	0	0	0	1	0	1	0	
U1248	U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING	0	0	0	0	0	0	0	0	
U1249	U1-16 DO YOU PERFORM TASKS ON INPUT DEVICES	1	0	0	3	0	0	0	0	
U1250	U1-17 DO YOU PERFORM TASKS ON STORAGE DEVICES	0	0	0	0	0	0	0	0	
U1251	U1-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	0	0	0	0	0	0	0	0	
U1252	U1-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS	0	0	0	0	0	0	0	0	
U1253	U1-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES	1	0	0	3	0	0	0	0	
U1254	U1-21 DO YOU PERFORM TASKS ON POWER SUPPLIES	0	0	0	0	0	0	0	0	
U1255	U2-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	0	0	0	0	29	38	30	22	
U1256	U2-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	0	0	0	0	0	0	0	0	DB AND POWER RATIOS
U1257	U2-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	0	0	0	0	0	0	0	0	

UNITED STATES AIR FORCE
JOB INVENTORY

JOB INVENTORY FOR INTEGRATED AVIONICS (326X0/X1/X2)

A MATHEMATICS, DIRECT CURRENT, VOLTAGE, AND RESISTANCE

A 1 A1-01 DO YOU USE AN INSTRUMENT, SUCH AS METER OR AN OSCILLOSCOPE, IN WHICH IT IS NECESSARY TO AMPLIFY OR ATTENUATE A VOLTAGE, RESISTANCE, ETC., BY POWERS OF 10.
A 2 A1-02 DO YOU USE A PUBLICATION, SUCH AS A TECHNICAL ORDER OR MAINTENANCE MANUAL, IN WHICH IT IS NECESSARY FOR YOU TO MULTIPLY OR DIVIDE BY A POWER OF 10 BEFORE YOU CAN APPLY THE INFORMATION FROM THE PUBLICATION IN A USEFUL WAY ON THE JOB.
A 3 A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.
A 4 A1-04 DO YOU FIND THE SQUARE ROOT OF A QUANTITY.
A 5 A1-05 DO YOU SOLVE FOR AN UNKNOWN QUANTITY.
A 6 A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.
A 7 A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.
A 8 A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.
A 9 A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS (THIS IS THE LOGARITHM SYSTEM WHICH USES THE NUMBER 2.718 AS A BASE).
A 10 A1-10 DO YOU WORK WITH VECTOR QUANTITIES, SUCH AS ADDING OR SUBTRACTING TWO VECTORS.
A 11 A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.
A 12 A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES, SUCH AS AREAS OF CIRCLES OR TRIANGLES.
A 13 A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.
A 14 A1-14 DO YOU SOLVE OR USE PROPORTIONS.
A 15 A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT.
A 16 A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).
A 17 A2-03 DO YOU USE THE TERM OHM.
A 18 A2-04 DO YOU USE THE TERM ION.
A 19 A2-05 DO YOU USE THE TERM DYNE.
A 20 A2-06 DO YOU USE THE TERM AMPERE.
A 21 A2-07 DO YOU USE THE TERM NEUTRON.
A 22 A2-08 DO YOU USE THE TERM COULOMB.
A 23 A2-09 DO YOU USE THE TERM PROTON.
A 24 A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.
A 25 A3-02 DO YOU INSPECT RESISTORS.
A 26 A3-03 DO YOU CLEAN RESISTORS.
A 27 A3-04 DO YOU ADJUST RESISTORS.
A 28 A3-05 DO YOU CHECK OHMIC VALUE OF RESISTORS.
A 29 A3-06 DO YOU REMOVE OR REPLACE RESISTORS.
A 30 A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS IN YOUR PRESENT JOB.
A 31 A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS, SUCH AS FOR FIXED RESISTORS OR FOR TAPPED RESISTORS.
A 32 A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT OR POTENTIOMETER.
A 33 A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE OHMIC VALUE OF RESISTANCE.
A 34 A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE TOLERANCE OF RESISTORS.
A 35 A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE THE FAILURE RATE OF RESISTORS.
A 36 A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO ACHIEVE A SPECIFIC VOLTAGE.
A 37 A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT ANY OF THE FOLLOWING COMPONENTS: BATTERY, FUSE, CONDUCTOR, LAMP OR SWITCH.
A 38 A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.
A 39 A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.
A 40 A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.
A 41 A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.
A 42 A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.
A 43 A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.
A 44 A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.
A 45 A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.
A 46 A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.
A 47 A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.
A 48 A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.
A 49 A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.
A 50 A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.
A 51 A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.

B MULTIMETER USES, ALTERNATING CURRENT, INDUCTORS, AND INDUCTIVE

B 52 B1-01 DO YOU MEASURE RESISTANCE.
B 53 B1-02 DO YOU REPAIR AN OHMMETER.
B 54 B1-03 DO YOU MEASURE VOLTAGE.
B 55 B1-04 DO YOU REPAIR A VOLTMETER.
B 56 B1-05 DO YOU REPAIR AN AMMETER.
B 57 B1-06 DO YOU MEASURE CURRENT.
B 58 B1-07 DO YOU USE A MULTIMETER.
B 59 B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.
B 60 B1-09 DO YOU READ SCHEMATICS.
B 61 B2-01 DO YOU USE OR REFER THE TERM EFFECTIVE VOLTAGE (RMS).
B 62 B2-02 DO YOU USE OR REFER THE TERM PEAK TO PEAK VOLTAGE.
B 63 B2-03 DO YOU USE OR REFER THE TERM AVERAGE VOLTAGE (DC).
B 64 B2-04 DO YOU USE OR REFER THE TERM WAVE LENGTH.
B 65 B2-05 DO YOU USE OR REFER THE TERM FREQUENCY.
B 66 B2-06 DO YOU USE OR REFER THE TERM INSTANTANEOUS VALUE.
B 67 B3-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.
B 68 B3-02 DO YOU INSPECT INDUCTORS.
B 69 B3-03 DO YOU CLEAN INDUCTORS.
B 70 B3-04 DO YOU ADJUST INDUCTORS.
B 71 B3-05 DO YOU REMOVE OR REPLACE INDUCTORS.
B 72 B3-06 DO YOU USE OR REFER TO INDUCTANCE.
B 73 B3-07 DO YOU USE OR REFER TO HENRIES.
B 74 B3-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.
B 75 B3-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.
B 76 B3-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.
B 77 B3-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS.
B 78 B3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE NUMBER OF TURNS OF THE COIL.
B 79 B3-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS SECTIONAL AREA OF THE CORE.
B 80 B3-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO ITS LENGTH.
B 81 B3-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE PERMEABILITY OF THE CORE MATERIAL.
B 82 B3-16 DO YOU CALCULATE INDUCTANCE FOR A PARTICULAR INDUCTOR USING FORMULAS.
B 83 B3-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES.
B 84 B3-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.
B 85 B3-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.
B 86 B3-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.
B 87 B3-21 DO YOU CALCULATE INDUCTIVE REACTANCE.
B 88 B3-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.
B 89 B3-23 DO YOU WORK WITH POWER INDUCTORS.
B 90 B3-24 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.
B 91 B3-25 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.

C CAPACITORS, CAPACITIVE REACTANCE, TRANSFORMERS, AND MAGNETISM

C 92 C1-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS ON YOUR PRESENT JOB.
C 93 C1-02 DO YOU INSPECT CAPACITORS.
C 94 C1-03 DO YOU CLEAN CAPACITORS.
C 95 C1-04 DO YOU ADJUST CAPACITORS.
C 96 C1-05 DO YOU TEST CAPACITORS.
C 97 C1-06 DO YOU DISCHARGE CAPACITORS.
C 98 C1-07 DO YOU REMOVE OR REPLACE CAPACITORS.
C 99 C1-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.
C100 C1-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.
C101 C1-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.
C102 C1-11 DO YOU USE OR REFER TO CAPACITANCE.
C103 C1-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT.
C104 C1-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS.
C105 C1-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE.
C106 C1-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES.
C107 C1-16 THE CAPACITORS YOU WORK WITH IN DC CIRCUITS.
C108 C1-17 THE CAPACITORS YOU WORK WITH ARE IN AC CIRCUITS.
C109 C1-18 THE CAPACITORS YOU WORK WITH ARE IN CIRCUITS WITH BOTH DC AND AC.
C110 C1-19 THE CAPACITORS YOU WORK WITH ARE DON'T REMEMBER WHICH CIRCUITS.
C111 C1-20 DO YOU CALCULATE CAPACITANCE FOR A PARTICULAR CAPACITOR USING FORMULAS.
C112 C1-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT.
C113 C1-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS.
C114 C1-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES.
C115 C1-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF

CAPACITORS IN PARALLEL.
C116 C1-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS.
C117 C1-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO.
C118 C1-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS.
C119 C1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY.
C120 C1-29 DO YOU CALCULATE CAPACITIVE REACTANCE.
C121 C1-30 DO YOU WORK WITH ROTOR-STATOR CAPACITORS (VARIABLE).
C122 C1-31 DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS.
C123 C1-32 DO YOU WORK WITH ELECTROLYTIC CAPACITORS (FIXED).
C124 C1-33 DO YOU WORK WITH PAPER CAPACITORS (FIXED).
C125 C1-34 DO YOU WORK WITH MICA CAPACITORS (FIXED).
C126 C1-35 DO YOU WORK WITH CERAMIC CAPACITORS (FIXED).
C127 C1-36 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS.
C128 C2-01 DO YOU WORK WITH TRANSFORMERS ON YOUR PRESENT JOB.
C129 C2-02 DO YOU INSPECT TRANSFORMERS.
C130 C2-03 DO YOU CLEAN TRANSFORMERS.
C131 C2-04 DO YOU ADJUST TRANSFORMERS.
C132 C2-05 DO YOU TROUBLESHOOT TRANSFORMERS.
C133 C2-06 DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS.
C134 C2-07 DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING.
C135 C2-08 DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (M).
C136 C2-09 DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M.
C137 C2-10 DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS.
C138 C2-11 DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS.
C139 C2-12 DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS.
C140 C2-13 DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS.
C141 C2-14 DO YOU WORK WITH AUTOTRANSFORMERS.
C142 C2-15 DO YOU WORK WITH POWER TRANSFORMERS.
C143 C2-16 DO YOU WORK WITH AUDIO TRANSFORMERS.
C144 C2-17 DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS.
C145 C2-18 DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMER.
C146 C2-19 DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE.
C147 C2-20 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE.
C148 C2-21 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES.
C149 C2-22 DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO.
C150 C2-23 DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO.
C151 C2-24 DO YOU REFER TO THE BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C152 C2-25 DO YOU REFER TO THE MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C153 C2-26 DO YOU REFER TO THE MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C154 C2-27 DO YOU REFER TO THE CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C155 C2-28 DO YOU REFER TO THE AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C156 C2-29 DO YOU REFER TO THE IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C157 C2-30 DO YOU REFER TO THE COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS.
C158 C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS.
C159 C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH.
C160 C2-33 DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE RATIO.
C161 C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS.
C162 C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS.
C163 C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS.
C164 C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH 3 PHASE TRANSFORMERS.
C165 C2-38 DO YOU INSPECT 3 PHASE TRANSFORMERS.
C166 C2-39 DO YOU CLEAN OR LUBRICATE 3 PHASE TRANSFORMERS.
C167 C2-40 DO YOU ADJUST 3 PHASE TRANSFORMERS.
C168 C2-41 DO YOU TROUBLESHOOT 3 PHASE TRANSFORMERS.
C169 C2-42 DO YOU REMOVE OR REPLACE COMPLETE 3 PHASE TRANSFORMER.
C170 C2-43 DO YOU REMOVE OR REPLACE 3 PHASE TRANSFORMER PARTS, SUCH AS A WINDING.
C171 C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS.
C172 C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS.
C173 C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS.
C174 C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS.
C175 C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS.

C176 C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM.
C177 C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX.
C178 C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM.
C179 C3-09 DO YOU USE OR REFER TO THE DOMAIN THEORY OF MAGNETISM.
C180 C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION.
C181 C3-11 DO YOU USE OR REFER TO FLUX DENSITY.
C182 C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES ATTRACT.
C183 C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES.
C184 C3-14 DO YOU USE THE LEFT THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL.

D RCL CIRCUITS, SERIES AND PARALLEL RESONANCE (TIME CONSTANTS), AND FILTERS

D185 D1-01 DO YOU WORK WITH RC, LR, OR RCL CIRCUITS ON YOUR PRESENT JOB.
D186 D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS.
D187 D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS.
D188 D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS.
D189 D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS.
D190 D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS.
D191 D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS.
D192 D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS.
D193 D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS.
D194 D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS.
D195 D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS.
D196 D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS.
D197 D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS.
D198 D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS.
D199 D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS.
D200 D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS.
D201 D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS.
D202 D1-18 DO YOU USE OR REFER TO BRANDPASS REGION WHEN WORKING WITH RCL CIRCUITS.
D203 D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS.
D204 D1-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS.
D205 D1-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS; SINE OF AN ANGLE = OPPOSITE SIDE DIVIDED BY HYPOTENUSE.
D206 D1-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS.
D207 D1-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS.
D208 D1-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS.
D209 D1-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS.
D210 D1-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS.
D211 D1-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS.
D212 D1-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS.
D213 D1-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS.
D214 D1-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS.
D215 D1-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS.
D216 D1-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD.
D217 D1-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW.
D218 D1-34 DO YOU CHECK CAPACITORS USING OHMMETERS.
D219 D1-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION.
D220 D1-36 DO YOU CHECK INDUCTORS USING OHMMETERS.
D221 D1-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION.
D222 D1-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA=0, PF=1, AND PA=PT FOR RESONANT CIRCUITS.
D223 D1-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS.
D224 D1-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE RESONANT FREQUENCY FOR SERIES RCL CIRCUITS.
D225 D1-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT RESONANT FREQUENCY FOR PARALLEL RCL CIRCUITS.
D226 D1-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE.

D227 D1-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q.
D228 D1-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT, OR PHASE ANGLES FOR RCL CIRCUITS.
D229 D2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANCE CIRCUITS OR TIME CONSTANTS.
D230 D2-02 DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS.
D231 D2-03 DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE.
D232 D2-04 DO YOU WORK WITH, USE, OR REFER TO TRANSIENT INTERVALS.
D233 D2-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE (5) TIME CONSTANTS (TC).
D234 D2-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS.
D235 D2-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUITS CURRENT OR COMPONENT VOLTAGES AFTER A SPECIFIC TIME FOR RC OR LR CIRCUITS.
D236 D2-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT VOLTAGES TO REACH SPECIFIC VALUES FOR RC OR LR CIRCUITS.
D237 D2-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND COMPONENT VOLTAGES TO REACH SPECIFIC VALUES IN A SPECIFIC TIME.
D238 D2-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR ZERO) AFTER FIVE (5) TIME CONSTANTS.
D239 D3-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS ON YOUR PRESENT JOB.
D240 D3-02 DO YOU INSPECT FILTER CIRCUITS.
D241 D3-03 DO YOU CLEAN FILTER CIRCUITS.
D242 D3-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS.
D243 D3-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT.
D244 D3-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF FILTER CIRCUITS.
D245 D3-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT.
D246 D3-08 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF FILTER CIRCUITS.
D247 D3-09 DO YOU WORK ON LOW PASS FILTERS.
D248 D3-10 DO YOU WORK ON HIGH PASS FILTERS.
D249 D3-11 DO YOU WORK ON BANDPASS FILTERS.
D251 D3-13 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF FILTER
D250 D3-12 DO YOU WORK ON BAND-REJECT FILTERS.
D252 D3-14 DO YOU WORK WITH L-SECTION FILTER CONFIGURATIONS.
D253 D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATIONS.
D254 D3-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATIONS.
D255 D3-17 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF FILTER CONFIGURATIONS.
D256 D3-18 ARE PARALLEL RESONANT CIRCUITS USED IN FILTERS YOU WORK WITH.
D257 D3-19 ARE SERIES-PARALLEL CIRCUITS USED IN FILTERS YOU WORK WITH.
D258 D3-20 ARE SERIES RESONANT CIRCUITS USED IN FILTERS YOU WORK WITH.
D259 D3-21 ARE DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT USED IN FILTERS YOU WORK WITH.
D260 D3-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC FILTERS.

E COUPLING, SOLDERING, AND RELAYS

E261 E1-01 DO YOU WORK WITH COUPLING DEVICES ON YOUR PRESENT JOB.
E262 E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH RC COUPLING.
E263 E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH IMPEDANCE COUPLING.
E264 E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH TRANSFORMER COUPLING.
E265 E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE RC COUPLING FUNCTIONS.
E266 E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE IMPEDANCE COUPLING FUNCTIONS.
E267 E1-07 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THE TRANSFORMER COUPLING FUNCTIONS.
E268 E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS.
E269 E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS.
E270 E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS.
E271 E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS.
E272 E1-12 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUIT.
E273 E2-01 ON YOUR PRESENT JOB DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS.
E274 E2-02 DO YOU SELECT TYPE OF SOLDER TO USE.
E275 E2-03 DO YOU ADD FLUX TO CONNECTIONS.
E276 E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS.
E277 E2-05 DO YOU STRIP INSULATION FROM WIRES.
E278 E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS.
E279 E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS.
E280 E2-08 DO YOU CUT WIRES.
E281 E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS.
E282 E2-10 DO YOU TIN SOLDERING IRON TIPS.

E283 E2-11 DO YOU CLEAN SOLDERING IRON TIPS.
E284 E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS.
E285 E2-13 DO YOU TIN OR PRE-TIN CONDUCTORS.
E286 E2-14 DO YOU INSPECT SOLDERED CONNECTIONS.
E287 E2-15 DO YOU DESOLDER CONNECTIONS BY WICKING.
E288 E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS.
E289 E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS.
E290 E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL.
E291 E2-19 DO YOU MAKE HARDWIRE CONNECTIONS.
E292 E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS
E293 E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS
E294 E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS
E295 E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB
E296 E3-02 DO YOU ADJUST RELAYS
E297 E3-03 DO YOU CLEAN RELAYS
E298 E3-04 DO YOU INSPECT RELAYS
E299 E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS
E300 E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS
E301 E3-07 DO YOU TROUBLESHOOT RELAYS
E302 E3-08 DO YOU STRAIGHTEN RELAY CONTACTS
E303 E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS
E304 E3-10 DO YOU PERFORM TASKS ON RELAY CORES
E305 E3-11 DO YOU PERFORM TASKS ON RELAY COILS
E306 E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES
E307 E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS
E308 E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPER (NO) SCHEMATIC SYMBOLS FOR RELAYS
E309 E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS
E310 E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS
E311 E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS
E312 E3-18 DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS
E313 E3-19 DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE

F MICROPHONES, SPEAKERS, AND OSCILLOSCOPES

F314 F1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES
F315 F1-02 DO YOU INSPECT MICROPHONES
F316 F1-03 DO YOU CLEAN MICROPHONES
F317 F1-04 DO YOU OPERATE MICROPHONES
F318 F1-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OR MICROPHONES
F319 F1-06 DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS
F320 F1-07 DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES
F321 F1-08 DO YOU REMOVE OR REPLACE MICROPHONE PARTS
F322 F1-09 DO YOU PERFORM TASKS ON CARBON MICROPHONES
F323 F1-10 DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES
F324 F1-11 DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES
F325 F1-12 DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES
F326 F1-13 DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES
F327 F2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS
F328 F2-02 DO YOU INSPECT SPEAKERS
F329 F2-03 DO YOU CLEAN SPEAKERS
F330 F2-04 DO YOU OPERATE SPEAKERS
F331 F2-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS
F332 F2-06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS
F333 F2-07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS
F334 F2-08 DO YOU REMOVE OR REPLACE SPEAKER PARTS
F335 F2-09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES
F336 F2-10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS
F337 F2-11 DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS
F338 F2-12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS
F339 F2-13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS
F340 F2-14 DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS
F341 F2-15 DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES
F342 F3-01 DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB
F343 F3-02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS
F344 F3-03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS
F345 F3-04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS
F346 F3-05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY
F347 F3-06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME
F348 F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS
F349 F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES
F350 F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS
F351 F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE
F352 F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS
F353 F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE

G SEMICONDUCTOR DIODES, TRANSISTORS, AND TRANSISTOR AMPLIFIERS

G354 G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB
G355 G1-02 DO YOU INSPECT DIODES
G356 G1-03 DO YOU REMOVE OR REPLACE DIODES
G357 G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT

G358 G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES
G359 G1-06 DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE, TO COMPUTE FORWARD OR REVERSE LIAS RESISTANCE
G360 G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES
G361 G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES
G362 G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE
G363 G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW
G364 G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE
G365 G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING
G366 G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS
G367 G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS
G368 G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538
G369 G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT
G370 G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT
G371 G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE
G372 G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT
G373 G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON
G374 G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON
G375 G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)
G376 G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)
G377 G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END
G378 G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON
G379 G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES RESISTANCE DECREASES)
G380 G1-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT CHARACTERISTIC CURVES (PERHAPS YOU DO THIS TO IDENTIFY POINTS OF STRUCTURAL BREAKDOWN OR OPERATING REGIONS)
G381 G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS
G382 G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS
G383 G1-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS
G384 G1-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS
G385 G1-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS
G386 G1-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS
G387 G1-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS
G388 G1-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS
G389 G1-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS
G390 G1-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL
G391 G1-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL
G392 G1-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS
G393 G1-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS
G394 G1-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS
G395 G1-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS
G396 G1-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL
G397 G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES
G398 G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS
G399 G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION
G400 G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS
G401 G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS
G402 G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS
G403 G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS
G404 G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.
G405 G2-02 DO YOU INSPECT TRANSISTORS
G406 G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS
G407 G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT
G408 G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS
G409 G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS
G410 G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC)

RESISTANCE MEASUREMENTS
G411 G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION
G412 G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION
G413 G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)
G414 G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR
G415 G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS
G416 G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC
G417 G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION
G418 G2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT IB IS NORMALLY SIGNIFICANTLY SMALLER THAN THE EMITTER CURRENT IE (USUALLY IB BEING 2 TO 8 PERCENT OF IE)
G419 G2-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR TRANSISTORS
G420 G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES
G421 G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES
G422 G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS
G423 G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS
G424 G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS
G425 G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS
G426 G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS
G427 G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS
G428 G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB
G429 G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS
G430 G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS
G431 G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL
G432 G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS
G433 G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER
G434 G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS
G435 G3-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE CURRENT
G436 G3-09 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT
G437 G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT
G438 G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT
G439 G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL
G440 G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL
G441 G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)
G442 G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR
G443 G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR
G444 G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION
G445 G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION
G446 G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION
G447 G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE-EMITTER VOLTAGE INTO THE CHANGE THE BASE COLLECTOR VOLTAGE TO DETERMINE THE VOLTAGE GAIN
G448 G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE CURRENT INTO THE CHANGE IN COLLECTOR CURRENT TO DETERMINE THE CURRENT GAIN
G449 G3-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE CURRENT GAIN TIMES THE VOLTAGE GAIN TO DETERMINE THE POWER GAIN
G450 G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES (THIS AFFECTS THE STATIC OPERATING POINT [Q] OF THE TRANSISTOR)
G451 G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT [Q] OF A TRANSISTOR AT DIFFERENT TEMPERATURES
G452 G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH EMITTER (SWAMPING) RESISTOR STABILIZATION
G453 G3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION
G454 G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION
G455 G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATION
G456 G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION

G457 G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION
G458 G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION
G459 G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION
G460 G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION
G461 G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION
G462 G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION
G463 G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION
G464 G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS
G465 G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION
G466 G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS
G467 G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS
G468 G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION
G469 G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION
G470 G3-43 DO YOU NEED TO KNOW THE DEGENERATIVE EFFECTS ON THE CIRCUIT CAUSED BY CHANGING EMITTER RESISTANCE FOR TRANSISTOR AMPLIFIERS IN THE COMMON COLLECTOR CONFIGURATION
G471 G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS
G472 G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS
G473 G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS
G474 G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS
G475 G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS
G476 G3-49 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS

H SOLID STATE SPECIAL PURPOSE DEVICES, POWER SUPPLIES, AND OSCILLATORS

H477 H1-01 DO YOU USE OR REFER TO VARACTORS
H478 H1-02 DO YOU USE OR REFER TO TUNNEL DIODES
H479 H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)
H480 H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS
H481 H1-05 DO YOU USE OR REFER TO ZENER DIODES
H482 H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS
H483 H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES
H484 H2-02 DO YOU INSPECT POWER SUPPLIES
H485 H2-03 DO YOU CLEAN POWER SUPPLIES
H486 H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES
H487 H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL
H488 H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS
H489 H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES
H490 H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS
H491 H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS
H492 H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS
H493 H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS
H494 H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS
H495 H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE
H496 H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY
H497 H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE
H498 H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE
H499 H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE
H500 H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY
H501 H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE
H502 H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS
H503 H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE
H504 H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS
H505 H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS
H506 H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS
H507 H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS
H508 H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS
H509 H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS
H510 H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER
H511 H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER
H512 H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB
H513 H3-02 DO YOU INSPECT OSCILLATORS
H514 H3-03 DO YOU ALIGN OR ADJUST OSCILLATORS
H515 H3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS
H516 H3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS
H517 H3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL
H518 H3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS
H519 H3-08 DO YOU USE OR REFER TO FEEDBACK
H520 H3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)
H521 H3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY
H522 H3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY
H523 H3-12 DO YOU USE OR REFER TO DAMPING
H524 H3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK
H525 H3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT

H526 H3-15 DO YOU USE OR REFER TO CRITICAL DAMPING
H527 H3-16 DO YOU USE OR REFER TO UNDER DAMPING
H528 H3-17 DO YOU USE OR REFER TO OVER DAMPING
H529 H3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD
H530 H3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD
H531 H3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD
H532 H3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD
H533 H3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS
H534 H3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS
H535 H3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS
H536 H3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS
H537 H3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS
H538 H3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS

I MULTIVIBRATORS, LIMITERS, CLAMPERS, AND ELECTRON TUBES

I539 I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB
I540 I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS
I541 I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS
I542 I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS
I543 I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS
I544 I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS
I545 I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS
I546 I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS
I547 I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS
I548 I1-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS
I549 I1-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS
I550 I1-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD
I551 I1-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS
I552 I1-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS
I553 I1-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS
I554 I1-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS
I555 I2-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB
I556 I2-02 DO YOU WORK WITH SERIES DIODE LIMITERS
I557 I2-03 DO YOU WORK WITH SHUNT DIODE LIMITERS
I558 I2-04 DO YOU WORK WITH LIMITERS WITH BIAS
I559 I2-05 DO YOU WORK WITH ZENER DIODE LIMITERS
I560 I2-06 DO YOU WORK WITH TRANSISTOR LIMITERS
I561 I2-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS
I562 I2-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS
I563 I2-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS
I564 I2-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT
I565 I3-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES
I566 I3-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD
I567 I3-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES
I568 I3-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES
I569 I3-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES
I570 I3-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES
I571 I3-07 DO YOU USE OR REFER TO CUTOFF
I572 I3-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING
I573 I3-09 DO YOU USE OR REFER TO PEAK CURRENT RATING
I574 I3-10 DO YOU USE OR REFER TO TRANSIT TIME
I575 I3-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING
I576 I3-12 DO YOU USE OR REFER TO SATURATION
I577 I3-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE
I578 I3-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES
I579 I3-15 DO YOU USE OR REFER TO PLATE VOLTAGE
I580 I3-16 DO YOU USE OR REFER TO PLATE CURRENT
I581 I3-17 DO YOU USE OR REFER TO GRID VOLTAGE
I582 I3-18 DO YOU USE OR REFER TO GRID CURRENT
I583 I3-19 DO YOU USE OR REFER TO CATHODE VOLTAGE
I584 I3-20 DO YOU USE OR REFER TO CATHODE CURRENT
I585 I3-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS THE RATIO OF CHANGE IN PLATE VOLTAGE TO A CHANGE IN GRID VOLTAGE)
I586 I3-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS
I587 I3-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS
I588 I3-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)
I589 I3-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES
I590 I3-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE
I591 I3-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE
I592 I3-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE
I593 I3-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES
I594 I3-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS

I595 I3-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS
I596 I3-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF
I597 I3-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION
I598 I3-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN
I599 I3-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY
I600 I3-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN
I601 I3-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN
I602 I3-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN
I603 I3-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN
I604 I3-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE
I605 I3-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION
I606 I3-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS
I607 I3-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE ELECTRON TUBES YOU WORK ON
I608 I3-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS

J ELECTRON TUBE AMPLIFIERS AND CIRCUITS, SPECIAL PURPOSE ELECTRON TUBES, HETERODYNING, MODULATION,

J609 J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB
J610 J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS
J611 J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS
J612 J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS
J613 J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS
J614 J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS
J615 J1-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER
J616 J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)
J617 J2-02 DO YOU WORK WITH CATHODE-RAY TUBES
J618 J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES
J619 J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED
J620 J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS
J621 J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED
J622 J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)
J623 J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)
J624 J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)
J625 J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS
J626 J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS
J627 J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS
J628 J2-13 DO YOU USE OR REFER TO PERSISTENCE
J629 J2-14 DO YOU USE OR REFER TO DECAY TIMES
J630 J2-15 DO YOU USE OR REFER TO FLUORESCENCE
J631 J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE
J632 J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB
J633 J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS
J634 J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS
J635 J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS
J636 J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS
J637 J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS

K AM SYSTEMS, FM SYSTEMS, AND NUMBERING SYSTEMS

K638 K1-01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB
K639 K1-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS
K640 K1-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS
K641 K1-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS
K642 K1-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS
K643 K1-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS
K644 K1-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS
K645 K1-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS
K646 K1-09 DO YOU PERFORM TASKS ON RF OSCILLATORS
K647 K1-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS
K648 K1-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS
K649 K1-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS
K650 K1-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS
K651 K1-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS
K652 K1-15 DO YOU PERFORM TASKS ON DETECTORS
K653 K1-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE
K654 K1-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS
K655 K1-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS

K656 K1-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS
K657 K1-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS
K658 K1-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION
K659 K1-22 DO YOU USE OR REFER TO BANDPASS DISTORTION
K660 K1-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION
K661 K1-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE
K662 K1-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS
K663 K1-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS
K664 K1-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS
K665 K1-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS
K666 K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB
K667 K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS
K668 K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS
K669 K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS
K670 K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS
K671 K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS
K672 K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS
K673 K2-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS
K674 K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS
K675 K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS
K676 K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)
K677 K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS
K678 K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS
K679 K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS
K680 K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS
K681 K2-16 DO YOU PERFORM TASKS ON LIMITERS
K682 K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS
K683 K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS
K684 K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS
K685 K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS
K686 K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS
K687 K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS
K688 K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS
K689 K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS
K690 K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS
K691 K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM
K692 K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD
K693 K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD
K694 K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM

L LOGIC FUNCTIONS, BOOLEAN EQUATIONS, AND COUNTERS

L695 L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS
L696 L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES
L697 L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES
L698 L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS
L699 L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES
L700 L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES
L701 K1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES
L702 K1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS
L703 L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS
L704 L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES
L705 L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES
L706 L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES
L707 L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES
L708 L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC CIRCUITS
L709 L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS
L710 L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS
L711 L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS
L712 L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES
L713 L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS
L714 L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA
L715 L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES
L716 L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS
L717 L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE
L718 L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS
L719 L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER

LOGIC DIAGRAMS
L720 L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS
L721 L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS
L722 L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS
L723 L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS
L724 L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS
L725 L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS
L726 L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES
L727 L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS
L728 L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS
L729 L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS
L730 L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS
L731 L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS
L732 L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS
L733 L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB
L734 L3-02 DO YOU USE OR REFER TO UP-COUNTERS
L735 L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS
L736 L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS
L737 L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS
L738 L3-06 DO YOU USE OR REFER TO RING COUNTERS
L739 L3-07 DO YOU USE OR REFER TO DECADE COUNTERS
L740 L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS
L741 L3-09 DO YOU USE OR REFER TO DOWN CLOCKS
L742 L3-10 DO YOU USE OR REFER TO UP CLOCKS
L743 L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS
L744 L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS
L745 L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS
L746 L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS
L747 L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER
L748 L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS
L749 L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS
L750 L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS
L751 L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS
L752 L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTERS
L753 L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS
L754 L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS
L755 L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES
L756 L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT

M TIMING CIRCUITS, USE OF SIGNAL GENERATORS, MOTORS, AND GENERATORS

M757 M1-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS
M758 M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS
M759 M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK
M760 M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK
M761 M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS
M762 M1-06 DO YOU USE OR REFER TO RISE TIME
M763 M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME
M764 M1-08 DO YOU USE OR REFER TO SWEEP TIME
M765 M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS
M766 M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS
M767 M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS
M768 M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS
M769 M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB
M770 M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS
M771 M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS
M772 M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS
M773 M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS
M774 M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS
M775 M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE
M776 M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH
M777 M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH
M778 M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS
M779 M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING

WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS
M780 M3-02 DO YOU INSPECT MOTORS
M781 M3-03 DO YOU CLEAN OR LUBRICATE MOTORS
M782 M3-04 DO YOU OPERATE MOTORS
M783 M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS
M784 M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS
M785 M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS
M786 M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS
M787 M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS
M788 M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES
M789 M3-11 DO YOU PERFORM ANY TASKS ON ROTORS
M790 M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES
M791 M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS
M792 M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS
M793 M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES
M794 M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR
M795 M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR
M796 M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS
M797 M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS
M798 M3-20 DO YOU WORK WITH INDUCTION MOTORS
M799 M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS
M800 M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS
M801 M3-23 DO YOU INSPECT GENERATORS
M802 M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS
M803 M3-25 DO YOU OPERATE GENERATORS
M804 M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS
M805 M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS
M806 M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS
M807 M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS

N METER MOVEMENTS, SATURABLE REACTORS, MAGNETIC AMPLIFIERS, AND WAVESHAPING CIRCUITS

N808 N1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB
N809 N1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS
N810 N1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS
N811 N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS
N812 N1-05 DO YOU READ METER SCALES
N813 N1-06 DO YOU EXTEND THE RANGE OF AMMETERS
N814 N1-07 DO YOU ZERO OHMMETERS
N815 N1-08 DO YOU ZERO AMMETERS
N816 N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS
N817 N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)
N818 N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB
N819 N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS
N820 N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS
N821 N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS
N822 N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS
N823 N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS
N824 N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS
N825 N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS
N826 N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS
N827 N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS
N828 N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS
N829 N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS
N830 N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS
N831 N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS
N832 N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS
N833 N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS
N834 N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB
N835 N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS
N836 N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)
N837 N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)
N838 N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)
N839 N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS
N840 N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS
N841 N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT
N842 N3-09 DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS DIFFERENTIATING OR INTEGRATING BASED ON THE TIME CONSTANT AND OUTPUT CONFIGURATION
N843 N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS
N844 N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS

C SINGLE SIDEBAND SYSTEMS, PULSE MODULATION SYSTEMS, AND ANTENNAS

0845 01-01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB
0846 01-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS
0847 01-03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS
0848 01-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS
0849 01-05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS
0850 01-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS
0851 01-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS
0852 01-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS
0853 01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS
0854 01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS
0855 01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS
0856 01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS
0857 01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS
0858 01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS
0859 01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS
0860 01-16 DO YOU PERFORM TASKS ON SSB MIXERS
0861 01-17 DO YOU PERFORM TASKS ON SSB DRIVERS
0862 01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS
0863 01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS
0864 01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS
0865 01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS
0866 01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS
0867 01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES
0868 01-24 DO YOU USE OR REFER TO SELECTIVE FADING
0869 01-25 DO YOU USE OR REFER TO PEAK POWER
0870 01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY
0871 01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS
0872 01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS
0873 01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS
0874 01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS
0875 02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB
0876 02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS
0877 02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS
0878 02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS
0879 02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS
0880 02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS
0881 02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS
0882 02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS
0883 02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS
0884 02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS
0885 02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS
0886 02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS
0887 02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS
0888 02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM
0889 02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES
0890 02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES
0891 02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS
0892 02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS
0893 02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS
0894 02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS
0895 02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES
0896 02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS
0897 02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS
0898 02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS
0899 02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS
0900 02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS
0901 02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS
0902 02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES
0903 02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)
0904 02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)
0905 02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)
0906 02-32 DO YOU USE OR REFER TO PULSE SHAPE
0907 02-33 DO YOU USE OR REFER TO PEAK POWER
0908 02-34 DO YOU USE OR REFER TO AVERAGE POWER
0909 02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)
0910 02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)

0911 02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS
0912 02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS
0913 02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS
0914 03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB
0915 03-02 DO YOU INSPECT ANTENNAS
0916 03-03 DO YOU CLEAN ANTENNAS
0917 03-04 DO YOU PHYSICALLY ALIGN ANTENNAS
0918 03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS
0919 03-06 DO YOU TROUBLESHOOT TO ANTENNAS
0920 03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS
0921 03-08 DO YOU REMOVE OR INSTALL ANTENNAS
0922 03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS
0923 03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES
0924 03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES
0925 03-12 DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS
0926 03-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE OF CORRECT LENGTH (HALF-WAVE) ACT AS INDUCTIVE LOADS TO THE GENERATOR
0927 03-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE LONGER THAN A HALF-WAVE ACT AS INDUCTIVE LOADS TO THE GENERATOR
0928 03-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE SHORTER THAN A HALF-WAVE ACT AS CAPACITIVE LOADS TO THE GENERATOR
0929 03-16 DO YOU WORK WITH HERTZ ANTENNAS
0930 03-17 DO YOU WORK WITH MARCONI ANTENNAS
0931 03-18 DO YOU WORK WITH BROADSIDE ARRAYS
0932 03-19 DO YOU WORK WITH END-FIRE ARRAYS
0933 03-20 DO YOU WORK WITH CARDIOID ARRAYS
0934 03-21 DO YOU WORK WITH COLLINEAR ARRAYS
0935 03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS
0936 03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS
0937 03-24 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS
0938 03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS
0939 03-26 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA RADIATION
0940 03-27 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD
0941 03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED
0942 03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED
0943 03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON
0944 03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR SPECIFIC WAVELENGTHS
0945 03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS
0946 03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS
0947 03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS
0948 03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS
0949 03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS
0850 03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS
0851 03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY
0852 03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS

P TRANSMISSION LINES, WAVEGUIDES AND CAVITY RESONATORS, AND MICROWAVE AMPLIFIERS AND OSCILLATORS

P953 P1-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS BETWEEN RECEIVERS AND ANTENNAS, TELEPHONE LEADS, AS WELL AS HIGH VOLTAGE POWER LINES, ETC. DO NOT CONSIDER WAVEGUIDES AS TRANSMISSION LINES
P954 P1-02 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN TRANSMISSION LINES
P955 P1-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES
P956 P1-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES
P957 P1-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES
P958 P1-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES
P959 P1-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES
P960 P1-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES
P961 P1-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES
P962 P1-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES
P963 P1-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES
P964 P1-12 DO YOU TROUBLESHOOT TRANSMISSION LINES
P965 P1-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION (OPEN, SHORTED, CAPACITIVE, INDUCTIVE)
P966 P1-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS
P967 P1-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS
P968 P1-16 DO YOU MEASURE STANDING WAVE RATIOS (SR) OF

TRANSMISSION LINES
P969 P1-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES
P970 P1-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH MATCHING TRANSFORMERS TO MATCH TRANSMISSION LINES TO LOADS
P971 P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS
P972 P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING
P973 P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA
P974 P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES
P975 P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES
P976 P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES
P977 P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES
P978 P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES
P979 P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES
P980 P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF TRANSMISSION LINES REMAIN CONSTANT, THE ELECTRICAL LENGTH INCREASES
P981 P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES
P982 P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES
P983 P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING
P984 P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB
P985 P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS
P986 P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS
P987 P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS
P988 P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS
P989 P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS
P990 P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS
P991 P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS
P992 P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES
P993 P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS
P994 P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS
P995 P2-12 DO YOU REMOVE OR INSTALL E BENDS
P996 P2-13 DO YOU REMOVE OR INSTALL H BENDS
P997 P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS
P998 P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS
P999 P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS
P000 P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS
P001 P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS
P002 P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES
P003 P2-20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES
P004 P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES
P005 P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES
P006 P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES
P007 P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS
P008 P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS
P009 P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS
P010 P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS OF THE OPERATING FREQUENCY
P011 P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35 USED AS AN AVERAGE
P012 P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF
P013 P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION
P014 P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR DIRECTION OF "H" FIELD IN WAVEGUIDES
P015 P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES
P016 P2-33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES
P017 P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES
P018 P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P019 P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P020 P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P021 P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P022 P2-39 ARE DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P023 P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA
P024 P2-41 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA
P025 P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA
P026 P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY

RESONATORS YOU WORK WITH
P027 P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P028 P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH
P029 P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING
P030 P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING
P031 P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING
P032 P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING
P033 P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS
P034 P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR MAGNETRONS
P035 P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE
P036 P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME
P037 P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE
P038 P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY
P039 P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION
P040 P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING
P041 P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS
P042 P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS
P043 P3-10 DO YOU WORK WITH REFLEX KLYSTRONS
P044 P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)
P045 P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS
P046 P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS
P047 P3-14 DO YOU WORK WITH MAGNETRONS
P048 P3-15 DO YOU INSPECT KLYSTRONS OR TWT
P049 P3-16 DO YOU CLEAN KLYSTRONS OR TWT
P050 P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY
P051 P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY
P052 P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT
P053 P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT
P054 P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT
P055 P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS
P056 P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS
P057 P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS
P058 P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS
P059 P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS
P060 P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS
P061 P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS
P062 P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIER
P063 P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS
P064 P3-31 DO YOU INSPECT MAGNETRONS
P065 P3-32 DO YOU CLEAN MAGNETRONS
P066 P3-33 DO YOU ADJUST MAGNETRONS
P067 P3-34 DO YOU TUNE MAGNETRONS
P068 P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS
P069 P3-36 DO YOU TROUBLESHOOT MAGNETRONS
P070 P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON
P071 P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS
P072 P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES
P073 P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES
P074 P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS
P075 P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS
P076 P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES
P077 P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS
P078 P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES
P079 P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS
P080 P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES
P081 P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES
P082 P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS
P083 P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRID CAVITY GAPS
P084 P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES
P085 P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON MAGNETIC COUPLING LOOPS
P086 P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS
P087 P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES
P088 P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS
P089 P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS
P090 P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES
P091 P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS
P092 P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES
P093 P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES
P094 P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF

TRAVELING-WAVE TUBES COLLECTORS
P095 P3-02 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS
P096 P3-03 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS
P097 P3-04 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS
P098 P3-05 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES
P099 P3-06 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES
P100 P3-07 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES
P101 P3-08 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS
P102 P3-09 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES
P103 P3-70 DO YOU PERFORM TASKS ON ANODES
P104 P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS
P105 P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS
P106 P3-73 DO YOU PERFORM TASKS ON HEATER LEADS
P107 P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES
P108 P3-75 DO YOU PERFORM TASKS ON CATHODES
P109 P3-76 DO YOU PERFORM TASKS ON MAGNETS

Q REGISTERS, STORAGE DEVICES, AND DIGITAL TO ANALOG CONVERTERS

Q110 Q1-01 DO YOU USE OR REFER TO STORAGE REGISTERS
Q111 Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS
Q112 Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS
Q113 Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS
Q114 Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS
Q115 Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS
Q116 Q1-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES HAVE PASSED
Q117 Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB
Q118 Q2-02 DO YOU USE OR REFER TO DELAY LINES
Q119 Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES
Q120 Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS
Q121 Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES
Q122 Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR MEMORY SYSTEMS
Q123 Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS
Q124 Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS
Q125 Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES
Q126 Q3-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D) CONVERTERS, OR BINARY-TO-DECIMAL READOUT CONVERTERS
Q127 Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES
Q128 Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS IS DETERMINED BY ADDING THE DENOMINATORS OF THE RESISTORS
Q129 Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS
Q130 Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS
Q131 Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS
Q132 Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS
Q131 Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS
Q134 Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS
Q135 Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS
Q136 Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS
Q137 Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS
Q138 Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS
Q139 Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS

R PHANTASTRONS, SCHMITT TRIGGERS, AND CABLE FABRICATION

R140 R1-01 DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB
R141 R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS
R142 R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS
R143 R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS
R144 R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES
R145 R3-02 DO YOU FABRICATE COAXIAL CABLES

S INPUT\OUTPUT DEVICES, PHOTO SENSITIVE DEVICES, AND SYNCHRONOUS VIBRATIONS

S146 S1-01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS
S147 S1-02 DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS
S148 S1-03 DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA
S149 S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB
S150 S3-01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS
S151 S3-02 DO YOU MEASURE EXCITATION FREQUENCIES
S152 S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS
S153 S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES
S154 S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS
S155 S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION
S156 S3-07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION
S157 S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION
S158 S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION

T INFRARED, LASERS, AND DISPLAY TUBES

T159 T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS
T160 T1-02 DO YOU INSPECT INFRARED SYSTEMS
T161 T1-03 DO YOU CLEAN INFRARED SYSTEMS
T162 T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS
T163 T1-05 DO YOU OPERATE INFRARED SYSTEMS
T164 T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS
T165 T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS
T166 T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS
T167 T1-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS
T168 T1-10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS
T169 T1-11 DO YOU USE OR REFER TO FAR REGION
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U PROGRAMMING, DB AND POWER RATIOS

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This report summarizes the results of the administration of the Electronics Principles survey to airmen assigned to Integrated Avionic Systems specialties including 326X2A, Inertial/Bomb Navigation, Fire/Weapons Control, Digital Computers, and Multi-sensor Displays; 326X2B, Flight Control, Flight Data Recorders, and Integrated/Mechanical Instrument Duties; and the 326X2C, Communications, Navigation, and ECM Systems. The report gives a detailed listing of the technical tasks and knowledge needed to perform the jobs within the specialty or career ladder. CONTINUED

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This specialty has the following functions:

Analyzes malfunctions, and calibrates and performs maintenance on avionics aerospace ground equipment using calibration standards. Identifies and isolates malfunctions of avionics aerospace ground equipment. Verifies, calibrates, modifies, and repairs avionics aerospace ground equipment. Inspects avionics aerospace ground equipment. Supervises avionics aerospace ground equipment personnel.