

AD-A044 646

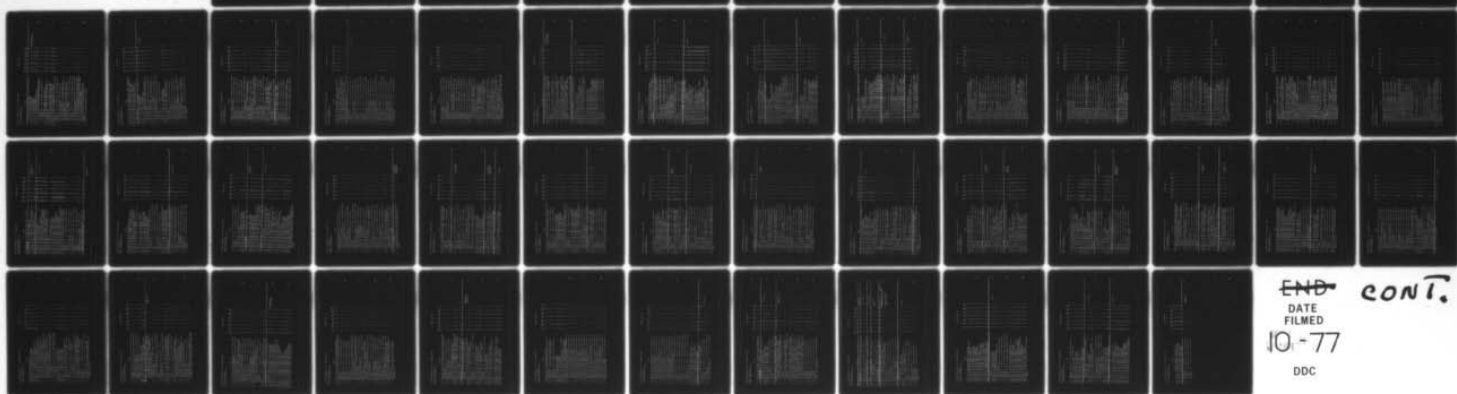
AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9
MISSILE SYSTEMS ANALYST SPECIALIST AFSC 31650/OF/OG/OS/OT.(U)
SEP 77

UNCLASSIFIED

AFPT-90-316-222

NL

1 OF 2
ADA044646



END
DATE
FILMED
10-77
DOC

CONT.

9
OCCUPATIONAL SURVEY REPORT.
ELECTRONIC PRINCIPLES

ADA 044646



2

DDC
SEP 28 1977
C

MISSILE SYSTEMS ANALYST SPECIALIST

AFSC 31650/OF/OG/OS/OT

14 AFPT-90-316-222

11 7 September 1977

12 52p.

OCCUPATIONAL SURVEY BRANCH
USAF OCCUPATIONAL MEASUREMENT CENTER
LACKLAND AFB TEXAS 78236

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

AD No. _____
DDC FILE COPY

COPY AVAILABLE TO DDC DOES NOT
PERMIT FULLY LEGIBLE REPRODUCTION
408 889

TABLE OF CONTENTS

	<u>PAGE NUMBER</u>
PREFACE -----	2
INTRODUCTION -----	3
DEVELOPMENT OF THE ELECTRONIC PRINCIPLES INVENTORY (EPI) -----	3
ADMINISTRATION -----	3
PRESENTATION OF RESULTS -----	6
APPENDIX -----	7

ACCESSION for	
NTIS	Write Section ☒
DDC	Bull Section ☐
UNANNOUNCED JUSTIFICATION	
BY DISTRIBUTION/AVAILABILITY CODES	
Dist.	SPECIAL
A	23

BYZ

PREFACE

This report presents a summary of the results of a detailed Air Force Electronic Principles Survey of the Missile Systems Analyst Specialist, AFSC 31650/OF/OG/OS/OT.

The Electronic Principles Inventory (EPI) was developed by Major Thomas J. O'Connor and Mr. Hendrick W. Ruck and the survey data were analyzed by Major William A. Tamashunas. 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

ELECTRONIC PRINCIPLES OCCUPATIONAL SURVEY REPORT
MISSILE SYSTEMS ANALYST SPECIALIST
AFSC 31650/OF/OG/OS/OT

INTRODUCTION

✓ This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Missile Systems Analyst Specialists (AFSC 31650/OF/OG/OS/OT). The data for this report were collected during the period April through June 1977.

This report describes: (1) development and administration of the survey instrument; and (2) electronic principles used by DAFSC 5-skill level personnel both CONUS and overseas and assigned to selected major commands. ↑

DEVELOPMENT OF THE ELECTRONIC PRINCIPLES INVENTORY (EPI)

The EPI was developed by personnel from the Occupational Survey Branch who were well qualified in theoretical physics and electronics, as well as in task analysis and survey development. Over 300 maintenance personnel from SAC, TAC, ADC, MAC, and AFCS participated in the development of the inventory. Representing the five ATC training centers, electronics experts who averaged 12 years of maintenance experience and four years of electronic 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 final version of the EPI used in this survey contained 1,257 items in 62 subject matter areas covering all electronic principles training given at the five ATC technical training centers. Table 1 lists the 62 subject areas.

ADMINISTRATION

The Electronic Principles Inventory was administered by mail to AFSC 31650/OF/OG/OS/OT airmen worldwide. Responses from 1510 individuals represented 58 percent of the total of all AFSC 31650/OF/OG/OS/OT personnel. Table 2 shows the percentage distribution by shredout of the survey incumbents. Of the 2620 assigned personnel, 97 percent of 31650/OF/OG/OS/OT personnel were assigned to SAC.

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

TABLE 1
EPI SUBJECT AREAS

<u>SEQUENCE OF SUBJECT AREAS</u>	<u>SUBJECT AREA TITLE</u>	<u>BEGINNING ITEM NUMBER</u>	<u>GPSUM PAGE NUMBER</u>
1	MATHEMATICS	A1	2
2	DIRECT CURRENT AND VOLTAGE	A15	2
3	RESISTANCE	A24	2
4	MULTIMETER USES	B52	3
5	ALTERNATING CURRENT	B61	4
6	INDUCTORS AND INDUCTIVE REACTANCE	B67	4
7	CAPACITORS AND CAPACITIVE REACTANCE	C92	5
8	TRANSFORMERS	C128	6
9	MAGNETISM	C171	7
10	RCL CIRCUITS	D185	8
11	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)	D229	10
12	FILTERS	D239	10
13	COUPLING	E261	11
14	SOLDERING	E273	11
15	RELAYS	E295	12
16	MICROPHONES	F314	12
17	SPEAKERS	F327	13
18	OSCILLOSCOPES	F342	13
19	SEMICONDUCTOR DIODES	G354	13
20	TRANSISTORS	G404	15
21	TRANSISTOR AMPLIFIERS	G428	16
22	SOLID-STATE SPECIAL PURPOSE DEVICES	H477	19
23	POWER SUPPLIES	H483	19
24	OSCILLATORS	H512	19
25	MULTIVIBRATORS	I539	20
26	LIMITERS AND CLAMPERS	I555	21
27	ELECTRON TUBES	I565	21
28	ELECTRON TUBE AMPLIFIERS AND CIRCUITS	J609	22
29	SPECIAL PURPOSE ELECTRON TUBES	J616	23
30	HETERODYNING, MODULATION, AND DEMODULATION	J632	23
31	AM SYSTEMS	K638	23
32	FM SYSTEMS	K666	24

TABLE 1 (CONTINUED)

EPI SUBJECT AREAS

<u>SEQUENCE OF SUBJECT AREAS</u>	<u>SUBJECT AREA TITLE</u>	<u>BEGINNING ITEM NUMBER</u>	<u>GPSUM PAGE NUMBER</u>
33	NUMBERING SYSTEMS	K685	25
34	LOGIC FUNCTIONS	L695	25
35	BOOLEAN EQUATIONS	L708	26
36	COUNTERS	L733	27
37	TIMING CIRCUITS	M757	27
38	USE OF SIGNAL GENERATORS	M769	28
39	MOTORS AND GENERATORS	M779	28
40	METER MOVEMENTS	N808	29
41	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS	N818	29
42	WAVESHAPING CIRCUITS	N834	30
43	SINGLE SIDEBAND SYSTEMS	O845	30
44	PULSE MODULATION SYSTEMS	O875	31
45	ANTENNAS	O914	32
46	TRANSMISSION LINES	P953	34
47	WAVEGUIDES AND CAVITY RESONATORS	P984	35
48	MICROWAVE AMPLIFIERS AND OSCILLATORS	P1034	37
49	REGISTERS	Q1110	39
50	STORAGE DEVICES	Q1117	40
51	DIGITAL TO ANALOG CONVERTERS	Q1126	40
52	PHANTASTRONS	Q1140	41
53	SCHMITT TRIGGERS	R1141	41
54	CABLE FABRICATION	R1144	41
55	INPUT/OUTPUT DEVICES	S1146	41
56	PHOTO SENSITIVE DEVICES	S1149	41
57	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)	S1150	41
58	INFRARED	T1159	41
59	LASERS	T1186	42
60	DISPLAY TUBES	T1220	43
61	PROGRAMMING	U1234	43
62	DB AND POWER RATIOS	U1255	44

TABLE 2
COMMAND REPRESENTATION OF SURVEY SAMPLE

<u>SHREDOUT</u>	<u>316X0/OF/OG/OS/OT</u>	
	<u>PERCENT ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
31650	49	52
31650F	10	10
31650G	26	22
31650S	1	2
31650T	<u>14</u>	<u>13</u>
TOTAL	100	100

Total Assigned - 2620
Total Sampled - 1510
Percent Sampled - 58

PRESENTATION OF RESULTS

Personnel responded "yes" or "no" to the 1,257 electronic principles questions as related to their present job. A Group Summary (GPSUM) computer printout is provided in the Appendix portion of this report. Page 1 of the GPSUM lists the seven selected groups identified for this report. Pages 2-44 show the percentage of the incumbents responding to the EPI items. The computer program results display the percent members answering "yes" to the subject area questions. The reader can locate a specific subject area by referring to the Appendix page number as listed in Table 1. For example, the Transformers area results are given on page 6 of the GPSUM. The percentage of survey respondents indicating use of specific electronic principles ranged from high in areas such as Multimeter Uses (p. 3) and Meter Movements (p. 29) to low in areas such as Saturable Reactors and Magnetic Amplifiers (pp 29-30) and Waveguides and Cavity Resonators (pp. 35, 36, 37). Additional AFSC 316X0/OF/OG/OS/OT data can be obtained upon request to the Chief, Occupational Survey Branch (OMY).

APPENDIX

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS
IN THE 31650/0F/0G/0H/0S/0T CAREER FIELD.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY	SPC001	ALL AIRMEN DAFSC 31650	CONTAINING	782 MEMBERS
GROUP IDENTITY	SPC002	ALL AIRMEN DAFSC 31650 ASSIGNED TO ADC	CONTAINING	1 MEMBERS
GROUP IDENTITY	SPC003	ALL AIRMEN DAFSC 31650 ASSIGNED TO AFSC	CONTAINING	9 MEMBERS
GROUP IDENTITY	SPC004	ALL AIRMEN DAFSC 31650F ASSIGNED TO SAC	CONTAINING	153 MEMBERS
GROUP IDENTITY	SPC005	ALL AIRMEN DAFSC 31650G ASSIGNED TO SAC	CONTAINING	330 MEMBERS
GROUP IDENTITY	SPC006	ALL AIRMEN DAFSC 31650S ASSIGNED TO SAC	CONTAINING	36 MEMBERS
GROUP IDENTITY	SPC007	ALL AIRMEN DAFSC 31650T ASSIGNED TO SAC	CONTAINING	203 MEMBERS

PCT MBMS RESPONDING 'YES' BY SELECTED GRPS

GP SUM PAGE 2

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

01-TSK

SPC SPC SPC SPC SPC SPC SPC
001 002 003 004 005 006 007

MATHEMATICS

A 1 A1-01 DO YOU USE INSTRUMENTS, SUCH AS METERS OR OSCILLOSCOPES, IN WHICH IT IS NECESSARY TO AMPLIFY OR ATTENUATE VOLTAGE, RESISTANCE, ETC., BY POWERS OF 10.

A 2 A1-02 DO YOU USE PUBLICATIONS, SUCH AS A TECHNICAL ORDERS OR MAINTENANCE MANUALS, 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 CALCULATE THE SQUARE ROOT OF A QUANTITY.

A 5 A1-05 DO YOU SOLVE FOR UNKNOWN QUANTITIES.

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.

A 10 A1-10 DO YOU PERFORM CALCULATIONS ON VECTOR QUANTITIES.

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.

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 (V).

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 ON 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 YOU PERFORM.

A 31 A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS SUCH AS FIXED RESISTOR SYMBOLS OR TAPPED RESISTOR SYMBOLS.

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 OHMIC VALUE OF RESISTANCE.

DIRECT CURRENT
AND VOLTAGE

RESISTANCE

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Dy-15x

	5PC 001	5PC 002	5PC 003	5PC 004	5PC 005	5PC 006	5PC 007
34 A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE TOLERANCE.	10	100	44	3	7	39	10
35 A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE FAILURE RATE.	3	0	22	1	2	8	2
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.	15	100	11	6	21	22	7
37 A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT BATTERIES, FUSES, CONDUCTORS, LAMPS, OR SWITCHES	36	100	33	29	35	75	32
38 A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	10	100	11	6	10	31	7
39 A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	9	100	11	4	10	28	6
40 A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	10	100	11	3	11	28	6
41 A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	7	0	11	3	6	22	5
42 A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	9	100	11	4	9	28	7
43 A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	8	100	11	3	8	25	7
44 A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	9	100	11	2	10	25	7
45 A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	4	0	11	3	7	25	6
46 A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	7	0	11	2	7	22	5
47 A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	8	100	11	4	7	31	8
48 A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	8	0	11	3	7	25	7
49 A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	8	100	11	2	8	25	6
50 A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	7	0	11	2	6	25	7
51 A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	6	0	11	2	5	22	5
52 B1-01 DO YOU MEASURE RESISTANCE.	77	100	67	80	74	89	75
53 B1-02 DO YOU REPAIR OHMMETERS.	2	0	0	2	2	3	2
54 B1-03 DO YOU MEASURE VOLTAGE.	80	100	78	95	74	89	75
55 B1-04 DO YOU REPAIR VOLTMETERS.	2	0	0	2	1	6	1
56 B1-05 DO YOU REPAIR AMMETERS.	1	0	0	1	1	6	1
57 B1-06 DO YOU MEASURE CURRENT.	60	100	78	54	61	67	55
58 B1-07 DO YOU USE MULTIMETERS.	81	100	78	95	74	92	74
59 B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	2	0	0	1	1	6	0
60 B1-09 DO YOU READ SCHEMATICS.	80	100	67	86	71	92	86

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-TSA

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS	TASK GROUP SUMMARY PERCENT MEMBERS PERFORMING	UY-TSA	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007	ALTERNATING CURRENT	INDUCTORS AND INDUCTIVE REACTANCE
B 61	B2-01 DO YOU USE OR REFER TO THE TERM EFFECTIVE VOLTAGE (RMS).		18	0	33	16	15	42	15		
B 62	B2-02 DO YOU USE OR REFER TO THE TERM PEAK TO PEAK VOLTAGE.		20	100	44	8	20	47	19		
B 63	B2-03 DO YOU USE OR REFER TO THE TERM AVERAGE VOLTAGE (DC).		31	100	33	31	31	50	24		
B 64	B2-04 DO YOU USE OR REFER TO THE TERM WAVE LENGTH.		12	100	44	6	8	33	14		
B 65	B2-05 DO YOU USE OR REFER TO THE TERM FREQUENCY.		49	100	67	33	60	64	35		
B 66	B2-06 DO YOU USE OR REFER TO THE TERM INSTANTANEOUS VALUE.		6	100	22	4	4	8	3		
B 67	B3-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.		11	0	0	7	11	19	10		
B 68	B3-02 DO YOU INSPECT INDUCTORS.		6	0	11	1	7	17	4		
B 69	B3-03 DO YOU CLEAN INDUCTORS.		3	0	11	0	3	8	2		
B 70	B3-04 DO YOU ADJUST INDUCTORS.		3	0	11	0	3	8	2		
B 71	B3-05 DO YOU REMOVE OR REPLACE INDUCTORS.		6	0	11	0	7	17	1		
B 72	B3-06 DO YOU USE OR REFER TO INDUCTANCE.		5	0	11	1	5	8	4		
B 73	B3-07 DO YOU USE OR REFER TO HENMILS.		3	0	11	1	2	8	2		
B 74	B3-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.		4	0	0	1	4	8	4		
B 75	B3-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.		1	0	0	0	1	0	1		
B 76	B3-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.		1	0	0	0	1	0	1		
B 77	B3-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS.		1	0	0	0	1	0	1		
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.		1	0	0	1	1	3	1		
B 79	B2-13 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.		2	0	0	1	1	0	0		
B 80	B2-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO ITS LENGTH.		2	0	0	1	1	3	1		
B 81	B2-15 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.		2	0	0	1	1	3	1		
B 82	B2-16 DO YOU CALCULATE INDUCTANCE FOR PARTICULAR INDUCTORS USING FORMULAS.		1	0	0	1	1	3	1		
B 83	B3-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES.		2	0	0	1	1	3	2		
B 84	B3-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.		2	0	0	1	1	3	2		
B 85	B3-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.		2	0	0	1	1	3	2		
B 86	B3-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.		3	0	0	1	3	8	2		
B 87	B3-21 DO YOU CALCULATE INDUCTIVE REACTANCE.		3	0	0	1	3	3	2		
B 88	B3-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.		3	0	0	1	2	6	2		
B 89	B3-23 DO YOU WORK WITH POWER INDUCTORS.		5	0	0	3	6	11	2		
B 90	B3-24 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.		3	0	11	1	2	6	2		
B 91	B3-25 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.		4	0	0	2	3	3	3		

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK

	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
C 92 CI-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS IN YOUR PRESENT JOB.	31	100	22	18	35	39	32
C 93 CI-02 DO YOU INSPECT CAPACITORS.	19	100	33	3	21	44	20
C 94 CI-03 DO YOU CLEAN CAPACITORS.	10	0	22	0	11	31	10
C 95 CI-04 DO YOU ADJUST CAPACITORS.	4	0	33	0	4	22	1
C 96 CI-05 DO YOU TEST CAPACITORS.	18	100	33	6	25	28	12
C 97 CI-06 DO YOU DISCHARGE CAPACITORS.	19	0	22	3	32	17	7
C 98 CI-07 DO YOU REMOVE OR REPLACE CAPACITORS.	22	0	33	1	29	39	21
C 99 CI-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	2	0	0	0	2	6	2
C 100 CI-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	1	0	0	0	0	3	0
C 101 CI-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	10	0	22	3	9	28	11
C 102 CI-11 DO YOU USE OR REFER TO CAPACITANCE.	16	100	33	5	18	33	14
C 103 CI-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT	2	0	11	1	1	3	1
C 104 CI-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS	9	100	11	2	10	14	8
C 105 CI-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE	4	0	11	1	5	8	4
C 106 CI-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES	3	0	11	1	2	11	4
C 107 CI-16 DO YOU WORK WITH CAPACITORS IN DC CIRCUITS	24	100	11	14	25	47	23
C 108 CI-17 DO YOU WORK WITH CAPACITORS IN AC CIRCUITS	24	0	33	14	32	47	20
C 109 CI-18 DO YOU WORK WITH CAPACITORS IN CIRCUITS WITH BOTH DC AND AC CIRCUITS	20	0	22	14	22	39	17
C 110 CI-19 DO YOU WORK WITH CAPACITORS IN DON'T REMEMBER WHICH CIRCUITS	7	0	22	4	7	11	8
C 111 CI-20 DO YOU CALCULATE CAPACITANCE FOR PARTICULAR CAPACITORS USING FORMULAS	2	0	0	1	1	3	3
C 112 CI-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT	2	0	0	1	1	3	1
C 113 CI-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS	2	0	0	1	1	3	1
C 114 CI-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES	4	0	0	1	2	8	5
C 115 CI-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL	3	0	0	1	2	8	4
C 116 CI-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS	4	0	11	1	2	8	5
C 117 CI-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO	6	100	11	3	6	11	4
C 118 CI-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS	4	0	0	2	3	6	4
C 119 CI-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY	3	0	0	1	2	6	4
C 120 CI-29 DO YOU CALCULATE CAPACITIVE REACTANCE	3	0	0	1	2	3	4

CAPACITORS AND
CAPACITIVE REACTANCE

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK

SPC SFC SPC SPC SPC SPC SPC
001 002 003 004 005 006 007

C 121 C1-J0 DO YOU WORK WITH MOTOR-STATION (VARIABLE) CAPACITORS
C 122 C1-J1 DO YOU WORK WITH COMPRESSION (THIMMER) CAPACITORS
C 123 C1-J2 DO YOU WORK WITH ELECTROLYTIC (FIXED) CAPACITORS
C 124 C1-J3 DO YOU WORK WITH PAPER (FIXED) CAPACITORS
C 125 C1-J4 DO YOU WORK WITH MICA (FIXED) CAPACITORS
C 126 C1-J5 DO YOU WORK WITH CERAMIC (FIXED) CAPACITORS
C 127 C1-J6 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS

C 128 C2-J1 DO YOU WORK WITH TRANSFORMERS IN YOUR PRESENT JOB
C 129 C2-J2 DO YOU INSPECT TRANSFORMERS
C 130 C2-J3 DO YOU CLEAN TRANSFORMERS
C 131 C2-J4 DO YOU ADJUST TRANSFORMERS
C 132 C2-J5 DO YOU TROUBLESHOOT TRANSFORMERS
C 133 C2-J6 DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS
C 134 C2-J7 DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING

C 135 C2-J8 DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTANCE AND MUTUAL INDUCTANCE (M)
C 136 C2-J9 DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M
C 137 C2-J1 DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS

C 138 C2-J1 DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS
C 139 C2-J2 DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS

C 140 C2-J3 DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS
C 141 C2-J4 DO YOU WORK WITH AUTOTRANSFORMERS
C 142 C2-J5 DO YOU WORK WITH POWER TRANSFORMERS
C 143 C2-J6 DO YOU WORK WITH AUDIO TRANSFORMERS
C 144 C2-J7 DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS
C 145 C2-J8 DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMERS

C 146 C2-J9 DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE
C 147 C2-J0 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE
C 148 C2-J1 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES
C 149 C2-J2 DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO

C 150 C2-J3 DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO
C 151 C2-J4 DO YOU REFER TO BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS

TRANSFORMERS

19	0	22	22	20	36	10
16	0	22	14	14	36	7
7	0	11	1	8	31	4
4	0	0	1	5	19	1
16	0	22	15	21	25	4
14	0	11	1	21	33	8
1	0	0	0	2	0	0
1	0	0	0	0	3	0
1	0	0	0	0	0	0
1	0	0	1	1	0	1
2	0	0	1	1	0	1
2	0	0	1	1	3	0
1	0	0	1	0	0	1
4	0	0	2	4	17	0
17	0	22	16	19	36	8
3	0	0	3	2	6	2
3	0	0	3	3	6	2
6	0	0	7	6	11	4
14	0	22	6	21	19	3
13	0	22	5	21	19	3
12	0	11	6	18	22	3
4	0	11	1	7	8	1
6	0	11	3	8	8	1
14	0	22	18	18	28	7

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

GPSUM PAGE 7

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-TSK

	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
C 152 C2-25 DO YOU REFER TO MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS	10	0	11	12	11	11	4
C 153 C2-26 DO YOU REFER TO MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	10	0	11	9	10	14	5
C 154 C2-27 DO YOU REFER TO CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	11	0	11	10	12	17	4
C 155 C2-28 DO YOU REFER TO AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	6	0	11	5	6	3	2
C 156 C2-29 DO YOU REFER TO IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	7	0	11	7	6	6	3
C 157 C2-30 DO YOU REFER TO COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS	9	0	11	6	8	17	4
C 158 C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS	4	0	0	4	4	11	2
C 159 C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH	3	0	0	2	2	6	1
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 RATIO	3	0	0	3	1	8	0
C 161 C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS	6	0	11	5	7	6	1
C 162 C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS	2	0	0	1	1	6	0
C 163 C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS	2	0	0	1	1	3	1
C 164 C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH THREE PHASE TRANSFORMERS	8	0	0	12	11	11	0
C 165 C2-38 DO YOU INSPECT THREE PHASE TRANSFORMERS	7	0	0	7	10	17	0
C 166 C2-39 DO YOU CLEAN OR LUBRICATE THREE PHASE TRANSFORMERS	2	0	0	0	2	8	0
C 167 C2-40 DO YOU ADJUST THREE PHASE TRANSFORMERS	2	0	0	1	2	3	0
C 168 C2-41 DO YOU TROUBLESHOOT THREE PHASE TRANSFORMERS	7	0	0	8	11	8	1
C 169 C2-42 DO YOU REMOVE OR REPLACE COMPLETE THREE PHASE TRANSFORMERS	6	0	0	1	11	14	2
C 170 C2-43 DO YOU REMOVE OR REPLACE THREE PHASE TRANSFORMER PARTS SUCH AS WINDINGS	1	0	0	0	2	6	0
C 171 C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS	20	0	0	3	37	14	6
C 172 C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS	8	0	0	3	12	6	3
C 173 C3-03 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS	2	0	0	1	1	6	1
C 174 C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS	1	0	0	1	0	6	0
C 175 C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS	2	0	11	2	1	3	0
C 176 C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM	2	0	11	1	2	0	1
C 177 C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX	4	0	11	1	4	3	2
C 178 C3-08 DO YOU USE OR REFER TO HEBER'S THEORY OF MAGNETISM	1	0	11	1	1	0	0

MAGNETISM

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

GPSUM PAGE 8

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UT-TSK

	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
C 179 C3-09 DO YOU USE OR REFER TO DOMAIN THEORY OF MAGNETISM	1	0	11	1	1	3	0
C 180 C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION	4	0	11	2	4	3	1
C 181 C3-11 DO YOU USE OR REFER TO FLUX DENSITY	2	0	11	1	0	3	1
C 182 C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR	13	0	0	6	13	25	15
MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES ATTRACT							
C 183 C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE	5	0	0	4	4	11	5
DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES							
C 184 C3-14 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE NORTH	4	0	0	4	2	6	4
POLE OF A CURRENT CARRYING COIL							
U 185 D1-01 DO YOU WORK WITH MC, LM, RCL CIRCUITS IN YOUR	5	0	11	5	4	6	3
PRESENT JOB							
U 186 U1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL	1	0	0	0	1	6	0
CIRCUITS							
U 187 D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN	1	0	0	0	0	3	0
WORKING WITH RCL CIRCUITS							
U 188 D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL	1	0	0	0	1	0	1
CIRCUITS							
U 189 D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL	1	0	0	0	1	0	1
CIRCUITS							
U 190 D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL	1	0	0	0	1	0	1
CIRCUITS							
U 191 D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL	3	0	0	1	3	3	1
CIRCUITS							
U 192 D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING	1	0	0	1	1	3	0
WITH RCL CIRCUITS							
U 193 D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN	1	0	0	1	1	3	0
WORKING WITH RCL CIRCUITS							
U 194 U1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN	1	0	0	1	1	6	0
WORKING WITH RCL CIRCUITS							
U 195 D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN	1	0	0	1	1	6	0
WORKING WITH RCL CIRCUITS							
U 196 D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING	1	0	0	1	1	6	0
WITH RCL CIRCUITS							
U 197 D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN	2	0	0	1	1	6	1
WORKING WITH RCL CIRCUITS							
U 198 D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH	2	0	11	1	3	3	0
RCL CIRCUITS							
U 199 D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH	2	0	11	1	1	0	0
RCL CIRCUITS							
U 200 U1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN	2	0	11	1	1	6	0
WORKING WITH RCL CIRCUITS							
U 201 D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN	1	0	0	0	0	0	0
WORKING WITH RCL CIRCUITS							
U 202 D1-18 DO YOU USE OR REFER TO HANDPASS REGION WHEN WORKING	1	0	0	1	1	3	0
WITH RCL CIRCUITS							
U 203 D1-19 DO YOU USE OR REFER TO CIRCUIT WHEN WORKING WITH	1	0	0	1	1	3	0
RCL CIRCUITS							

RCL CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-TSK		SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
		001	002	003	004	005	006	007	008
0 204	DI-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH MCL CIRCUITS	2	0	0	1	1	3	0	0
0 205	DI-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS	1	0	0	0	1	0	1	0
0 206	DI-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS	1	0	0	0	1	0	0	0
0 207	DI-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS	1	0	0	1	1	0	0	0
0 208	DI-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS	1	0	0	0	1	0	0	0
0 209	DI-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS	1	0	0	1	1	3	0	0
0 210	DI-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS	1	0	0	0	1	0	0	0
0 211	DI-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS	1	0	0	1	1	3	0	0
0 212	DI-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS	1	0	0	1	1	3	0	0
0 213	DI-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS	1	0	0	1	1	3	0	0
0 214	DI-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS	1	0	0	1	1	3	0	0
0 215	DI-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS	1	0	0	0	1	0	0	0
0 216	DI-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD	1	0	0	1	1	4	0	0
0 217	DI-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW	2	0	0	1	1	3	0	0
0 218	DI-34 DO YOU CHECK CAPACITORS USING OHMMETERS	3	0	0	0	3	4	0	0
0 219	DI-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION	1	0	0	1	1	1	0	0
0 220	DI-36 DO YOU CHECK INDUCTORS USING OHMMETERS	3	0	0	0	2	3	0	0
0 221	DI-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION	1	0	0	1	1	3	0	0
0 222	DI-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT $\tan \phi = \frac{Q}{PF} = \frac{1}{\cos \phi}$ AND $PA = PT$ FOR RESONANT CIRCUITS	1	0	0	1	1	3	0	0
0 223	DI-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS	1	0	0	0	0	0	0	0
0 224	DI-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	1	0	0	1	0	3	0	0
0 225	DI-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	1	0	0	1	1	3	0	0
0 226	DI-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE	1	0	0	1	1	0	0	0
0 227	DI-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q	1	0	0	1	0	0	0	0
0 228	DI-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT OR PHASE ANGLES FOR RCL CIRCUITS	1	0	1	1	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY TASK

U-Y-T-S-K														
U	SPC U01	SPC U02	SPC U03	SPC U04	SPC U05	SPC U06	SPC U07	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)						
U 229	02-01	DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANT CIRCUITS OR TIME CONSTANTS						3	0	0	2	2	6	3
U 230	02-04	DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS						4	0	0	1	1	6	0
U 231	02-03	DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE						1	0	0	1	1	3	1
U 232	03-04	DO YOU WORK WITH, USE, OR REFER TO TRANSIENT INTERVALS						1	0	0	1	1	0	1
U 233	02-05	DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE (5) TIME CONSTANTS (TC)						1	0	0	1	1	3	0
U 234	02-06	DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS						1	0	0	0	0	0	0
U 235	02-07	DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUIT CURRENT OR COMPONENT VOLTAGES AFTER A SPECIFIC TIME FOR RC OR LR CIRCUITS						1	0	0	0	1	0	0
U 236	02-08	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						1	0	0	0	0	3	0
U 237	02-09	DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND COMPONENT VOLTAGES TO REACH SPECIFIC VALUES IN SPECIFIC TIMES						1	0	0	0	0	0	0
U 238	02-10	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						1	0	0	1	0	3	0
U 239	03-01	DO YOU WORK WITH CIRCUITS USED AS FILTERS IN YOUR PRESENT JOB						17	0	11	3	25	17	11
U 240	03-02	DO YOU INSPECT FILTER CIRCUITS						12	0	22	1	20	17	4
U 241	03-03	DO YOU CLEAN FILTER CIRCUITS						7	0	22	0	11	8	1
U 242	03-04	DO YOU ALIGN OR ADJUST FILTER CIRCUITS						3	0	22	0	4	6	1
U 243	03-05	DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT LEVEL						13	0	22	2	22	14	5
U 244	03-06	DO YOU TROUBLESHOOT TO COMPONENT PARTS						10	0	22	3	15	14	4
U 245	03-07	DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT						14	0	22	0	23	11	4
U 246	03-08	DO YOU REMOVE OR REPLACE FILTER CIRCUIT COMPONENT PARTS						9	0	22	0	14	17	3
U 247	03-09	DO YOU WORK WITH LOW PASS FILTERS						8	0	33	1	10	6	4
U 248	03-10	DO YOU WORK WITH HIGH PASS FILTERS						7	0	33	1	10	8	3
U 249	03-11	DO YOU WORK WITH BANDPASS FILTERS						5	0	33	1	5	6	2
U 250	03-12	DO YOU WORK WITH BAND-REJECT FILTERS						4	0	22	1	4	6	1
U 251	03-13	DON'T REMEMBER WHICH TYPE OF FILTER YOU WORK WITH						4	0	0	2	12	14	5
U 252	03-14	DO YOU WORK WITH L-SECTION FILTER CONFIGURATION						2	0	11	1	2	0	1
U 253	03-15	DO YOU WORK WITH T-SECTION FILTER CONFIGURATION						2	0	11	1	2	0	1
U 254	03-16	DO YOU WORK WITH PI-SECTION FILTER CONFIGURATION						2	0	0	1	2	0	1
U 255	03-17	DON'T REMEMBER WHICH TYPE FILTER CONFIGURATION						11	0	0	3	17	11	7
U 256	03-18	DO THE FILTERS YOU WORK WITH USE PARALLEL RESONANT CIRCUITS						3	0	0	1	4	0	1
U 257	03-19	DO THE FILTERS YOU WORK WITH USE SERIES-PARALLEL CIRCUITS						5	0	0	1	6	3	4
U 258	03-20	DO THE FILTERS YOU WORK WITH USE SERIES RESONANT CIRCUITS						3	0	0	1	5	0	1

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

01-TSK

11

SPC SPC SPC SPC SPC SPC
U01 002 003 004 005 006 007

0 459 D3-21 DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT
0 460 D3-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE
CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC
FILTERS

10 0 11 2 15 8 7
1 0 0 1 1 0 0

COUPLING

0 461 E1-01 DO YOU WORK WITH COUPLING DEVICES IN YOUR PRESENT JOB
0 462 E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO
THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH RC
COUPLING

COUPLING

3 0 11 3 4 3 1
2 0 22 1 1 0 0

COUPLING

0 463 E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO
THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH
IMPEDANCE COUPLING

COUPLING

2 0 22 1 2 0 0
2 0 22 3 2 3 0

COUPLING

0 464 E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO
THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH
TRANSFORMER COUPLING

COUPLING

2 0 22 1 1 0 0
2 0 22 1 2 0 0

COUPLING

0 465 E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS
WHICH PERFORM RC COUPLING

COUPLING

2 0 22 1 1 0 0
2 0 22 1 2 0 0

COUPLING

0 466 E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS
WHICH PERFORM IMPEDANCE COUPLING

COUPLING

3 0 22 3 2 3 0
2 0 22 1 1 0 0

COUPLING

0 467 E1-07 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS
WHICH PERFORM TRANSFORMER COUPLING

COUPLING

2 0 22 1 1 0 0
2 0 22 1 1 3 0

COUPLING

0 468 E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS
0 469 E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED
CIRCUITS

COUPLING

2 0 22 1 1 0 0
2 0 22 1 1 0 0

COUPLING

0 470 E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED
CIRCUITS

COUPLING

2 0 22 1 1 0 0
2 0 22 3 1 3 0

COUPLING

0 471 E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS
0 472 E1-12 DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUITS
TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS

COUPLING

47 100 56 1 52 83 68
36 0 22 1 35 81 40

COUPLING

0 473 E2-02 DO YOU SELECT TYPE OF SOLDER TO USE
0 474 E2-03 DO YOU ADD FLUX TO CONNECTIONS

COUPLING

31 0 44 1 25 69 55
34 0 33 1 29 69 63

COUPLING

0 475 E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS
0 476 E2-05 DO YOU STRIP INSULATION FROM WIRES

COUPLING

48 0 56 1 53 83 70
28 0 44 1 21 67 52

COUPLING

0 477 E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS
0 478 E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS

COUPLING

47 0 44 1 51 81 69
48 0 56 1 53 83 71

COUPLING

0 479 E2-08 DO YOU CUT WIRES
0 480 E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS

COUPLING

32 0 33 1 29 67 56
42 0 44 1 42 83 67

COUPLING

0 481 E2-10 DO YOU TIN SOLDERING IRON TIPS
0 482 E2-11 DO YOU CLEAN SOLDERING IRON TIPS

COUPLING

45 0 56 1 47 83 68
22 0 44 0 18 58 37

COUPLING

0 483 E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS
0 484 E2-13 DO YOU TIN OR PRE-TIN CONDUCTORS

COUPLING

34 0 56 1 33 78 53
46 100 56 1 50 83 67

COUPLING

0 485 E2-14 DO YOU INSPECT SOLDERED CONNECTIONS
0 486 E2-15 DO YOU DESOLDER CONNECTIONS BY WICKING

COUPLING

25 0 44 0 24 56 38
11 0 56 0 3 31 28

COUPLING

0 487 E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING
TOOLS

COUPLING

29 0 44 1 35 58 36
5 0 22 0 4 17 9

COUPLING

0 488 E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS
0 489 E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL

COUPLING

29 0 44 1 35 58 36
5 0 22 0 4 17 9

COUPLING

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSR

	SPC CO1	SPC U02	SPC U03	SPC U04	SPC U05	SPC U06	SPC U07
E 291 E2-19 DO YOU MAKE HARD-WIRE CONNECTIONS	42	0	44	1	47	75	60
E 292 E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	8	0	44	0	3	28	16
E 293 E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	8	0	56	0	4	19	13
E 294 E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS BULB-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	7	0	44	0	3	19	10
E 295 E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	48	100	33	46	54	75	34
E 296 E3-02 DO YOU ADJUST RELAYS	20	0	0	1	37	56	1
E 297 E3-03 DO YOU CLEAN RELAYS	20	0	22	1	33	47	8
E 298 E3-04 DO YOU INSPECT RELAYS	35	100	33	13	49	69	20
E 299 E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS	39	0	33	6	56	72	29
E 300 E3-06 DO YOU REMOVE OR REPLACE PARTS ON RELAYS	13	0	0	3	24	25	1
E 301 E3-07 DO YOU TROUBLESHOOT RELAYS	45	100	22	44	54	64	28
E 302 E3-08 DO YOU STRAIGHTEN RELAY CONTACTS	14	0	11	0	23	42	6
E 303 E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS	19	0	11	5	34	25	6
E 304 E3-10 DO YOU PERFORM TASKS ON RELAY COILS	5	0	0	1	8	6	1
E 305 E3-11 DO YOU PERFORM TASKS ON RELAY ARMATURES	9	0	0	2	15	17	0
E 306 E3-12 DO YOU PERFORM TASKS ON RELAY SPRINGS	7	0	0	2	13	8	0
E 307 E3-13 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPEN (NO) SCHEMATIC SYMBOLS FOR RELAYS	9	0	0	2	15	8	1
E 308 E3-14 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	28	100	0	27	27	56	24
E 309 E3-15 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	28	100	0	27	27	56	23
E 310 E3-16 DO YOU USE OR REFER TO DOUBLE POLE, SINGLE THROW (DPST), NORMALLY OPEN (NO) SCHEMATIC SYMBOLS FOR RELAYS	26	100	0	25	24	47	23
E 311 E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	25	100	0	25	23	47	21
E 312 E3-18 DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	30	100	11	31	32	50	23
E 313 E3-19 DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	33	0	11	23	45	47	15
F 314 F1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	18	0	22	24	15	22	20
F 315 F1-02 DO YOU INSPECT MICROPHONES	9	0	0	4	6	6	17
F 316 F1-03 DO YOU CLEAN MICROPHONES	5	0	0	3	2	6	13
F 317 F1-04 DO YOU OPERATE MICROPHONES	20	0	22	25	15	17	26
F 318 F1-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OR MICROPHONES	11	0	11	11	5	11	27
F 319 F1-06 DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	2	0	11	0	1	6	7
F 320 F1-07 DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	8	0	11	5	4	11	17
F 321 F1-08 DO YOU REMOVE OR REPLACE MICROPHONE PARTS	2	0	0	0	0	3	7
F 322 F1-09 DO YOU PERFORM TASKS ON CARBON MICROPHONES	3	0	11	3	3	3	4
F 323 F1-10 DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	1	0	0	1	0	0	1
F 324 F1-11 DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	2	0	0	3	1	3	3
F 325 F1-12 DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	2	0	0	5	1	3	2
F 326 F1-13 DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	1	0	0	1	0	0	1

RELAYS

MICROPHONES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK

SPC SPC SPC SPC SPC SPC SPC SPC
U01 002 003 004 005 006 007

327 F2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	9	0	22	11	8	6	10	
F 328 F2-02 DO YOU INSPECT SPEAKERS	5	0	11	2	4	3	8	SPEAKERS
F 329 F2-03 DO YOU CLEAN SPEAKERS	3	0	11	1	1	3	6	
F 330 F2-04 DO YOU OPERATE SPEAKERS	9	0	22	10	8	6	11	
F 331 F2-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS	6	0	0	6	5	3	4	
F 332 F2-06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	1	0	0	0	1	0	2	
F 333 F2-07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	4	0	0	1	3	0	8	
F 334 F2-08 DO YOU REMOVE OR REPLACE SPEAKER PARTS	1	0	0	0	0	0	1	
F 335 F2-09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES	0	0	0	0	1	0	0	
F 336 F2-10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIGOTS	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	
F 338 F2-12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	1	0	0	1	0	0	0	
F 339 F2-13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	1	0	0	1	0	0	1	
F 340 F2-14 DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	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	
F 342 F3-01 DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	10	100	67	1	2	33	23	
F 343 F3-02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	9	100	56	0	1	44	18	OSCILLOSCOPES
F 344 F3-03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	9	100	44	0	1	44	19	
F 345 F3-04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	9	100	33	0	1	36	19	
F 346 F3-05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	9	100	56	0	1	39	17	
F 347 F3-06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME	6	100	33	0	1	33	11	
F 348 F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	4	0	0	0	1	33	4	
F 349 F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	7	100	56	0	1	39	14	
F 350 F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	4	100	44	0	1	25	5	
F 351 F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	7	100	56	0	1	42	12	
F 352 F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	7	100	22	0	1	36	15	
F 353 F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	7	100	67	0	1	42	11	
G 354 G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	16	0	44	15	13	56	12	
G 355 G1-02 DO YOU INSPECT DIODES	11	0	33	3	8	56	8	SEMICONDUCTOR
G 356 G1-03 DO YOU REMOVE OR REPLACE DIODES	11	0	44	1	9	58	5	DIODES
G 357 G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT	14	0	44	11	13	53	5	
G 358 G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	1	0	0	1	1	6	0	
G 359 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	1	0	0	1	1	6	0	
G 360 G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	3	0	0	1	2	6	1	

PCT MBRS RESPONDING *YES* BY SELECTED GRPS

GP50H1 PAGE 14

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC U01	SPC U02	SPC U03	SPC U04	SPC U05	SPC U06	SPC U07
U 361 G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	6	0	22	4	4	31	4
U 362 G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE	8	0	44	5	6	33	6
U 363 G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	1	0	0	1	0	6	1
U 364 G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	7	0	33	3	8	22	2
U 365 G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING	2	0	11	1	1	8	2
U 366 G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	1	0	0	0	0	0	0
U 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
U 368 G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	4	0	33	2	3	19	3
U 369 G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	0	0	0	0	0	0	0
U 370 G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	0	0	0	0	0	0	0
U 371 G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	7	0	33	3	7	22	2
U 372 G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	1	0	0	0	0	3	0
U 373 G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	0	0	0	0	0	0	0
U 374 G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	0	0	0	0	0	0	0
U 375 G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	0	0	0	0	0	0	0
U 376 G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	0	0	0	0	0	0	0
U 377 G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	9	0	44	8	6	31	8
U 378 G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	2	0	22	1	1	3	0
U 379 G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES RESISTANCE DECREASES)	3	0	22	1	1	11	1
U 380 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)	1	0	11	1	0	3	0
U 381 G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS	5	0	22	5	3	25	3
U 382 G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	1	0	11	1	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK

	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
383 G1-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	1	0	11	1	0	0	0
384 G1-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	1	0	11	1	0	0	0
385 G1-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	1	0	11	0	0	0	0
386 G1-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	1	0	11	0	0	0	0
387 G1-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	2	0	11	2	1	6	0
388 G1-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	1	0	11	0	0	0	0
389 G1-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	1	0	11	0	0	0	0
390 G1-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	2	0	11	1	1	6	1
391 G1-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	2	0	11	1	1	6	1
392 G1-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	1	0	11	0	0	0	1
393 G1-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	1	0	11	0	0	0	1
394 G1-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	1	0	11	0	0	0	0
395 G1-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	1	0	11	0	0	0	0
396 G1-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	1	0	11	0	1	0	0
397 G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	2	0	22	1	1	11	0
398 G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	1	0	0	0	0	0	0
399 G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	1	0	0	0	1	0	1
400 G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	1	0	22	1	1	0	0
401 G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	1	0	22	1	1	0	0
402 G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	1	0	22	1	1	0	0
403 G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	1	0	22	1	1	0	0
404 G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	9	0	33	8	3	36	12
405 G2-02 DO YOU INSPECT TRANSISTORS	7	0	33	1	3	31	10
406 G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS	6	0	33	1	2	31	8
407 G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	5	0	33	3	2	28	6
408 G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	4	0	33	4	1	19	4
409 G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	4	0	33	3	1	19	4

TRANSISTORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

U V - T S K

QTY	DESCRIPTION	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
6 410	62-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC) RESISTANCE MEASUREMENTS	4	0	33	3	1	19	4
6 411	62-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	1	0	11	1	0	6	1
6 412	62-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	1	0	11	1	0	6	1
6 413	62-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	2	0	11	1	1	6	2
6 414	62-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR	1	0	11	1	1	0	0
6 415	62-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	8	0	33	8	3	25	11
6 416	62-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS G1, G2, G3, ETC	6	0	33	3	2	19	10
6 417	62-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	2	0	22	0	1	3	2
6 418	62-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT IS NORMALLY SIGNIFICANTLY SMALLER THAN THE EMITTER CURRENT IE (USUALLY IE BEING 2 TO 8 PERCENT OF IE)	1	0	11	1	0	3	0
6 419	62-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR TRANSISTORS	2	0	22	1	0	3	2
6 420	62-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	1	0	11	1	0	6	1
6 421	62-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	1	0	11	0	0	0	0
6 422	62-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	1	0	11	0	1	0	0
6 423	62-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	1	0	11	0	1	0	0
6 424	62-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	1	0	11	0	1	0	0
6 425	62-22 DO YOU CALCULATE BETA TRANSISTOR GAINS	1	0	11	0	0	0	0
6 426	62-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	1	0	11	0	0	0	0
6 427	62-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	1	0	11	0	0	0	0
6 428	63-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	4	0	22	2	4	8	2
6 429	63-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	3	0	22	0	3	14	2
6 430	63-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	2	0	22	0	1	11	0
6 431	63-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	3	0	22	1	3	8	2
6 432	63-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	2	0	22	1	1	11	1
6 433	63-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	4	0	22	0	4	11	2
6 434	63-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	2	0	22	0	1	11	0
6 435	63-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE CURRENT	1	0	22	0	0	3	0
6 436	63-09 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	1	0	22	0	0	3	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

0Y-75K

SPC	SPC	SPC	SPC	SPC	SPC
001	002	003	004	005	006
007					

9 437 G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT

G 438 GJ-11 DO YOU USE OR REFER TO (COMMON LITER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT

33-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN
33-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE
33-14 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)

G 442 G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q

6 443 63-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR

G 444 G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON
EMITTER CONFIGURATION

G 445 G-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON
EMITTER CONFIGURATION

5 440 G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON
EMITTER CONFIGURATION

Q 447 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

6 448 G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE CHANGE IN BASE CURRENT INTO THE CHANGE IN COLLECTOR

STATE IN ORDER CURRENT INTO THE CURRENT TO DETERMINE THE CURRENT GAIN

6 449 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

G 450 Q3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES (THIS AFFECTS THE STATIC OPERATING POINT EQ3 OF THE TRANSISTOR)

6 451 G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT [Q] OF A TRANSISTOR AT DIFFERENT TEMPERATURES

6 452 G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH EMITTER (SWAMPING) RESISTOR STABILIZATION

453 G-3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION

PCT MURS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

GPSUM1 PAGE 1A

UY-TSK

	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
6 454 G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION	1	0	0	1	1	6	0
6 455 G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATION	1	0	11	1	0	6	0
6 456 G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION	1	0	11	1	1	6	0
6 457 G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION	1	0	0	1	1	3	0
6 458 G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	1	0	22	0	1	3	0
6 459 G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	1	0	22	0	1	3	0
6 460 G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	1	0	11	0	1	3	0
6 461 G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	1	0	22	0	1	3	0
6 462 G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	1	0	22	0	1	3	0
6 463 G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	1	0	11	0	1	3	0
6 464 G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	1	0	22	0	0	6	0
6 465 G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	1	0	42	0	1	6	0
6 466 G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	1	0	22	0	1	3	0
6 467 G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	1	0	0	0	0	3	0
6 468 G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	1	0	0	0	1	3	0
6 469 G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	1	0	22	0	1	6	0
6 470 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	1	0	11	0	0	3	0
6 471 G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	1	0	11	0	1	0	0
6 472 G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	1	0	0	1	0	0	0
6 473 G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	2	0	22	1	1	6	1
6 474 G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	1	0	22	0	0	3	0
6 475 G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	2	0	11	1	1	6	1

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

0Y-TSK

SPC SPC SPC SPC SPC SPC SPC SPC SPC SPC
UOI 002 003 004 005 006 007

G 476 G3-49 DO YOU TROUBLESHOOT OR REPAIR CASCAD-CONNECTED

AMPLIFIERS

H 477 H1-01 DO YOU USE OR REFER TO VARACTORS 2 0 0 0 3 3 1

H 478 H1-02 DO YOU USE OR REFER TO TUNNEL DIODES 3 0 11 2 2 6 7

H 479 H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET) 2 0 22 3 1 6 1

H 480 H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS 2 0 11 2 1 0 1

H 481 H1-05 DO YOU USE OR REFER TO ZENER DIODES 12 100 44 12 5 31 17

H 482 H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS 17 100 44 16 7 19 30

H 483 H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES 45 100 44 55 46 42 33

H 484 H2-02 DO YOU INSPECT POWER SUPPLIES 29 100 33 40 25 44 24

H 485 H2-03 DO YOU CLEAN POWER SUPPLIES 12 0 33 5 9 47 17

H 486 H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES 16 0 22 30 13 28 6

H 487 H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL 25 100 22 38 21 31 20

H 488 H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS 22 100 22 41 17 22 13

H 489 H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES 29 0 33 3 42 36 25

H 490 H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS 11 0 22 3 12 19 12

H 491 H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS 4 0 22 4 2 19 2

H 492 H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS 4 0 22 3 3 19 3

H 493 H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS 6 0 33 5 4 19 3

H 494 H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS 6 0 11 6 4 22 5

H 495 H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE 21 100 33 28 21 33 9

H 496 H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY 15 100 22 16 18 25 6

H 497 H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE 11 100 22 10 31 5

H 498 H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE 13 100 22 13 13 33 6

H 499 H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE 5 100 22 3 3 22 2

H 500 H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY 4 100 22 3 3 19 1

H 501 H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE 3 100 22 2 3 14 1

H 502 H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS 5 100 22 1 3 25 4

H 503 H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE 12 100 33 10 12 28 7

H 504 H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS 11 100 22 9 14 11 5

H 505 H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS 6 100 22 7 6 8 3

H 506 H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS 4 0 22 4 3 3 3

H 507 H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS 3 0 22 3 2 0 3

H 508 H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS 3 0 22 2 1 3 3

H 509 H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS 3 0 22 2 2 3 3

H 510 H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER 16 100 11 22 17 14 10

H 511 H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER 1 0 11 0 1 6 0

H 512 H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB 3 0 22 2 2 3 2

OSCILLATORS

SOLID-STATE
SPECIAL PURPOSE
DEVICES

POWER SUPPLIES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

U-Y-TSK

[illegible]

PCT MRS RESPONDING 'YES' BY SELECTED GRPS

CPSUMI PAGE 21

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK

SPC SPC SPC SPC SPC SPC SPC SPC

001 002 003 004 005 006 007

1 548 11-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS
1 549 11-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS
1 550 11-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T MEMBER WHICH TYPE OF FDD
1 551 11-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS
1 552 11-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS
1 553 11-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS
1 554 11-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS

1 555 12-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB

1 556 12-02 DO YOU WORK WITH SERIES DIODE LIMITERS
1 557 12-03 DO YOU WORK WITH SHUNT DIODE LIMITERS
1 558 12-04 DO YOU WORK WITH LIMITERS WITH BIAS
1 559 12-05 DO YOU WORK WITH ZENER DIODE LIMITERS
1 560 12-06 DO YOU WORK WITH TRANSISTOR LIMITERS
1 561 12-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS
1 562 12-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS
1 563 12-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS
1 564 12-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT

1 565 13-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES

1 566 13-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD
1 567 13-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES
1 568 13-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES
1 569 13-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES
1 570 13-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES
1 571 13-07 DO YOU USE OH REFER TO CUTOFF
1 572 13-08 DO YOU USE OH REFER TO PEAK INVERSE VOLTAGE RATING
1 573 13-09 DO YOU USE OH REFER TO PEAK CURRENT RATING
1 574 13-10 DO YOU USE OH REFER TO TRANSIT TIME
1 575 13-11 DO YOU USE OH REFER TO PLATE DISSIPATION RATING
1 576 13-12 DO YOU USE OH REFER TO SATURATION
1 577 13-13 DO YOU USE OH REFER TO DC PLATE RESISTANCE
1 578 13-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES

1 579 13-15 DO YOU USE OH REFER TO PLATE VOLTAGE
1 580 13-16 DO YOU USE OH REFER TO PLATE CURRENT
1 581 13-17 DO YOU USE OH REFER TO GRID VOLTAGE
1 582 13-18 DO YOU USE OH REFER TO GRID CURRENT
1 583 13-19 DO YOU USE OH REFER TO CATHODE VOLTAGE
1 584 13-20 DO YOU USE OH REFER TO CATHODE CURRENT
1 585 13-21 DO YOU USE OH 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)

LIMITERS AND CLAMPERS

ELECTRON TUBES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-TSK	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
I 586 13-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	0	0	0	0	0	0	0
I 587 13-23 DO YOU USE OR REFER TO MULTIMID (TEPMODE), PENTODE, ETC) AMPLIFICATION FACTORS	0	0	0	0	0	3	0
I 588 13-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSDUCTANCE (A, WHICH IS MEASURED IN MMOS)	0	0	0	0	0	0	0
I 589 13-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSDUCTANCES	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
I 591 13-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	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
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
I 594 13-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	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
I 596 13-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	0	0	11	0	0	0	0
I 597 13-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	0	0	11	0	0	0	0
I 598 13-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN EFFICIENCY	0	0	11	0	0	3	0
I 599 13-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	0	0	0	0	0	3	0
I 600 13-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	11	0	0	0	0
I 601 13-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	11	0	0	3	0
I 602 13-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	11	0	0	6	0
I 603 13-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	0	0	0	0	0	0	0
I 604 13-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	0	0	0	0	0	0	0
I 605 13-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	1	0	22	0	0	17	0
I 606 13-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	1	0	22	1	0	19	0
I 607 13-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL ON THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE ELECTRON TUBES YOU WORK ON	0	0	0	0	0	0	0
I 608 13-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	0	0	22	0	0	0	0
J 609 JI-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	1	100	11	0	0	6	0
J 610 JI-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	0	0	11	0	0	0	0

ELECTRON TUBE
AMPLIFIERS
AND CIRCUITS

PCT MEMBERS RESPONDING 'YES' BY SELECTED GROUPS

GPSUM1 PAGE 23

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TASK

	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007	
J 611 J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	0	0	0	0	0	0	0	
J 612 J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	0	0	11	0	0	0	0	
J 613 J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	0	0	11	0	0	3	0	
J 614 J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	0	0	11	0	0	0	0	
J 615 J1-07 DO YOU TROUBLESHOOT OR REPAIR VOMAT KNOW WHICH TYPE OF AMPLIFIER	0	100	11	0	0	3	0	
J 616 J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	1	0	33	0	0	0	0	
J 617 J2-02 DO YOU WORK WITH CATHODE-RAY TUBES	2	0	44	0	2	0	0	
J 618 J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	0	0	0	0	0	0	0	SPECIAL PURPOSE ELECTRON TUBES
J 619 J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	0	0	0	0	0	0	0	
J 620 J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATONS	0	0	0	0	0	0	0	
J 621 J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATONS ARE USED	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)	0	0	11	0	0	3	0	
J 623 J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	0	0	11	0	0	3	0	
J 624 J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	0	0	11	0	0	3	0	
J 625 J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS	1	0	22	0	0	0	1	
J 626 J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS	0	0	0	0	0	0	0	
J 627 J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS	0	0	0	0	0	0	0	
J 628 J2-13 DO YOU USE OR REFER TO PERSISTENCE	1	0	11	0	0	0	0	
J 629 J2-14 DO YOU USE OR REFER TO DECAY TIMES	0	0	11	0	0	0	0	
J 630 J2-15 DO YOU USE OR REFER TO FLUORESCENCE	1	0	22	0	0	0	0	
J 631 J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE	0	0	11	0	0	0	0	
J 632 J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0	100	11	6	11	0	3	
J 633 J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	2	0	11	1	3	0	0	
J 634 J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS	2	0	11	1	3	0	0	
J 635 J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	1	0	11	1	1	0	0	
J 636 J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS	1	0	11	1	1	0	0	
J 637 J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	1	0	11	1	2	0	0	
J 638 K1-01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	2	0	11	4	2	0	0	
J 639 K1-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	2	0	11	3	2	0	0	
J 640 K1-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	1	0	11	1	1	0	0	
J 641 K1-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	1	0	0	1	1	0	0	

HETERODYNING,
MODULATION, AND
DEMODULATION

AM SYSTEMS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-TSK	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
K 642 KI-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	4	0	0	1	2	0	0
K 643 KI-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	1	0	0	1	1	0	0
K 644 KI-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	1	0	0	0	2	0	0
K 645 KI-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	1	0	0
K 646 KI-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	0	0	0	0	1	0	0
K 647 KI-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	1	0	0	1	1	0	0
K 648 KI-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	0	0	0	0	0	0	0
K 649 KI-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	1	0	0	1	1	0	0
K 650 KI-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	0	0	0	0	0	0	0
K 651 KI-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	0	0	0	0	0	0	0
K 652 KI-15 DO YOU PERFORM TASKS ON DETECTORS	0	0	0	0	0	0	0
K 653 KI-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE	1	0	0	3	1	0	0
K 654 KI-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	1	0	0	0	1	0	0
K 655 KI-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	1	0	0	0	1	0	0
K 656 KI-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	1	0	0	0	1	0	0
K 657 KI-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	1	0	0	1	1	0	0
K 658 KI-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	0	0	0	0	0	0	0
K 659 KI-22 DO YOU USE OR REFER TO BANDPASS DISTORTION	0	0	0	0	0	0	0
K 660 KI-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	0	0	0	0	0	0	0
K 661 KI-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	0	0	0	0	0	0	0
K 662 KI-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	0	0	0	0	0	0	0
K 663 KI-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	0	0	0	0	0	0	0
K 664 KI-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	1	0	0	0	1	0	0
K 665 KI-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	1	0	0	0	1	0	0
K 666 KI-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	3	0	11	3	4	0	0
K 667 KI-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	3	0	11	2	4	0	0
K 668 KI-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	2	0	11	0	2	0	0
K 669 KI-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	2	0	11	0	2	0	0
K 670 KI-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	3	0	11	3	4	0	0
K 671 KI-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	2	0	11	1	2	0	0
K 672 KI-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	2	0	11	0	4	0	0
K 673 KI-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	2	0	11	0	2	0	0
K 674 KI-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	1	0	11	0	1	0	0
K 675 KI-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	1	0	11	0	1	0	0

FM SYSTEMS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK

K 676 K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)

K 677 K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS

K 678 K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS

K 679 K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS

K 680 K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS

K 681 K2-16 DO YOU PERFORM TASKS ON LIMITERS

K 682 K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS

K 683 K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS

K 684 K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS

K 685 K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS

K 686 K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS

K 687 K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS

K 688 K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS

K 689 K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS

K 690 K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS

K 691 K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM

K 692 K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD

K 693 K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD

K 694 K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM

L 695 L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS

L 696 L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES

L 697 L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES

L 698 L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR LOGIC SYMBOLS WITH STATE INDICATORS

L 699 L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES

L 700 L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES

L 701 L1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES

L 702 L1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS

L 703 L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS

L 704 L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES

L 705 L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES

L 706 L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES

SPC SPC SPC SPC SPC SPC SPC SPC
001 002 003 004 005 006 007

1 0 11 0 1 0 0

1 0 11 1 1 0 0

1 0 11 1 1 0 0

1 0 11 0 1 0 0

1 0 11 0 1 0 0

1 0 11 0 1 0 0

1 0 11 0 1 0 0

1 0 11 0 1 0 0

1 0 11 0 1 0 0

1 0 11 0 1 0 0

1 0 11 0 1 0 0

21 0 44 22 10 0 43

NUMBERING
SYSTEMS

18 0 33 16 7 6 34

21 0 56 20 8 0 47

16 0 44 12 6 0 38

19 0 56 18 7 6 39

16 0 44 15 5 0 35

13 0 44 11 5 6 27

7 0 33 1 2 3 17

8 0 33 1 1 3 19

14 0 44 7 2 3 32

12 100 33 32 2 0 10

LOGIC
FUNCTIONS

2 0 11 2 1 0 2

2 0 11 2 1 0 3

2 0 11 2 1 0 1

1 0 11 1 1 0 0

4 0 22 7 1 0 4

4 0 22 7 1 0 4

3 0 22 5 1 0 4

3 0 22 3 1 0 3

11 0 22 31 2 0 8

11 0 22 31 2 0 8

10 0 22 25 2 0 8

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

WPSUHL PAGE 26

LT-TSK

	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
L 707 L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	8	0	22	21	2	0	6
L 708 L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC CIRCUITS	4	100	0	8	1	0	1
L 709 L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	0	0	0	0	0	0	0
L 710 L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	0	0	0	0	1	0	0
L 711 L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	0	0	0	0	0	0	0
L 712 L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	2	0	0	5	1	0	0
L 713 L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	1	0	0	0	1	0	0
L 714 L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	1	0	0	1	1	0	1
L 715 L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	1	0	0	0	1	0	0
L 716 L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	1	0	0	0	1	0	0
L 717 L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	4	0	0	8	1	0	2
L 718 L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	0	0	0	0	1	0	0
L 719 L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	1	0	0	1	1	0	1
L 720 L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	1	0	0	1	1	0	0
L 721 L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	1	0	0	3	1	0	0
L 722 L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	1	0	0	1	1	0	0
L 723 L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	2	0	0	3	1	0	1
L 724 L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	2	0	0	1	1	0	0
L 725 L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	2	0	0	3	1	0	1
L 726 L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	1	0	0	1	1	0	1
L 727 L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	1	0	0	1	1	0	1
L 728 L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	1	0	0	1	1	0	1
L 729 L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	1	0	0	0	1	0	0
L 730 L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	2	0	0	1	1	0	2
L 731 L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	1	0	0	1	1	0	2
L 732 L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	0	0	0	0	1	0	0

BOOLEAN
EQUATIONS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

051-46

SY-TSK	SPC U01	SPC U02	SPC D03	SPC U04	SPC D05	SPC Q06	SPC D07
L 733 L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	7	100	22	1	3	28	13
L 734 L3-02 DO YOU USE OR REFER TO UP-COUNTERS	5	0	22	1	2	11	11
L 735 L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS	4	0	22	1	2	6	10
L 736 L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS	4	0	22	0	1	0	10
L 737 L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS	4	0	22	0	1	0	10
L 738 L3-06 DO YOU USE OR REFER TO RING COUNTERS	1	0	11	1	1	0	3
L 739 L3-07 DO YOU USE OR REFER TO DECADE COUNTERS	2	0	22	0	1	6	4
L 740 L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	3	0	22	1	1	8	4
L 741 L3-09 DO YOU USE OR REFER TO DOWN CLOCKS	3	0	22	0	1	0	8
L 742 L3-10 DO YOU USE OR REFER TO UP CLOCKS	3	0	22	0	1	3	8
L 743 L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	3	0	22	0	1	3	7
L 744 L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	3	0	22	0	1	0	7
L 745 L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	2	0	22	0	1	0	4
L 746 L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	1	0	11	0	1	0	3
L 747 L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	3	0	22	0	1	0	6
L 748 L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	3	0	22	0	2	0	7
L 749 L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	3	0	22	0	1	6	5
L 750 L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	1	0	11	0	1	3	3
L 751 L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	1	0	11	1	1	0	2
L 752 L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	1	0	11	0	1	0	2
L 753 L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	1	0	11	1	1	3	2
L 754 L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	0	0	11	0	0	0	0
L 755 L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	1	0	11	1	0	0	1
L 756 L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	1	0	22	0	1	3	2
M 757 MI-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	2	0	22	1	1	6	2
M 758 MI-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	1	0	11	0	0	0	1
M 759 MI-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	1	0	22	0	1	3	1
M 760 MI-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	2	0	22	0	1	3	2

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TASK

	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
M 761 M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	1	0	11	0	1	3	1
M 762 M1-06 DO YOU USE OR REFER TO RISE TIME	2	0	22	0	1	0	3
M 763 M1-07 DO YOU USE OR REFER TO FALL OR FLICKBACK TIME	2	0	22	0	1	0	2
M 764 M1-08 DO YOU USE OR REFER TO SWEEP TIME	3	0	22	0	1	0	4
M 765 M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH	2	0	42	0	0	6	2
WAVEFORMS							
M 766 M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH	1	0	22	0	0	3	1
WAVEFORMS							
M 767 M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH	1	0	22	0	0	3	0
WAVEFORMS							
M 768 M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH	1	0	22	0	0	3	0
WAVEFORMS							
M 769 M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	12	0	44	2	19	22	1
M 770 M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	11	0	33	2	19	17	0
M 771 M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS	5	0	22	1	9	6	1
M 772 M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	9	0	22	2	16	6	1
M 773 M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	3	0	22	1	5	0	0
M 774 M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	5	0	22	0	6	0	0
M 775 M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	1	0	22	0	1	0	0
M 776 M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	2	0	22	0	3	0	0
M 777 M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	1	0	11	1	2	0	0
M 778 M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	7	0	44	1	11	14	0
M 779 M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS	39	100	33	44	54	31	9
GENERATORS							
M 780 M3-02 DO YOU INSPECT MOTORS	32	100	33	37	45	25	3
M 781 M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	19	0	33	7	35	19	2
M 782 M3-04 DO YOU OPERATE MOTORS	36	100	33	37	52	31	7
M 783 M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	26	0	33	1	51	25	2
M 784 M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	14	0	33	1	29	6	1
M 785 M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	31	100	33	31	46	22	6
M 786 M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	14	0	33	20	29	6	0
M 787 M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	3	0	0	0	6	3	0
M 788 M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	5	0	33	1	8	3	0
M 789 M3-11 DO YOU PERFORM ANY TASKS ON MOTORS	4	0	11	1	7	3	0
M 790 M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	13	0	33	3	24	3	0
M 791 M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	4	0	22	1	7	3	0
M 792 M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	6	0	0	1	12	0	0
M 793 M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	3	0	0	0	4	3	0

MOTORS AND
GENERATORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK

SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
001	002	003	004	005	006	007	008	009	010
2	100	0	0	1	8	1			
2	100	0	0	4	3	0			
3	100	0	0	4	3	0			
7	100	11	12	7	17	1			
11	100	0	10	16	6	1			
12	100	0	13	18	6	2			
20	100	22	14	29	17	4			
29	100	11	35	43	25	2			
16	0	0	7	29	25	1			
31	0	11	37	45	25	4			
20	0	0	1	42	17	0			
15	0	0	0	33	6	0			
25	100	0	24	42	19	1			
21	100	0	26	33	8	0			
70	100	56	60	64	72	59			
7	0	0	3	7	6	7			
7	0	0	5	7	8	7			
6	0	0	4	6	6	7			
72	100	56	66	69	69	62			
28	0	33	25	27	19	29			
71	100	56	62	68	72	63			
31	0	33	19	38	36	29			
36	0	33	44	31	26	35			
37	0	44	41	42	31	23			
1	0	11	1	0	6	3			
1	0	0	0	0	6	1			
0	0	0	0	0	3	0			
0	0	0	0	0	3	0			
1	0	0	1	0	6	0			
1	0	0	0	0	6	0			
0	0	0	0	0	0	0			

METER MOVEMENTS

SATURABLE REACTORS
AND MAGNETIC
AMPLIFIERS

8

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

0Y-7SK

[illegible]

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DT-TSK

SPC SPC SPC SPC SPC SPC SPC
001 002 003 004 005 006 007

0 853 01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS
 0 854 01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS
 0 855 01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS
 0 856 01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS
 0 857 01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS
 0 858 01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS
 0 859 01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS
 0 860 01-16 DO YOU PERFORM TASKS ON SSB MIXERS
 0 861 01-17 DO YOU PERFORM TASKS ON SSB DRIVERS
 0 862 01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS
 0 863 01-19 DO YOU PERFORM TASKS ON SSB HF AMPLIFIERS
 0 864 01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS
 0 865 01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS
 0 866 01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS
 0 867 01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB
 SYSTEM STAGES
 0 868 01-24 DO YOU USE OR REFER TO SELECTIVE FADING
 0 869 01-25 DO YOU USE OR REFER TO PEAK POWER
 0 870 01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY
 0 871 01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR
 BAND-10TH FILTERS
 0 872 01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB
 TRANSMITTERS
 0 873 01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB
 TRANSMITTER SCHEMATIC DIAGRAMS
 0 874 01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB
 RECEIVER SCHEMATIC DIAGRAMS
 0 875 02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR
 PRESENT JOB
 0 876 02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS
 0 877 02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS
 0 878 02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS
 0 879 02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS
 0 880 02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM
 COMPONENTS
 0 881 02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS
 0 882 02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM
 COMPONENTS
 0 883 04-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM)
 SYSTEMS
 0 884 02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM)
 SYSTEMS
 0 885 02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPH)
 SYSTEMS
 0 886 02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS
 0 887 02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS
 0 888 02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF
 MODULATION SYSTEM

PULSE MODULATION
SYSTEMS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-TSK

	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
0 889 02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	1	0	11	0	0	0	0
0 890 02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	0	0	11	0	0	0	0
0 891 02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	1	100	11	0	0	3	0
0 892 02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	1	100	11	0	0	3	0
0 893 02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRON'S	0	0	11	0	0	0	0
0 894 02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	0	0	11	0	0	3	0
0 895 02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	0	0	11	0	0	0	0
0 896 02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	1	100	0	0	0	0	0
0 897 02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	1	100	11	0	0	3	0
0 898 02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	0	0	11	0	0	0	0
0 899 02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	1	0	11	0	0	3	0
0 900 02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	0	0	11	0	0	0	0
0 901 02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	0	0	11	0	0	0	0
0 902 02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DONT REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	0	100	0	0	0	0	0
0 903 02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	1	0	11	0	0	3	0
0 904 02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	1	0	11	0	0	3	0
0 905 02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	1	100	11	0	0	3	0
0 906 02-32 DO YOU USE OR REFER TO PULSE SHAPE	1	100	11	0	0	3	0
0 907 02-33 DO YOU USE OR REFER TO PEAK POWER	1	100	11	0	0	3	0
0 908 02-34 DO YOU USE OR REFER TO AVERAGE POWER	1	100	11	0	0	3	0
0 909 02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	0	0	0	0	0	3	0
0 910 02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	0	0	0	0	0	3	0
0 911 02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	0	0	11	0	0	0	0
0 912 02-38 DO YOU TRACE SIGNALS ON CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	1	100	11	1	0	3	0
0 913 02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	1	0	11	0	0	3	1
0 914 03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	16	100	11	16	21	0	15
0 915 03-02 DO YOU INSPECT ANTENNAS	16	100	11	14	22	0	15

ANTENNAS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-TSK

SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
001	002	003	004	005	006	007	008	009	010
0 916	03-03	DO YOU CLEAN ANTENNAS	13	0	11	0	18	0	15
0 917	03-04	DO YOU PHYSICALLY ALIGN ANTENNAS	5	0	11	1	8	0	4
0 918	03-05	DO YOU ELECTRICALLY ALIGN ANTENNAS	4	0	0	0	8	0	2
0 919	03-06	DO YOU TROUBLESHOOT TO ANTENNAS	11	0	0	13	13	0	7
0 920	03-07	DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	6	0	0	2	10	0	2
0 921	03-08	DO YOU REMOVE OR INSTALL ANTENNAS	10	0	11	0	12	0	15
0 922	03-09	DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	6	0	0	0	11	0	2
0 923	03-10	DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	1	0	0	0	1	0	0
0 924	03-11	DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	1	0	0	0	1	0	0
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	0	0	0
0 926	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	0	0	0	0	0	0	0
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 TO THE GENERATOR	0	0	0	0	0	0	0
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 TO THE GENERATOR	0	0	0	0	0	0	0
0 929	03-16	DO YOU WORK WITH HERTZ ANTENNAS	3	0	0	6	3	0	0
0 930	03-17	DO YOU WORK WITH MARCONI ANTENNAS	0	0	0	1	0	0	0
0 931	03-18	DO YOU WORK WITH BROADSIDE ARRAYS	0	0	0	0	0	0	0
0 932	03-19	DO YOU WORK WITH END-FIRE ARRAYS	0	0	0	0	1	0	0
0 933	03-20	DO YOU WORK WITH CARBON ARRAYS	0	0	0	0	1	0	0
0 934	03-21	DO YOU WORK WITH COLLIMATED ARRAYS	1	0	0	1	1	0	0
0 935	03-22	DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	1	0	0
0 936	03-23	DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	0	0	0	0	1	0	0
0 937	03-24	DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS	1	0	0	0	1	0	0
0 938	03-25	DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	1	0	0	0	1	0	0
0 939	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	0	0	0
0 940	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	0	0	0
0 941	03-28	ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	1	0	0	0	1	0	0
0 942	03-29	ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	1	0	0	0	2	0	0
0 943	03-30	DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	0	0	0	0	0	0	0
0 944	03-31	DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR SPECIFIC WAVELENGTHS	1	0	0	0	2	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

WY-7SK

Q 945 Q3-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC
ELEMENTS
Q 946 Q3-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC
ELEMENTS SERVING AS DIRECTORS
Q 947 Q3-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC
ELEMENTS SERVING AS REFLECTORS
Q 948 Q3-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T
REMEMBER WHAT KIND OF ELEMENTS
Q 949 Q3-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS
Q 950 Q3-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS
Q 951 Q3-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY
Q 952 Q3-39 DO YOU WORK WITH TOTAL ANTENNA ARRAYS
Q 953 PL-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
NAVIGABLES AS TRANSMISSION LINES)
P 954 PL-02 DO YOU REFER TO OR USE COPPER LOSS OR I2M LOSS IN
TRANSMISSION LINES
P 955 PL-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY
CURRENTS IN TRANSMISSION LINES
P 956 PL-04 DO YOU REFER TO OR USE MAGNETIC LOSS IN TRANSMISSION
LINES
P 957 PL-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN
TRANSMISSION LINES
P 958 PL-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION
LINES
P 959 PL-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES
P 960 PL-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES
P 961 PL-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES
P 962 PL-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION
LINES
P 963 PL-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION
LINES
P 964 PL-12 DO YOU TROUBLESHOOT TRANSMISSION LINES
P 965 PL-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN
TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION
(OPEN, SHORTED, CAPACITIVE, INDUCTIVE)
P 966 PL-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES
TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS
P 967 PL-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE
TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS
P 968 PL-16 DO YOU MEASURE STANDING WAVE RATIOS (SWR) OF
TRANSMISSION LINES
P 969 PL-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF
TRANSMISSION LINES
P 970 PL-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO
DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH
MATCHING TRANSFORMERS TO MATCH TRANSMISSION LINES TO LOADS

TRANSMISSION
LINES

SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
1	0	0	1	2	0	0
1	0	0	1	1	0	0
1	0	0	1	1	0	0
7	0	0	7	7	0	7
4	0	0	5	6	0	3
7	0	0	5	1	0	2
2	100	11	7	8	0	6
1	0	0	1	0	0	1
5	0	0	1	10	3	2
1	0	0	0	1	0	1
0	0	0	0	1	0	0
1	0	0	1	1	0	0
1	0	0	0	2	0	0
1	0	0	0	1	0	0
1	0	0	0	1	3	1
2	0	0	1	3	0	1
1	0	0	0	1	0	1
4	0	0	0	7	3	2
2	0	0	1	4	0	1
5	0	0	1	9	3	10
1	0	0	0	2	0	0
1	0	0	0	1	0	0
2	0	0	0	3	3	0
1	0	0	0	1	0	0
1	0	0	1	1	0	0
0	0	0	0	1	0	0

PCT MURS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

GP5UM1 PAGE 35

UY-TSK

SPC SPC SPC SPC SPC SPC SPC SPC
001 002 003 004 005 006 007

P 971 P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED
TO LOADS USING MATCHING TRANSFORMERS

P 972 P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED
TO LOADS USING DELTA MATCHING

P 973 P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED
FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA

P 974 P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC
IMPEDANCE (Z0) OF TRANSMISSION LINES

P 975 P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (Z0) OF
TRANSMISSION LINES

P 976 P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF
TRANSMISSION LINES

P 977 P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K)
OF TRANSMISSION LINES

P 978 P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION
LINES FOR PARTICULAR FREQUENCIES

P 979 P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR
ELECTRICAL LENGTH FOR GIVEN FREQUENCIES

P 980 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

P 981 P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION
LINES

P 982 P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES

P 983 P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED
TO LOADS USING STUB MATCHING

P 984 P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN
YOUR PRESENT JOB

P 985 P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS

P 986 P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS

P 987 P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS

P 988 P2-05 DO YOU TRIST WAVEGUIDES OR CAVITY RESONATORS

P 989 P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS

P 990 P2-07 DO YOU PUNGE WAVEGUIDES OR CAVITY RESONATORS

P 991 P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS

P 992 P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES

P 993 P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS

P 994 P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS

P 995 P2-12 DO YOU REMOVE OR INSTALL E-BENDS

P 996 P2-13 DO YOU REMOVE OR INSTALL H-BENDS

P 997 P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS

P 998 P2-15 DO YOU REMOVE OR INSTALL CHORE JOINTS

P 999 P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS

P1000 P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS

P1001 P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS

P1002 P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES

WAVEGUIDES AND
CAVITY RESONATORS

PCT MBS RESPONDING 'YES' BY SELECTED GRPS

GP5UM1 PAGE 36

TASK GROUP SUMMARY PERCENT MEMBERS PERFORMING

UY-TSK

	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
P1003 P2-20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES	0	0	0	0	0	0	0
P1004 P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES	0	0	0	0	0	0	0
P1005 P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	0	0	0
P1006 P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	0	0	0	0	0	0	0
P1007 P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS	0	0	0	0	0	0	0
P1008 P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	0	0	0	0	0	0	0
P1009 P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	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 OF THE OPERATING FREQUENCY	0	0	0	0	0	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 USED AS AN AVERAGE	0	0	0	0	0	0	0
P1012 P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	0	0	0	0	0	0	0
P1013 P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	0	0	0	0	0	0	0
P1014 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	0	0	0	0	0	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	0	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
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
P1018 P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0
P1019 P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0
P1020 P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	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	0	0	0
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	0	0	0
P1023 P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	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 TECHNICAL DATA	0	0	0	0	0	0	0

PCT MGRS RESPONDING 'YES' BY SELECTED GRPS

GPSUM1 PAGE 37

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-TSK

P1025 P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES
IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO
TECHNICAL DATA

P1026 P2-43 ARE CHOKER JOINTS USED IN WAVEGUIDES OR CAVITY
RESONATORS YOU WORK WITH

P1027 P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY
RESONATORS YOU WORK WITH

P1028 P2-45 ARE JOINTS REMEMBER THE KIND OF JOINTS USED IN
WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH

P1029 P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING

P1030 P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING

P1031 P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING

P1032 P2-49 DO YOU TUNE CAVITY RESONATORS USING DONUT REMEMBER
THE METHOD OF TUNING

P1033 P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY
RESONATORS

P1034 P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS,
TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR
MAGNETRONS

P1035 P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE

P1036 P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME

P1037 P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE

P1038 P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL
CIRCUITRY

P1039 P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY
MODULATION

P1040 P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING

P1041 P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS

P1042 P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS

P1043 P3-10 DO YOU WORK WITH REFLEX KLYSTRONS

P1044 P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)

P1045 P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC
AMPLIFIERS

P1046 P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS

P1047 P3-14 DO YOU WORK WITH MAGNETRONS

P1048 P3-15 DO YOU INSPECT KLYSTRONS OR TWT

P1049 P3-16 DO YOU CLEAN KLYSTRONS OR TWT

P1050 P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY

P1051 P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY

P1052 P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR
TWT

P1053 P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT

P1054 P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT

P1055 P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS

P1056 P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS

P1057 P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS

P1058 P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS

MICROWAVE
AMPLIFIERS AND
OSCILLATORS

PCT MBRS RESPONDING 'YES' BY SELECTED GRFS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

GPSUMI PAGE 38

UY-TSA

	SPC U01	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
P1059 P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	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
P1061 P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	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
P1063 P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	0	0	0	0	0	0	0
P1064 P3-31 DO YOU INSPECT MAGNETRONS	0	0	0	0	0	0	0
P1065 P3-32 DO YOU CLEAN MAGNETRONS	0	0	0	0	0	0	0
P1066 P3-33 DO YOU ADJUST MAGNETRONS	0	0	0	0	0	0	0
P1067 P3-34 DO YOU TUNE MAGNETRONS	0	0	0	0	0	0	0
P1068 P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	0	0	0	0	0	0	0
P1069 P3-36 DO YOU TROUBLESHOOT MAGNETRONS	0	0	0	0	0	0	0
P1070 P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	0	0	0	0	0	0	0
P1071 P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	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
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
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
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
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
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
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
P1079 P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	0	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
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
P1082 P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	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
P1084 P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	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
P1086 P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	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

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

GPSUMI PAGE 39

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-TSK

	SPC 001	SPC 002	SPC 003	SPC 004	SPC 005	SPC 006	SPC 007
P1088 P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	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	0	0	0
P1090 P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	0	0	0	0	0	0	0
P1091 P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GNDS	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
P1093 P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELICES	0	0	0	0	0	0	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
P1095 P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	0	0	0	0	0	0	0
P1096 P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	0	0	0	0	0	0	0
P1097 P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	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
P1099 P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	0	0	0	0	0	0	0
P1100 P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARIATOR CIRCLES	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
P1102 P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	0	0	0	0	0	0	0
P1103 P3-70 DO YOU PERFORM TASKS ON ANODES	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
P1105 P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	0	0	0	0	0	0	0
P1106 P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	0	0	0	0	0	0	0
P1107 P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	0	0	0	0	0	0	0
P1108 P3-75 DO YOU PERFORM TASKS ON CATHODES	0	0	0	0	0	0	0
P1109 P3-76 DO YOU PERFORM TASKS ON MAGNETS	0	0	0	0	0	0	0
W110 W1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	11	0	33	1	4	3	26
W111 W1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	10	0	33	1	7	0	24
W112 W1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	8	0	33	1	5	0	19
W113 W1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	8	0	33	1	5	0	20
W114 W1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	7	0	33	1	3	0	18
W115 W1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	7	0	33	3	3	0	17

REGISTERS

PCT MBRS RESPONDING *YES* BY SELECTED GRPS

GPSUM PAGE 40

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TASK

4116 41-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A
SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES
HAVE PASSED

4117 42-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR
STORAGE DEVICES IN YOUR PRESENT JOB

4118 42-02 DO YOU USE OR REFER TO DELAY LINES

4119 42-03 DO YOU USE OR REFER TO MAGNETIC CORES

4120 42-04 DO YOU USE OR REFER TO MAGNETIC DRUMS

4121 42-05 DO YOU USE OR REFER TO MAGNETIC TAPES

4122 42-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR

MEMORY SYSTEMS

4123 42-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY

SYSTEMS

4124 42-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS

4125 42-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES

4126 43-01 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

4127 43-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL

DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT

VOLTAGES

4128 43-03 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

4129 43-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY

COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS

4130 43-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME

ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

4131 43-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME

ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

4132 43-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE

TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

4133 43-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE

TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

4134 43-09 DO YOU PERFORM DONAT REMEMBER WHICH FUNCTION TASKS

ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER

CIRCUITS

4135 43-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D

CONVERTERS

4136 43-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D

CONVERTERS

4137 43-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D

CONVERTERS

4138 43-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D

CONVERTERS

4139 43-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-

DIGITAL (A/D) CONVERTERS

SPC SPC SPC SPC SPC SPC SPC SPC
001 002 003 004 005 006 007

5 0 11 2 4 0 0 9

13 0 44 4 13 8 21

STORAGE DEVICES

2 0 22 0 2 0 3

9 0 44 0 10 0 16

6 0 11 4 9 0 2

8 0 44 1 10 0 8

8 0 33 1 9 6 14

9 0 33 1 7 0 19

4 0 33 0 6 0 5

3 0 33 0 3 0 5

11 0 33 1 2 0 33

2 0 33 0 0 0 5

1 0 33 0 0 0 0

1 0 33 0 0 0 1

1 0 33 0 0 0 2

1 0 33 0 0 0 2

2 0 33 0 1 0 3

1 0 33 0 0 0 2

2 0 11 0 1 0 7

2 0 33 0 0 0 4

2 0 33 0 0 0 3

2 0 33 0 0 0 6

2 0 33 0 1 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

2 0 33 0 0 0 5

DIGITAL TO
ANALOG CONVERTERS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSA

	SPC U01	SPC 002	SPC 003	SPC U04	SPC Q05	SPC U06	SPC Q07
T1169 T1-11 DO YOU USE OR REFER TO FAR REGION	0	0	0	0	0	0	0
T1170 T1-12 DO YOU USE OR REFER TO INTERMEDIATE REGION	0	0	0	0	0	0	0
T1171 T1-13 DO YOU USE OR REFER TO NEAR REGION	0	0	0	0	0	0	0
T1172 T1-14 DO YOU USE OR REFER TO MICRON	0	0	0	0	0	0	0
T1173 T1-15 DO YOU USE OR REFER TO GRAY BODIES	0	0	0	0	0	0	0
T1174 T1-16 DO YOU USE OR REFER TO BLACK BODIES	0	0	0	0	0	0	0
T1175 T1-17 DO YOU USE OR REFER TO ABSORPTION	0	0	0	0	0	0	0
T1176 T1-18 DO YOU USE OR REFER TO SCATTERING	0	0	0	0	0	0	0
T1177 T1-19 DO YOU USE OR REFER TO ABSOLUTE ZERO	0	0	0	0	0	0	0
T1178 T1-20 DO YOU PERFORM TASKS ON BLITZ	0	0	0	0	0	0	0
T1179 T1-21 DO YOU PERFORM TASKS ON TARGET BUTTONS	0	0	0	0	0	0	0
T1180 T1-22 DO YOU PERFORM TASKS ON ERECTOR LENSES	0	0	0	0	0	0	0
T1181 T1-23 DO YOU PERFORM TASKS ON OCULAR LENSES	0	0	0	0	0	0	0
T1182 T1-24 DO YOU PERFORM TASKS ON CORRECTION LENSES	0	0	0	0	0	0	0
T1183 T1-25 DO YOU PERFORM TASKS ON FILTERS	0	0	0	0	0	0	0
T1184 T1-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	0	0	0	0	0	0	0
T1185 T1-27 DO YOU PERFORM TASKS ON PLANE MIRRORS	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
T1187 T2-02 DO YOU INSPECT LASER SYSTEMS	0	0	0	0	0	0	0
T1188 T2-03 DO YOU CLEAN LASER SYSTEMS	0	0	0	0	0	0	0
T1189 T2-04 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0
T1190 T2-05 DO YOU OPERATE LASER SYSTEMS	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
T1192 T2-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	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
T1194 T2-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	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
T1196 T2-11 DO YOU USE OR REFER TO ANGSTROMS (A)	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
T1198 T2-13 DO YOU USE OR REFER TO GROUND STATE	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
T1200 T2-15 DO YOU USE OR REFER TO PACKET OF RADIATION	0	0	0	0	0	0	0
T1201 T2-16 DO YOU USE OR REFER TO PHOTONS	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
T1203 T2-18 DO YOU USE OR REFER TO STIMULATED EMISSION	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
T1205 T2-20 DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0	0	0	0	0
T1206 T2-21 DO YOU USE OR REFER TO MONOCHROMATIC	0	0	0	0	0	0	0
T1207 T2-22 DO YOU WORK WITH ACTIVE MATERIALS	0	0	0	0	0	0	0
T1208 T2-23 DO YOU WORK WITH PUMPING SOURCES	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

LASERS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-TSK

SPC SPC SPC SPC SPC SPC SPC SPC
001 002 003 004 005 006 007

T1210 T2-25 DO YOU WORK WITH HALF SILVERED (928 REFLECTIVE) MIRRORS
T1211 T2-26 DO YOU WORK WITH HELICAL FLASHTUBES
T1212 T2-27 DO YOU WORK WITH RUBY
T1213 T2-28 DO YOU WORK WITH HELIUM-NEON
T1214 T2-29 DO YOU WORK WITH HELIUM-XENON
T1215 T2-30 DO YOU WORK WITH XENON
T1216 T2-31 DO YOU WORK WITH CESIUM-HELIUM
T1217 T2-32 DO YOU WORK WITH ARGON
T1218 T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS
T1219 T2-34 DO YOU WORK WITH GALLIUM ARSENIDE
T1220 T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES,
SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE
STORAGE TUBES (HMST)

DISPLAY TUBES

T1221 T3-02 DO YOU INSPECT DVST OR HMST
T1222 T3-03 DO YOU CLEAN DVST OR HMST
T1223 T3-04 DO YOU ADJUST OR CALIBRATE DVST OR HMST
T1224 T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR HMST
T1225 T3-06 DO YOU TROUBLESHOOT DVST OR HMST
CIRCUITS

T1226 T3-07 DO YOU REMOVE OR REPLACE DVST OR HMST TUBES FROM
MAJOR ASSEMBLIES ON UNITS
T1227 T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME
THE VARIOUS ELEMENTS OF DVST
T1228 T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME
THE VARIOUS ELEMENTS OF HMST

T1229 T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS
T1230 T3-11 DO YOU PERFORM TASKS ON WHITE GUNS
T1231 T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS
T1232 T3-13 DO YOU PERFORM TASKS ON FLASH GUNS
T1233 T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS

U1234 U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING
TASKS

U1235 U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS
U1236 U1-03 DO YOU USE OR REFER TO PROGRAMS
U1237 U1-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS
U1238 U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS
U1239 U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS
U1240 U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS
U1241 U1-08 DO YOU USE OR REFER TO TIME-SHARING
U1242 U1-09 DO YOU USE OR REFER TO DATA WORDS
U1243 U1-10 DO YOU USE OR REFER TO ADDRESS WORDS
U1244 U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS
U1245 U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION
U1246 U1-13 DO YOU USE OR REFER TO INFORMATION WORDS
U1247 U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING
U1248 U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING

PROGRAMMING

ACT MEMS RESPONDING TEST BY SELECTED GRPS

GPSUM PAGE 44

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DT-TSK

U1249 U1-18 DO YOU PERFORM TASKS ON INPUT DEVICES
U1250 U1-17 DO YOU PERFORM TASKS ON STORAGE DEVICES
U1251 U1-16 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS
U1252 U1-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS
U1253 U1-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES
U1254 U1-21 DO YOU PERFORM TASKS ON POWER SUPPLIES
U1255 U2-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND
ATTENUATION
U1256 U2-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN
DECIBELS
U1257 U2-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN
DECIBELS
U1258 U2-04 DUMMY TASK TO IDENTIFY INCUMMENTS WHO PERFORMED
NO TASKS

SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
001	002	003	004	005	006	007			
12	0	56	8	10	3	20			
12	0	56	5	10	3	20			
8	0	33	4	4	0	17			
10	0	33	6	9	0	16			
10	0	44	6	6	0	16			
10	0	22	6	9	0	15			
4	0	56	3	3	3	3			
1	0	11	0	1	0	0			
1	0	11	0	1	0	0			
6	0	22	1	10	3	3			

DB AND POWER
RATIOS

AD-A044 646

AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9
MISSILE SYSTEMS ANALYST SPECIALIST AFSC 31650/OF/OG/OS/OT.(U)
SEP 77 T J O'CONNOR, W A TAMASHUNAS

UNCLASSIFIED

NL

2 OF 2
ADA
044646



SUPPLEMENTARY
INFORMATION



END
DATE
FILMED

1 -79
DDC

SUPPLEMENTARY

INFORMATION

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

Corrected

A044 646

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AFPT 90-316-222	2. GOVT ACCESSION NO. AD A044 646/852	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Missile Systems Analyst Specialist AFSC 31650/OF/OG/OS/OT		5. TYPE OF REPORT & PERIOD COVERED FINAL April - June 1977
7. AUTHOR(s) Thomas J. O'Connor William A. Tamashunas		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Occupational Survey Branch USAF Occupational Measurement Center Lackland AFB TX 78235		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS SAME AS ITEM 9		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS N/A
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE 7 September 1977
		13. NUMBER OF PAGES 44
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Electronic principles Electronics Basic electronics Air Force Training Avionics Teaching Methods Electronic equipment Training Electronic technicians		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Missile Systems Analyst Specialist (AFSC 31650/OF/OG/OS/OT). The report gives a detailed listing of the technical tasks and knowledge needed to perform the jobs within the specialty or career ladder.		

CONTINUED

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)

This specialty has the following functions:

Monitors and operates consoles, fault display panels, and checkout equipment; performs malfunction analyses, and assembles, repairs, maintains, modifies, inspects, and services missile, missile subsystems, missile electronic systems, and aerospace ground equipment to component level; operates checkout and test equipment; and performs adjustment, alignment, and calibration of missile and related missile aerospace ground equipment.

UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE(When Data Entered)