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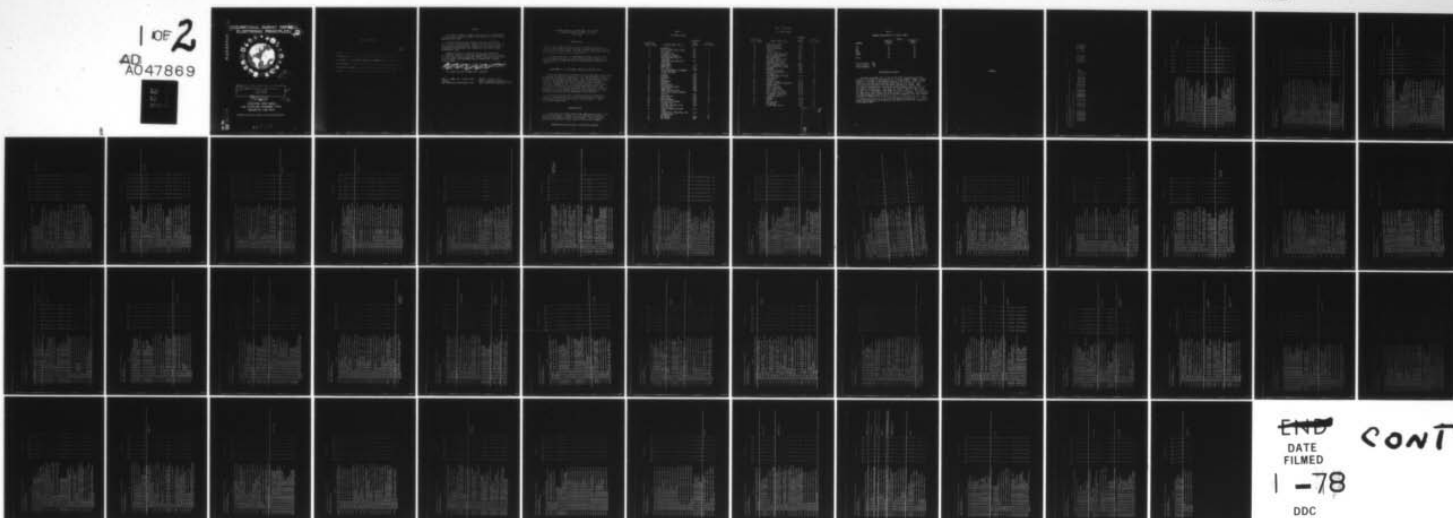
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AIRCRAFT ELECTRICAL SYSTEMS SPECIALIST CAREER LADDER AFSC 42350--ETC(U)
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OCCUPATIONAL SURVEY REPORT ELECTRONIC PRINCIPLES

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AFSC 42350

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USAF OCCUPATIONAL MEASUREMENT CENTER
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PREFACE

This report presents a summary of the results of a detailed Air Force Electronic Principles Survey of the Aircraft Electrical Systems Specialty, AFSC 42350.

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 Walter F. Kasper. 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 (OSB), 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
AIRCRAFT ELECTRICAL SYSTEMS SPECIALIST
AFSC 42350

INTRODUCTION

↘ This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Aircraft Electrical Systems Specialist (AFSC 42350). The data for this report were collected during the period July through September 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 42350 airmen worldwide. Responses from 346 individuals represented 19 percent of the total of all AFSC 42350 personnel. Table 2 shows the percentage distribution by major command of the survey incumbents.

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TABLE 1
EPI SUBJECT AREAS

SEQUENCE OF SUBJECT AREAS	SUBJECT AREA TITLE	BEGINNING ITEM NUMBER	GPSUM PAGE NUMBER
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

SEQUENCE OF SUBJECT AREAS	SUBJECT AREA TITLE	BEGINNING ITEM NUMBER	GPSUM PAGE NUMBER
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

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TABLE 2
COMMAND REPRESENTATION OF SURVEY SAMPLE

COMMAND	42350	
	<u>PERCENT ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
TAC	27	18
SAC	19	21
MAC	18	24
USAFE	10	12
OTHER	<u>26</u>	<u>25</u>
TOTAL	100	100

Total Assigned: 1856
 Total Sampled: 346
 Percent Sampled: 19

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 four 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 *Resistance* area results are given on page 5 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 Relays (p. 12) to low in areas such as RCL Circuits (pp. 8-9) and Boolean Equations (p. 26). Additional AFSC 42350 data can be obtained upon request to the Chief, Occupational Survey Branch (OMY).

APPENDIX

PCT MBRs RESPONDING 'YES' BY SELECTED GROUPS

GPSUM3 PAGE 1

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS
IN THE 423XD CAREER FIELD.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY =	SPC051	ALL	AIRMEN	DAFSC	42350	STATIONED IN CONUS	CONTAINING	346	MEMBERS.
GROUP IDENTITY =	SPC052	ALL	AIRMEN	DAFSC	42350	STATIONED OVERSEAS	CONTAINING	224	MEMBERS.
GROUP IDENTITY =	SPC053	ALL	AIRMEN	DAFSC	42350	ASSIGNED TO TAC	CONTAINING	121	MEMBERS.
GROUP IDENTITY =	SPC054	ALL	AIRMEN	DAFSC	42350	ASSIGNED TO SAC	CONTAINING	62	MEMBERS.
GROUP IDENTITY =	SPC055	ALL	AIRMEN	DAFSC	42350	ASSIGNED TO MAC	CONTAINING	72	MEMBERS.
GROUP IDENTITY =	SPC056	ALL	AIRMEN	DAFSC	42350	ASSIGNED TO USAF	CONTAINING	93	MEMBERS.
GROUP IDENTITY =	SPC057	ALL	AIRMEN	DAFSC	42350	ASSIGNED USAF	CONTAINING	42	MEMBERS.

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
A 34 A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE TOLERANCE.	34	36	31	24	32	35	24
A 35 A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE FAILURE RATE.	18	18	17	13	17	20	14
A 36 A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO ACHIEVE A SPECIFIC VOLTAGE.	55	52	59	58	57	54	60
A 37 A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT BATTERIES, FUSES, CONDUCTORS, LAMPS, OR SWITCHES	86	86	86	87	89	82	83
A 38 A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	47	48	45	48	42	42	40
A 39 A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	45	47	43	48	47	42	36
A 40 A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	47	50	43	47	46	43	38
A 41 A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	37	40	32	40	35	35	29
A 42 A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	43	45	40	47	38	41	37
A 43 A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	43	44	40	48	36	42	31
A 44 A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	43	45	40	48	36	42	33
A 45 A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	36	37	34	40	28	33	29
A 46 A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	37	35	30	39	26	34	24
A 47 A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	42	43	40	50	36	39	31
A 48 A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	42	44	39	52	36	39	29
A 49 A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	42	44	40	50	38	37	31
A 50 A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	35	35	36	39	32	29	29
A 51 A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	32	33	29	39	28	29	24
B 52 B1-01 DO YOU MEASURE RESISTANCE.	59	59	58	100	59	59	55
B 53 B1-02 DO YOU REPAIR OHMMETERS.	26	29	21	24	47	25	19
B 54 B1-03 DO YOU MEASURE VOLTAGE.	98	98	98	100	100	100	95
B 55 B1-04 DO YOU REPAIR VOLTMETERS.	21	23	17	21	40	18	14
B 56 B1-05 DO YOU REPAIR AMPMETERS.	16	17	15	18	29	11	10
B 57 B1-06 DO YOU MEASURE CURRENT.	91	92	90	94	97	88	90
B 58 B1-07 DO YOU USE MULTIMETERS.	98	98	98	98	99	99	98
B 59 B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	8	8	6	3	8	13	2
B 60 B1-09 DO YOU READ SCHEMATICS.	98	98	98	98	100	99	98

MULTIMETER USES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

051	052	053	054	055	056	057
DY-TSK						
C 121	18	20	15	18	17	22
C 122	12	11	6	11	17	7
C 123	36	38	33	29	42	41
C 124	25	26	22	19	29	19
C 125	26	28	24	27	22	31
C 126	31	31	31	29	31	35
C 127	29	33	21	32	39	27
CAPACITORS						
C 128	80	83	74	82	86	83
C 129	85	89	78	97	94	80
C 130	60	65	49	61	72	58
C 131	35	39	26	35	36	40
C 132	86	87	84	94	94	83
C 133	91	92	88	98	99	86
C 134	12	14	9	6	18	5
C 135	11	10	12	3	10	13
C 136	7	8	5	5	4	12
C 137	9	10	6	10	4	14
C 138	10	11	10	11	8	14
C 139	10	9	12	8	6	17
C 140	6	5	8	3	6	5
C 141	73	72	74	82	78	66
C 142	78	78	77	77	92	78
C 143	9	7	13	6	7	14
C 144	3	1	7	0	1	6
C 145	23	24	21	19	24	16
C 146	75	75	75	82	83	69
C 147	71	71	72	79	79	60
C 148	65	68	58	71	72	63
C 149	33	32	35	34	36	31
C 150	53	55	50	66	61	46
C 151	72	73	69	81	85	67

TRANSFORMERS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DT-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
C 152 C2-25 DO YOU REFER TO MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS	49	48	50	50	61	49	26
C 153 C2-26 DO YOU REFER TO MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	51	52	50	52	64	51	33
C 154 C2-27 DO YOU REFER TO CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	57	57	56	60	69	57	39
C 155 C2-28 DO YOU REFER TO AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	29	30	27	24	32	30	19
C 156 C2-29 DO YOU REFER TO IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	35	36	34	31	39	37	17
C 157 C2-30 DO YOU REFER TO COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS	45	46	43	47	56	46	21
C 158 C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS	34	34	33	37	40	35	21
C 159 C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH	18	17	21	15	21	23	10
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 FOR TRANSFORMERS	14	15	14	16	13	17	5
C 161 C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS	12	13	11	5	13	16	2
C 162 C2-35 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS	49	50	49	45	68	51	31
C 163 C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS	49	50	49	45	68	51	31
C 164 C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH THREE PHASE TRANSFORMERS	46	50	46	48	61	48	36
C 165 C2-38 DO YOU INSPECT THREE PHASE TRANSFORMERS	23	22	24	16	31	25	21
C 166 C2-39 DO YOU CLEAN OR LUBRICATE THREE PHASE TRANSFORMERS	19	17	18	11	21	18	19
C 167 C2-40 DO YOU ADJUST THREE PHASE TRANSFORMERS	51	51	50	50	64	48	36
C 168 C2-41 DO YOU TROUBLESHOOT THREE PHASE TRANSFORMERS	53	54	51	50	67	53	40
C 169 C2-42 DO YOU REMOVE OR REPLACE COMPLETE THREE PHASE TRANSFORMERS	11	11	10	5	13	12	10
C 170 C2-43 DO YOU REMOVE OR REPLACE THREE PHASE TRANSFORMER PARTS SUCH AS WINDINGS	66	66	67	56	65	69	69
C 171 C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS	29	31	25	29	28	31	21
C 172 C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS	15	17	12	13	10	22	7
C 173 C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS	17	14	12	13	11	19	7
C 174 C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS	16	15	18	11	11	23	19
C 175 C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS	46	44	50	35	47	53	48
C 176 C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM	39	40	36	42	32	46	33
C 177 C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX	8	9	7	5	3	17	10
C 178 C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM							

MAGNETISM

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task ID	Description	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
C 179	C3-09 DO YOU USE OR REFER TO DOMAIN THEORY OF MAGNETISM	8	8	7	5	4	16	2
C 180	C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION	32	29	36	29	25	26	36
C 181	C3-11 DO YOU USE OR REFER TO FLUX DENSITY	16	17	15	21	7	23	10
C 182	C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES ATTRACT	57	59	54	52	57	61	55
C 183	C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES	27	28	26	35	21	31	21
C 184	C3-14 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL	24	25	22	29	21	29	19
C 185	D1-01 DO YOU WORK WITH RC, CR, RCL CIRCUITS IN YOUR PRESENT JOB	10	9	10	6	8	14	5
C 186	D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS	5	4	7	6	6	7	2
C 187	D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS	8	8	9	6	4	14	5
C 188	D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS	8	7	8	6	4	13	5
C 189	D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS	6	5	7	5	4	10	5
C 190	D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS	14	15	13	11	17	18	7
C 191	D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS	14	14	12	13	17	17	5
C 192	D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS	11	11	11	8	11	17	5
C 193	D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS	10	10	9	6	8	17	2
C 194	D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS	13	14	12	11	15	17	5
C 195	D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS	14	14	14	11	17	16	7
C 196	D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS	8	8	9	6	6	12	2
C 197	D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS	2	2	2	3	3	0	0
C 198	D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH PCL CIRCUITS	5	5	4	5	1	6	2
C 199	D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH PCL CIRCUITS	8	7	10	6	6	10	7
C 200	D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS	5	4	6	0	1	12	2
C 201	D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS	2	2	2	2	1	4	0
C 202	D1-18 DO YOU USE OR REFER TO BANDPASS REGION WHEN WORKING WITH RCL CIRCUITS	3	2	4	2	1	6	0
C 203	D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS							

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TASK	SFC 051	SFC 052	SFC 053	SFC 054	SFC 055	SFC 056	SFC 057
0 204 01-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS	4	4	5	3	4	7	2
0 205 01-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS	6	5	7	2	4	11	7
0 206 01-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS	8	8	6	5	7	12	5
0 207 01-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS	8	7	9	5	4	13	5
0 208 01-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS	7	6	8	5	6	11	5
0 209 01-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS	8	8	7	6	3	14	2
0 210 01-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS	6	6	6	5	7	13	7
0 211 01-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS	8	8	7	6	4	13	2
0 212 01-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS	8	8	8	8	4	13	2
0 213 01-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS	8	8	8	8	7	13	5
0 214 01-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS	8	8	7	8	4	13	2
0 215 01-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS	5	6	5	5	3	11	2
0 216 01-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD	6	7	5	6	1	12	2
0 217 01-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW	10	11	7	6	11	14	7
0 218 01-34 DO YOU CHECK CAPACITORS USING OHMMETERS	20	19	21	16	21	24	12
0 219 01-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION	9	11	6	5	10	18	7
0 220 01-36 DO YOU CHECK INDUCTORS USING OHMMETERS	18	17	21	13	21	23	12
0 221 01-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION	7	8	6	5	8	14	2
0 222 01-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA = 0, PF = 1, AND PA = PT FOR RESONANT CIRCUITS	3	3	2	3	1	6	0
0 223 01-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS	4	4	4	5	3	8	0
0 224 01-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE RESONANT FREQUENCY FOR SERIES RCL CIRCUITS	6	6	7	8	3	10	2
0 225 01-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT RESONANT FREQUENCY FOR PARALLEL RCL CIRCUITS	5	4	5	5	1	8	5
0 226 01-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE	5	7	3	2	4	12	5
0 227 01-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q	2	1	2	0	0	5	2
0 228 01-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT OR PHASE ANGLES FOR RCL CIRCUITS	8	10	6	5	10	14	5

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DIY-TSK	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
	051	052	053	054	055	056	057				
E 291 E2-19 DO YOU MAKE HARDWIRE CONNECTIONS	78	80	75	77	72	81	74				
E 292 E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	49	53	41	44	56	52	45				
E 293 E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	48	53	40	50	49	53	43				
E 294 E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	42	45	36	42	39	48	38				
E 295 E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	90	91	88	89	90	94	85				
E 296 E3-02 DO YOU ADJUST RELAYS	30	33	26	18	25	51	21				
E 297 E3-03 DO YOU CLEAN RELAYS	58	58	57	40	67	64	55				
E 298 E3-04 DO YOU INSPECT RELAYS	87	90	81	89	92	87	83				RELAYS
E 299 E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS	96	96	96	100	96	95	95				
E 300 E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS	25	26	21	18	28	73	21				
E 301 E3-07 DO YOU TROUBLESHOOT RELAYS	95	96	93	100	97	92	93				
E 302 E3-08 DO YOU STRAIGHTEN RELAY CONTACTS	34	36	30	18	36	41	37				
E 303 E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS	36	39	32	32	35	43	26				
E 304 E3-10 DO YOU PERFORM TASKS ON RELAY CORES	12	14	9	8	13	17	7				
E 305 E3-11 DO YOU PERFORM TASKS ON RELAY COILS	19	22	12	13	18	24	10				
E 306 E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES	17	21	10	6	18	24	10				
E 307 E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS	17	21	11	5	19	27	7				
E 308 E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPEN (NO) SCHEMATIC SYMBOLS FOR RELAYS	85	86	83	87	86	84	83				
E 309 E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	85	86	83	87	86	84	83				
E 310 E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	82	83	79	85	85	82	79				
E 311 E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	82	83	79	85	85	82	79				
E 312 E3-18 DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	81	79	84	76	82	82	68				
E 313 E3-19 DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	85	83	89	84	83	84	90				
F 314 F1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	3	3	2	2	4	4	2				
F 315 F1-02 DO YOU INSPECT MICROPHONES	1	1	2	0	0	2	2				MICROPHONES
F 316 F1-03 DO YOU CLEAN MICROPHONES	1	1	2	0	0	2	2				
F 317 F1-04 DO YOU OPERATE MICROPHONES	2	2	2	0	3	4	2				
F 318 F1-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OR MICROPHONES	2	2	2	0	3	4	2				
F 319 F1-06 DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	1	1	0	0	1	0	0				
F 320 F1-07 DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	0	0	1	0	0	1	0				
F 321 F1-08 DO YOU REMOVE OR REPLACE MICROPHONE PARTS	0	0	0	0	0	0	0				
F 322 F1-09 DO YOU PERFORM TASKS ON CARBON MICROPHONES	0	0	0	0	0	0	0				
F 323 F1-10 DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	0	0	0	0	0	0	0				
F 324 F1-11 DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	0	0	1	0	0	0	2				
F 325 F1-12 DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	0	0	0	0	0	0	0				
F 326 F1-13 DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	0	0	0	0	0	0	0				

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	
0Y-TSM								
F 327 F2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	3	4	3	0	4	10	0	SPEAKERS
F 328 F2-02 DO YOU INSPECT SPEAKERS	2	2	2	0	1	5	0	
F 329 F2-03 DO YOU CLEAN SPEAKERS	0	0	0	0	0	0	0	
F 330 F2-04 DO YOU OPERATE SPEAKERS	2	2	2	0	3	6	0	
F 331 F2-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIPE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS	3	3	3	2	1	8	0	
F 332 F2-06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	0	0	0	0	0	1	0	
F 333 F2-07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	2	1	2	0	0	6	0	
F 334 F2-08 DO YOU REMOVE OR REPLACE SPEAKER PARTS	1	1	0	0	0	1	0	
F 335 F2-09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES	0	0	0	0	0	1	0	
F 336 F2-10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	0	0	0	0	0	1	0	
F 337 F2-11 DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	1	1	0	0	0	1	0	
F 338 F2-12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	1	1	0	0	0	0	0	
F 339 F2-13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	0	0	0	0	0	0	0	
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	20	24	19	16	29	25	2	OSCILLOSCOPES
F 343 F3-02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	19	21	16	13	22	25	5	
F 344 F3-03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	15	17	12	11	19	20	2	
F 345 F3-04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	16	20	11	11	15	24	5	
F 346 F3-05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	19	21	15	15	21	23	5	
F 347 F3-06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME	8	10	5	5	8	11	2	
F 348 F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	8	9	4	2	8	14	2	
F 349 F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	9	11	6	3	10	17	2	
F 350 F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	6	7	4	3	7	10	2	
F 351 F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	20	23	14	13	22	25	5	
F 352 F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	15	17	10	11	17	22	2	
F 353 F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	16	18	12	8	19	22	5	
G 354 G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	54	52	57	61	39	60	40	SEMICONDUCTOR DIODES
G 355 G1-02 DO YOU INSPECT DIODES	52	52	51	56	40	56	39	
G 356 G1-03 DO YOU REMOVE OR REPLACE DIODES	55	54	56	61	38	65	40	
G 357 G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT	51	52	50	60	38	61	31	
G 358 G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	6	7	6	2	7	13	2	
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	14	15	12	11	8	23	10	
G 360 G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	16	16	16	15	11	23	7	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task ID	Task Description	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
G 361	G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	30	31	27	34	26	29	21
G 362	G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE	37	38	34	45	29	39	21
G 363	G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	10	10	11	10	10	14	5
G 364	G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	18	19	16	19	17	20	5
G 365	G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING	15	13	17	19	6	17	12
G 366	G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	4	4	4	3	1	10	0
G 367	G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	4	4	3	3	1	10	0
G 368	G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	20	21	17	24	10	25	17
G 369	G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	3	4	2	3	1	6	0
G 370	G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	4	4	5	3	3	8	0
G 371	G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	16	16	17	21	14	17	12
G 372	G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	5	7	2	5	3	12	0
G 373	G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	3	4	2	2	1	7	0
G 374	G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	4	4	3	3	1	8	0
G 375	G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	6	7	3	6	3	12	0
G 376	G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	5	7	2	5	1	12	0
G 377	G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	35	36	33	40	26	41	19
G 378	G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	13	12	16	13	8	17	5
G 379	G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES RESISTANCE DECREASES)	19	19	20	24	14	27	7
G 380	G1-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT POINTS OF STRUCTURAL BREAKDOWN OR OPERATING REGIONS	11	12	9	15	4	19	5
G 381	G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS	25	25	25	24	21	29	14
G 382	G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	4	4	3	3	0	10	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DI-TASK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
6 383 G1-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	3	3	3	3	0	7	0
6 384 G1-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	4	4	4	5	0	10	0
6 385 G1-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	4	4	2	3	0	10	0
6 386 G1-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	6	8	4	10	1	11	0
6 387 G1-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	10	10	10	11	4	13	7
6 388 G1-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	4	4	4	5	1	7	2
6 389 G1-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	4	4	4	5	1	7	2
6 390 G1-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	17	17	18	18	17	23	7
6 391 G1-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	16	15	17	16	13	20	2
6 392 G1-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	4	5	3	5	3	10	0
6 393 G1-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	4	4	3	5	3	6	0
6 394 G1-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	4	5	3	5	1	10	0
6 395 G1-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	4	5	2	5	1	8	0
6 396 G1-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	6	8	3	6	3	14	0
6 397 G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	6	7	5	5	1	8	0
6 398 G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	3	4	3	2	0	8	0
6 399 G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	10	10	9	8	8	10	5
6 400 G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	9	10	8	11	8	12	2
6 401 G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	7	8	7	8	7	11	2
6 402 G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	9	9	7	10	8	12	2
6 403 G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	9	10	8	13	10	12	2
6 404 G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	16	29	21	29	24	39	19
6 405 G2-02 DO YOU INSPECT TRANSISTORS	25	29	17	24	24	30	12
6 406 G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS	25	28	18	26	22	30	14
6 407 G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	23	27	16	21	25	29	12
6 408 G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	18	19	17	16	18	25	10
6 409 G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	16	16	17	11	19	23	14

TRANSISTORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
6 410 G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC) RESISTANCE MEASUREMENTS	16	16	15	10	13	24	14
6 411 G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	10	10	8	5	4	17	7
6 412 G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	9	10	7	5	3	17	7
6 413 G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	14	16	10	11	10	20	12
6 414 G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR	10	13	5	6	13	14	5
6 415 G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	25	28	20	24	24	29	19
6 416 G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	23	25	18	24	19	27	17
6 417 G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	13	13	12	10	11	16	14
6 418 G2-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE TRANSISTOR BASE CURRENT IB IS NORMALLY SIGNIFICANTLY SMALLER THAN THE EMITTER CURRENT IE (USUALLY IB BEING 2 TO 8 PERCENT OF IE)	8	9	5	5	7	16	2
6 419 G2-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR TRANSISTORS	10	11	10	8	7	18	7
6 420 G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	8	8	6	3	3	18	2
6 421 G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	5	7	2	5	1	13	0
6 422 G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	5	6	3	2	1	13	0
6 423 G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	5	6	3	2	1	12	0
6 424 G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	5	5	3	2	1	12	0
6 425 G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS	3	4	2	2	0	7	0
6 426 G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	3	4	2	2	0	8	0
6 427 G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	3	3	2	2	0	7	0
6 428 G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	6	9	2	10	6	11	0
6 429 G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	6	8	2	10	1	10	2
6 430 G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	3	4	2	2	1	8	2
6 431 G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	5	8	1	6	4	11	0
6 432 G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	5	6	2	8	1	11	2
6 433 G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	6	9	2	10	4	11	2
6 434 G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	5	6	2	6	0	10	2
6 435 G3-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE CURRENT	4	5	2	2	1	10	0
6 436 G3-09 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	3	4	2	2	0	8	0

TRANSISTOR AMPLIFIERS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
6 437 G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT	4	5	2	2	0	11	0
6 438 G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	3	4	1	2	0	7	0
6 439 G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	4	5	2	2	0	11	0
6 440 G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL	3	4	1	2	0	7	0
6 441 G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)	2	3	1	0	0	7	0
6 442 G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR	2	3	1	0	0	7	0
6 443 G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	2	3	1	0	0	7	0
6 444 G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION	4	4	2	2	1	10	0
6 445 G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION	4	4	2	2	1	10	0
6 446 G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION	4	4	2	2	1	10	0
6 447 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	2	3	0	0	0	7	0
6 448 G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE CURRENT INTO THE CHANGE IN COLLECTOR CURRENT TO DETERMINE THE CURRENT GAIN	2	3	0	0	0	7	0
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	1	2	1	0	0	4	0
6 450 G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES (THIS AFFECTS THE STATIC OPERATING POINT Q) OF THE TRANSISTOR)	2	3	1	0	0	6	0
6 451 G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT Q) OF A TRANSISTOR AT DIFFERENT TEMPERATURES	2	2	1	0	0	5	0
6 452 G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH EMITTER (SWAMPING) RESISTOR STABILIZATION	2	3	1	2	0	6	0
6 453 G3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION	3	4	2	3	1	7	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

TASK	DY-TSK				SPC			
	051	052	053	054	055	056	057	058
6 454 G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION	3	4	1	3	0	7	0	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	3	4	2	2	0	7	0	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	3	4	2	2	0	7	0	0
6 457 G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION	3	4	1	2	0	7	0	0
6 458 G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	2	3	0	0	0	5	0	0
6 459 G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	3	4	1	2	1	6	0	0
6 460 G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	3	4	1	3	0	7	0	0
6 461 G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	2	3	1	2	0	6	0	0
6 462 G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	2	3	1	2	0	6	0	0
6 463 G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	2	3	1	2	0	6	0	0
6 464 G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	1	2	0	0	0	5	0	0
6 465 G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	2	3	1	0	0	6	0	0
6 466 G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	2	3	0	0	0	7	0	0
6 467 G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	2	4	0	0	0	6	0	0
6 468 G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	2	4	0	0	0	8	0	0
6 469 G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	2	3	0	0	0	7	0	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	2	3	0	0	0	7	0	0
6 471 G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	3	4	1	2	0	8	0	0
6 472 G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	2	3	1	0	0	7	0	0
6 473 G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	3	4	2	2	0	11	0	0
6 474 G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	2	3	0	0	0	6	0	0
6 475 G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	2	3	1	2	0	6	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DI-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
6 476 G1-45 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	2	3	0	2	0	6	0
H 477 H1-01 DO YOU USE OR REFER TO VARACTORS	7	3	2	0	0	7	0
H 478 H1-02 DO YOU USE OR REFER TO TUNNEL DIODES	3	4	2	2	0	10	0
H 479 H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	3	3	2	0	0	6	0
H 480 H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	6	7	4	10	0	11	0
H 481 H1-05 DO YOU USE OR REFER TO ZENER DIODES	46	46	47	45	40	55	45
H 482 H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS	31	33	27	31	29	40	24
H 483 H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	69	71	65	66	76	65	67
H 484 H2-02 DO YOU INSPECT POWER SUPPLIES	68	70	64	65	81	65	62
H 485 H2-03 DO YOU CLEAN POWER SUPPLIES	54	58	48	48	68	51	50
H 486 H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES	48	50	45	39	57	43	52
H 487 H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	62	64	59	60	72	58	60
H 488 H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	64	64	64	63	71	60	62
H 489 H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	62	64	57	55	79	59	55
H 490 H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	58	61	53	52	67	55	55
H 491 H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS	38	39	36	35	51	33	40
H 492 H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	42	42	42	39	51	41	33
H 493 H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS	39	40	38	35	49	37	40
H 494 H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS	51	50	52	42	58	45	50
H 495 H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE	63	66	59	60	76	61	48
H 496 H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY	47	48	44	39	56	42	40
H 497 H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	38	42	32	39	49	77	75
H 498 H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	48	50	44	45	54	52	29
H 499 H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE	14	15	13	19	17	17	5
H 500 H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY	14	13	15	2	17	17	7
H 501 H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	14	14	15	10	13	20	10
H 502 H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	17	17	17	10	14	25	10
H 503 H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	36	37	36	32	43	76	31
H 504 H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	22	21	24	19	21	27	17
H 505 H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	16	16	17	16	14	22	10
H 506 H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	12	13	10	15	10	17	7
H 507 H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	12	13	9	15	8	17	7
H 508 H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	8	9	7	6	7	16	5
H 509 H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	8	9	5	6	7	16	5
H 510 H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER	23	24	20	18	32	17	21
H 511 H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	4	4	4	3	6	2	5
H 512 H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	4	4	2	0	3	10	2

OSCILLATORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK	SPC						
	051	052	053	054	055	056	057
H 513 H3-02 DO YOU INSPECT OSCILLATORS	3	4	2	0	1	10	2
H 514 H3-03 DO YOU ALIGN OR ADJUST OSCILLATORS	3	3	2	0	1	7	0
H 515 H3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	3	4	2	0	1	8	0
H 516 H3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	3	4	2	0	1	10	0
H 517 H3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	3	3	2	0	1	7	2
H 518 H3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	3	4	2	0	1	8	2
H 519 H3-08 DO YOU USE OR REFER TO FEEDBACK	3	3	3	0	3	7	2
H 520 H3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)	3	3	2	0	1	7	2
H 521 H3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY	3	3	2	0	1	7	0
H 522 H3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY	3	3	2	0	1	7	0
H 523 H3-12 DO YOU USE OR REFER TO DAMPING	2	2	2	0	1	5	0
H 524 H3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	2	2	2	0	1	5	0
H 525 H3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	1	2	1	0	1	4	0
H 526 H3-15 DO YOU USE OR REFER TO CRITICAL DAMPING	2	2	2	0	1	5	0
H 527 H3-16 DO YOU USE OR REFER TO UNDER DAMPING	2	2	2	0	1	5	0
H 528 H3-17 DO YOU USE OR REFER TO OVER DAMPING	2	2	2	0	1	5	0
H 529 H3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	2	3	0	0	0	6	0
H 530 H3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	3	4	1	0	0	8	0
H 531 H3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	1	2	0	0	0	4	0
H 532 H3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	1	1	1	0	0	1	0
H 533 H3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	1	2	0	0	0	5	0
H 534 H3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	1	2	0	0	0	5	0
H 535 H3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	1	1	0	0	0	1	0
H 536 H3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	1	1	0	0	0	1	0
H 537 H3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	1	1	0	0	0	1	0
H 538 H3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	0	0	1	0	0	0	0
I 539 I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	4	4	0	0	4	7	0
I 540 I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	2	3	0	0	1	6	0
I 541 I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	2	3	0	0	1	5	0
I 542 I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	2	3	0	0	1	5	0
I 543 I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	2	3	0	0	1	6	0
I 544 I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	2	4	0	0	3	6	0
I 545 I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	2	4	0	0	1	7	0
I 546 I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	2	3	0	0	1	6	0
I 547 I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	1	2	0	0	0	4	0

MULTIVIBRATORS

PCT MRS RESPONDING *YES* BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
I 596 13-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	2	3	2	2	0	7	0
I 597 13-23 DO YOU USE OR REFER TO MULTIGRID (TETPODE, PENTODE, ETC) AMPLIFICATION FACTORS	3	3	3	2	3	7	0
I 598 13-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G _m WHICH IS MEASURED IN MHOS)	3	4	2	2	1	7	0
I 589 13-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	3	3	2	2	0	7	0
I 590 13-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	3	4	3	3	3	7	0
I 591 13-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	3	3	3	2	1	7	0
I 592 13-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	3	4	2	2	3	7	0
I 593 13-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	3	3	2	2	1	7	0
I 594 13-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	4	4	3	2	4	6	0
I 595 13-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	4	4	3	2	4	6	0
I 596 13-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	3	4	3	2	4	7	0
I 597 13-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	3	4	2	2	4	6	0
I 598 13-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN EFFICIENCY	6	6	5	2	6	11	0
I 599 13-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	5	5	4	2	4	10	0
I 600 13-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	7	9	2	3	7	11	0
I 601 13-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	6	6	5	0	7	10	0
I 602 13-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	4	5	2	0	4	8	2
I 603 13-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	3	4	1	0	3	6	0
I 604 13-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	3	3	2	0	0	7	0
I 605 13-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	5	6	2	3	4	7	2
I 606 13-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	6	8	3	3	7	10	2
I 607 13-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE ELECTRON TUBES YOU WORK ON	4	6	1	0	6	11	0
I 608 13-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	5	8	1	3	6	10	0
J 609 J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	2	4	0	0	0	1	6
J 610 J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	2	3	0	0	0	0	6

ELECTRON TUBE
AMPLIFIERS
AND CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task ID	Description	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
K 642	KI-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	0	0	1	0	0	1	0
K 643	KI-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	0	0	1	0	0	1	0
K 644	KI-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	1	0	1	0	0	2	0
K 645	KI-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	1	0	1	0	0	2	0
K 646	KI-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	0	0	0	0	0	0	0
K 647	KI-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	0	0	0	0	0	0	0
K 648	KI-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	0	0	0	0	0	1	0
K 649	KI-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	0	0	0	0	0	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 TRANSMITTERS	0	0	0	0	0	0	0
K 654	KI-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	0	0	0	0	0	1	0
K 655	KI-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	0	0	0	0	0	1	0
K 656	KI-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	0	0	0	0	0	0	0
K 657	KI-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	0	0	0	0	0	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	0	0	0	0	0	1	0
K 665	KI-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	0	0	0	0	0	1	0
K 666	K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0	0	0	0	0	0	0
K 667	K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0
K 668	K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0
K 669	K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0
K 670	K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0
K 671	K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	0	0	0
K 672	K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0
K 673	K2-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	0	1	0
K 674	K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	0	0	0	0	0	0	0
K 675	K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	0	0	0	0	0	0	0

FM SYSTEMS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task ID	Task Description	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
K 676	K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	0	0	0	0	0	1	0
K 677	K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	0	0	0	0	0	1	0
K 678	K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	0	0	0	0	0	0	0
K 679	K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	0	0	0	0	0	1	0
K 680	K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	0	0	0	0	0	0	0
K 681	K2-16 DO YOU PERFORM TASKS ON LIMITERS	1	0	1	0	1	1	0
K 682	K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	0	0	0	0	0	1	0
K 683	K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	0	0	0	0	0	1	0
K 684	K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	0	0	0	0	0	0	0
K 685	K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	7	3	4	0	4	5	5
K 686	K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	4	4	4	0	4	5	5
K 687	K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	2	1	2	0	1	2	2
K 688	K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	2	1	2	0	1	2	2
K 689	K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	3	4	2	0	1	6	2
K 690	K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	1	2	1	0	1	2	0
K 691	K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	3	4	3	0	1	7	2
K 692	K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	3	3	2	0	1	5	2
K 693	K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	3	4	2	0	1	6	2
K 694	K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	2	1	3	0	1	4	2
L 695	L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	1	1	2	0	0	1	2
L 696	L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	1	0	1	0	0	0	2
L 697	L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	0	0	1	0	0	0	2
L 698	L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR LOGIC SYMBOLS WITH STATE INDICATORS	0	0	1	0	0	0	2
L 699	L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	0	0	1	0	0	0	2
L 700	L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	0	0	1	0	0	0	2
L 701	L1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	0	0	1	0	0	0	2
L 702	L1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	0	0	1	0	0	0	2
L 703	L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	0	0	1	0	0	0	2
L 704	L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	1	0	2	0	0	0	2
L 705	L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	1	0	2	0	0	0	2
L 706	L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	0	0	1	0	0	0	2

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DI-TASK	SFC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
	051	052	053	054	055	056	057	058	059	060	061
L 733 L3-01 00 YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	5	7	1	5	6	8	0				
L 734 L3-02 00 YOU USE OR REFER TO UP-COUNTERS	3	4	1	0	3	7	0				
L 735 L3-03 00 YOU USE OR REFER TO DOWN-COUNTERS	3	4	1	0	3	7	0				COUNTERS
L 736 L3-04 00 YOU USE OR REFER TO SERIAL COUNTERS	0	0	0	0	0	1	0				
L 737 L3-05 00 YOU USE OR REFER TO PARALLEL COUNTERS	1	1	0	0	1	1	0				
L 738 L3-06 00 YOU USE OR REFER TO RING COUNTERS	1	1	0	2	1	2	0				
L 739 L3-07 00 YOU USE OR REFER TO DECADE COUNTERS	1	2	0	3	0	2	0				
L 740 L3-08 00 YOU USE OR REFER TO COUNT DETECT CIRCUITS	1	1	0	2	1	2	0				
L 741 L3-09 00 YOU USE OR REFER TO DOWN CLOCKS	1	1	1	0	0	2	0				
L 742 L3-10 00 YOU USE OR REFER TO UP CLOCKS	1	1	1	0	0	2	0				
L 743 L3-11 00 YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLETED FLIP-FLOPS	1	1	1	0	2	0	1				
L 744 L3-12 00 YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	1	1	1	0	2	0	1				
L 745 L3-13 00 YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	0	0	0	0	0	1	0				
L 746 L3-14 00 YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	1	1	0	2	0	1	0				
L 747 L3-15 00 YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	0	0	0	0	0	1	0				
L 748 L3-16 00 YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	0	0	0	0	0	1	0				
L 749 L3-17 00 YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	1	2	0	3	1	2	0				
L 750 L3-18 00 YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLETED FLIP-FLOPS	0	0	0	0	0	1	0				
L 751 L3-19 00 YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	0	0	0	0	0	1	0				
L 752 L3-20 00 YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	0	0	0	0	0	1	0				
L 753 L3-21 00 YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	1	1	0	0	1	1	0				
L 754 L3-22 00 YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	0	0	0	0	0	1	0				
L 755 L3-23 00 YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	1	1	0	2	0	1	0				
L 756 L3-24 00 YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	1	1	0	2	0	1	0				
M 757 M1-01 00 YOU WORK WITH SAWTOOTH WAVE GENERATORS	7	7	7	0	8	10	2				
M 758 M1-02 00 YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	3	3	2	0	0	7	0				
M 759 M1-03 00 YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	3	4	2	0	1	7	2				
M 760 M1-04 00 YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	2	2	2	0	1	5	0				TIMING CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

TASK	DY-TSK											
	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 059	SPC 060	SPC 061	SPC 062
M 761 M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	3	4	2	0	0	0	0	8	0	0	0	0
M 762 M1-06 DO YOU USE OR REFER TO RISE TIME	2	2	2	0	0	0	0	5	0	0	0	0
M 763 M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	1	1	2	0	0	0	0	4	0	0	0	0
M 764 M1-08 DO YOU USE OR REFER TO SWEEP TIME	6	7	6	3	3	1C	2	2	0	0	0	0
M 765 M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	7	7	7	0	4	11	2	0	0	0	0	0
M 766 M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	7	6	8	0	4	1C	5	0	0	0	0	0
M 767 M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	4	3	7	0	1	6	2	0	0	0	0	0
M 768 M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	3	2	4	0	1	4	0	0	0	0	0	0
M 769 M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	14	16	12	10	7	23	7	0	0	0	0	0
M 770 M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	15	15	14	10	8	25	7	0	0	0	0	0
M 771 M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS	9	8	9	5	6	14	2	0	0	0	0	0
M 772 M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	13	13	13	8	7	23	7	0	0	0	0	0
M 773 M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	8	8	7	5	4	13	2	0	0	0	0	0
M 774 M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	5	6	2	0	3	8	2	0	0	0	0	0
M 775 M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	4	5	2	0	1	8	2	0	0	0	0	0
M 776 M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	3	4	2	0	3	6	0	0	0	0	0	0
M 777 M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	3	4	2	0	3	6	0	0	0	0	0	0
M 778 M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	8	9	7	6	3	14	5	0	0	0	0	0
M 779 M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS	87	89	88	84	92	89	79	0	0	0	0	0
M 780 M3-02 DO YOU INSPECT MOTORS	74	75	72	58	82	82	67	0	0	0	0	0
M 781 M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	57	61	50	47	65	61	40	0	0	0	0	0
M 782 M3-04 DO YOU OPERATE MOTORS	75	75	74	65	79	84	67	0	0	0	0	0
M 783 M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	68	69	66	50	75	75	60	0	0	0	0	0
M 784 M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	54	60	44	42	67	57	43	0	0	0	0	0
M 785 M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	62	62	63	73	66	68	79	0	0	0	0	0
M 786 M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	59	63	53	44	68	64	57	0	0	0	0	0
M 787 M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	42	46	36	35	38	52	33	0	0	0	0	0
M 788 M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	47	53	37	37	44	57	38	0	0	0	0	0
M 789 M3-11 DO YOU PERFORM ANY TASKS ON ROTORS	45	52	34	34	43	57	36	0	0	0	0	0
M 790 M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	58	62	50	40	64	65	48	0	0	0	0	0
M 791 M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	47	51	39	35	40	54	36	0	0	0	0	0
M 792 M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	49	53	41	37	47	58	36	0	0	0	0	0
M 793 M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	39	42	32	27	40	43	33	0	0	0	0	0

MOTORS AND GENERATORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DIY-TASK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
M 794 M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	16	17	15	10	13	27	10
M 795 M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	20	21	18	15	19	31	10
M 796 M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	21	24	17	13	22	33	14
M 797 M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	28	28	27	19	26	40	12
M 798 M3-20 DO YOU WORK WITH INDUCTION MOTORS	40	41	37	32	38	49	25
M 799 M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	39	40	37	35	32	55	14
M 800 M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	51	52	50	40	53	65	29
M 801 M3-23 DO YOU INSPECT GENERATORS	86	90	80	84	94	86	79
M 802 M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	61	65	52	55	57	59	55
M 803 M3-25 DO YOU OPERATE GENERATORS	62	63	80	76	92	82	76
M 804 M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	64	67	57	44	92	66	43
M 805 M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	62	67	55	63	57	63	60
M 806 M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIPE CONNECTIONS OF GENERATORS	86	87	85	77	90	90	79
M 807 M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	65	70	56	66	64	63	57
N 808 N1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	84	84	84	79	85	83	86
N 809 N1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	28	30	24	24	31	33	19
N 810 N1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	29	30	26	24	35	30	19
N 811 N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	21	22	20	15	19	29	14
N 812 N1-05 DO YOU READ METER SCALES	90	91	88	82	96	98	90
N 813 N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	40	42	36	39	44	43	31
N 814 N1-07 DO YOU ZERO OHMMETERS	68	89	67	82	94	84	90
N 815 N1-08 DO YOU ZERO AMMETERS	36	39	31	29	49	34	36
N 816 N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	48	47	49	52	46	53	48
N 817 N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	42	43	39	39	40	47	43
N 818 N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	11	14	6	11	10	16	5
N 819 N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	9	12	7	10	6	13	2
N 820 N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	8	12	2	8	6	13	2
N 821 N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	5	8	1	3	4	8	0
N 822 N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	10	13	4	10	6	13	5
N 823 N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	10	13	4	10	8	14	5
N 824 N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	6	9	1	5	6	10	2

METER MOVEMENTS

SATURABLE REACTORS AND MAGNETIC AMPLIFIERS

PCT MBMS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task Description	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
N 825 N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS	3	4	1	2	1	7	0
N 826 N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	3	5	1	2	1	8	0
N 827 N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	4	6	0	3	1	8	0
N 828 N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS	3	5	0	0	1	10	0
N 829 N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS	2	4	0	0	1	6	0
N 830 N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS	4	7	0	0	4	10	0
N 831 N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS	4	7	0	2	3	10	0
N 832 N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS	5	7	1	2	4	10	0
N 833 N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS	6	8	3	2	6	11	0
N 834 N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB	3	4	0	2	3	8	0
N 835 N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS	2	3	1	2	3	5	0
N 836 N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)	2	3	0	2	0	6	0
N 837 N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	2	3	1	0	3	6	0
N 838 N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	2	3	0	0	1	6	0
N 839 N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS	3	4	1	2	4	5	0
N 840 N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS	3	4	1	2	3	7	0
N 841 N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT	2	3	1	0	1	6	0
N 842 N3-09 DO YOU DETERMINE WHETHER AN LR OR RC CIRCUIT IS DIFFERENTIATING OR INTEGRATING BASED ON THE TIME CONSTANT AND OUTPUT CONFIGURATION	2	3	1	0	3	6	0
N 843 N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS	2	4	0	0	0	5	0
N 844 N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS	1	2	0	0	0	5	0
C 845 01-01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB	1	0	1	0	0	2	0
O 846 01-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0
O 847 01-03 DO YOU CLEAN SSR TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0
O 848 01-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0
O 849 01-05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	1	0	0	1	0
O 850 01-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	1	0	0	1	0
O 851 01-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0
O 852 01-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	1	0	0	1	0

0 SINGLE SIDEBAND SYSTEMS

0 WAVESHAPING CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK	SPC																			
	051	052	053	054	055	056	057	058	059	060										
0 853 01-09 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 854 01-10 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 855 01-11 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 856 01-12 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 857 01-13 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 858 01-14 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 859 01-15 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 860 01-16 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 861 01-17 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 862 01-18 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 863 01-19 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 864 01-20 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 865 01-21 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 866 01-22 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 867 01-23 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 868 01-24 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 869 01-25 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 870 01-26 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 871 01-27 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 872 01-28 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 873 01-29 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 874 01-30 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 875 02-01 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 876 02-02 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 877 02-03 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 878 02-04 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 879 02-05 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 880 02-06 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 881 02-07 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 882 02-08 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 883 02-09 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 884 02-10 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 885 02-11 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 886 02-12 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 887 02-13 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 888 02-14 00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

0 853 01-09 00 YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS
 0 854 01-10 00 YOU PERFORM TASKS ON SSB BALANCED MODULATORS
 0 855 01-11 00 YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS
 0 856 01-12 00 YOU PERFORM TASKS ON SSB LC FILTERS
 0 857 01-13 00 YOU PERFORM TASKS ON SSB CRYSTAL FILTERS
 0 858 01-14 00 YOU PERFORM TASKS ON SSB MECHANICAL FILTERS
 0 859 01-15 00 YOU PERFORM TASKS ON SSB OSCILLATORS
 0 860 01-16 00 YOU PERFORM TASKS ON SSB MIXERS
 0 861 01-17 00 YOU PERFORM TASKS ON SSB DRIVERS
 0 862 01-18 00 YOU PERFORM TASKS ON SSB POWER AMPLIFIERS
 0 863 01-19 00 YOU PERFORM TASKS ON SSB RF AMPLIFIERS
 0 864 01-20 00 YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS
 0 865 01-21 00 YOU PERFORM TASKS ON SSB IF AMPLIFIERS
 0 866 01-22 00 YOU PERFORM TASKS ON SSB DEMODULATORS
 0 867 01-23 00 YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES
 0 868 01-24 00 YOU USE OR REFER TO SELECTIVE FADING
 0 869 01-25 00 YOU USE OR REFER TO PEAK POWER
 0 870 01-26 00 YOU USE OR REFER TO FREQUENCY STABILITY
 0 871 01-27 00 YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS
 0 872 01-28 00 YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS
 0 873 01-29 00 YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS
 0 874 01-30 00 YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS
 0 875 02-01 00 YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB
 0 876 02-02 00 YOU INSPECT PULSE MODULATION SYSTEMS
 0 877 02-03 00 YOU CLEAN PULSE MODULATION SYSTEMS
 0 878 02-04 00 YOU ALIGN PULSE MODULATION SYSTEMS
 0 879 02-05 00 YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS COMPONENTS
 0 880 02-06 00 YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS
 0 881 02-07 00 YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS COMPONENTS
 0 882 02-08 00 YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS COMPONENTS
 0 883 02-09 00 YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS
 0 884 02-10 00 YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS
 0 885 02-11 00 YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS
 0 886 02-12 00 YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS
 0 887 02-13 00 YOU WORK ON LINE PULSING MODULATION SYSTEMS
 0 888 02-14 00 YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

TASK	DY-TSK									
	051	052	053	054	055	056	057	058	059	060
0 889 02-15 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	0	0	0	0	0	0	0	0	0	0
0 890 02-16 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHUKES AND CHARGING DIODES	0	0	0	0	0	0	0	0	0	0
0 891 02-17 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	0	0	0	0	0	0	0	0	0	0
0 892 02-18 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	0	0	0	0	0	0	0	0	0	0
0 893 02-19 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	0	0	0	0	0	0	0	0	0	0
0 894 02-20 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	0	0	0	0	0	0	0	0	0	0
0 895 02-21 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	0	0	0	0	0	0	0	0	0	0
0 896 02-22 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	0	0	0	0	0	0	0	0	0	0
0 897 02-23 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	0	0	0	0	0	0	0	0	0	0
0 898 02-24 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	0	0	0	0	0	0	0	0	0	0
0 899 02-25 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	0	0	0	0	0	0	0	0	0	0
0 900 02-26 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	0	0	0	0	0	0	0	0	0	0
0 901 02-27 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	0	0	0	0	0	0	0	0	0	0
0 902 02-28 00 YOU PERFORM TASKS ON PULSE MODULATION SYSTEM STAGES DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	0	0	0	0	0	0	0	0	0	0
0 903 02-29 00 YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	0	0	0	0	0	0	0	0	0	0
0 904 02-30 00 YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	0	0	0	0	0	0	0	0	0	0
0 905 02-31 00 YOU USE OR REFER TO PULSE WIDTH (PW)	0	0	0	0	0	0	0	0	0	0
0 906 02-32 00 YOU USE OR REFER TO PULSE SHAPE	0	0	0	0	0	0	0	0	0	0
0 907 02-33 00 YOU USE OR REFER TO PEAK POWER	0	0	0	0	0	0	0	0	0	0
0 908 02-34 00 YOU USE OR REFER TO AVERAGE POWER	0	0	0	0	0	0	0	0	0	0
0 909 02-35 00 YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	0	0	0	0	0	0	0	0	0	0
0 910 02-36 00 YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	0	0	0	0	0	0	0	0	0	0
0 911 02-37 00 YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	0	0	0	0	0	0	0	0	0	0
0 912 02-38 00 YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0	0	0	0
0 913 02-39 00 YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0	0	0	0
0 914 03-01 00 YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	1	0	2	0	0	0	1	0	0	0
0 915 03-02 00 YOU INSPECT ANTENNAS	0	0	1	0	0	0	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

04-TSK	SFC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
	051	052	053	054	055	056	057												
0 945 03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 946 03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 947 03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 948 03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 949 03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 950 03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 951 03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0 952 03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 953 PI-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS BETWEEN RECEIVERS AND ANTENNAS, TELEPHONE LEADS, AS WELL AS HIGH VOLTAGE POWER LINES, ETC. DO NOT CONSIDER WAVEGUIDES AS TRANSMISSION LINES)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
P 954 PI-02 DO YOU REFER TO OR USE COPPER LOSS OR IZR LOSS IN TRANSMISSION LINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 955 PI-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 956 PI-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 957 PI-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 958 PI-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 959 PI-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 960 PI-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	1	1	0	0	1	1	0	0	1	1	0	0	0	0	0	0	0	0	0
P 961 PI-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 962 PI-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	1	0	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0
F 563 PI-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1
P 964 PI-12 DO YOU TROUBLESHOOT TRANSMISSION LINES	1	0	1	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0
P 965 PI-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION (OPEN, SHORTED, CAPACITIVE, INDUCTIVE)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 966 PI-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 967 PI-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 968 PI-16 DO YOU MEASURE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 969 PI-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P 970 PI-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH MATCHING TRANSFORMERS TO MATCH TRANSMISSION LINES TO LOADS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TRANSMISSION LINES

PCT MBRS RESPONDING *YES* BY SELECTED GDBS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

NY-TSK	SFC 051	SFC 052	SFC 053	SFC 054	SFC 055	SFC 056	SFC 057
P 971 P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	0	0	1	0	0	0	0
P 972 P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	0	0	0	0	0	0	0
P 973 P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	0	0
P 974 P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES	0	0	0	0	0	0	0
P 975 P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES	0	0	0	0	0	0	0
P 976 P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES	0	0	0	0	0	0	0
P 977 P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	0	0	0	0	0	0	0
P 978 P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	0	0	0	0	0	0	0
P 979 P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	0	0	0	0	0	0	0
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	0	0	0	0	0	0	0
P 981 P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	0	0	0	0	0	0	0
P 982 P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	0	0	0	0	0	0	0
P 983 P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	0	0	0	0	0	0	0
P 984 P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	0	0	0	0	0	0	0
P 985 P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0	0
P 986 P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0	0
P 987 P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	0	0	1	0	0	0	0
P 988 P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0	0
P 989 P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0	0
P 990 P2-07 DO YOU PUDGE WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0	0
P 991 P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0	0
P 992 P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	0	0	0	0	0	0	0
P 993 P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	0	0	0	0	0	0	0
P 994 P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	0	0	0	0	0	0	0
P 995 P2-12 DO YOU REMOVE OR INSTALL E BENDS	0	0	0	0	0	0	0
P 996 P2-13 DO YOU REMOVE OR INSTALL H BENDS	0	0	0	0	0	0	0
P 997 P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS	0	0	0	0	0	0	0
P 998 P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS	0	0	0	0	0	0	0
P 999 P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	0	0	0	0	0	0	0
P1000 P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	0	0	0	0	0	0	0
P1001 P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS	0	0	0	0	0	0	0
P1002 P2-19 DO YOU USE OR REFER TO >A> WALL OF WAVEGUIDE	0	0	0	0	0	0	0

WAVEGUIDES AND
CAVITY RESONATORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
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	1	0	1	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

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
P1088 P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX ALYSTRON OUTPUT LEADS	0	0	0	0	0	1	0
P1089 P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	0	0	0	0	0	1	0
P1090 P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	0	0	0	0	0	1	0
P1091 P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	0	0	0	0	0	1	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	1	1	0	0	0	2	0
P1094 P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	1	1	0	0	0	2	0
P1096 P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	0	0	0	0	0	1	0
P1097 P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	0	0	0	0	0	1	0
P1098 P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	0	0	0	0	0	1	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 VARACTOR DIODES	0	0	0	0	0	1	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	1	0
P1103 P3-70 DO YOU PERFORM TASKS ON ANODES	0	0	0	0	0	1	0
P1104 P3-71 DO YOU PERFORM TASKS ON ANODE COOLING FINS	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	1	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	1	0
P1109 P3-76 DO YOU PERFORM TASKS ON MAGNETS	0	0	0	0	0	1	0
Q1110 Q1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	1	1	2	2	2	1	2
Q1111 Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	1	1	2	2	2	0	4
Q1112 Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	1	1	2	2	2	0	4
Q1113 Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	1	1	2	2	2	1	2
Q1114 Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	1	0	2	0	0	0	2
Q1115 Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	3	3	2	2	2	1	6

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

04-TSK

SPC SPC SPC SPC SPC SPC SPC SPC
051 052 053 054 055 056 057

Q1116 Q1-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES HAVE PASSED

1 1 1 1 0 1 4 0

Q1117 Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB

1 1 1 2 0 1 1 2

Q1118 Q2-02 DO YOU USE OR REFER TO DELAY LINES

1 1 1 2 0 1 2

Q1119 Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES

1 1 1 2 0 1 2

Q1120 Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS

1 1 1 2 0 0 2

Q1121 Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES

1 1 1 2 0 1 2

Q1122 Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR MEMORY SYSTEMS

1 1 1 2 0 1 2

Q1123 Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS

0 0 0 0 0 0 0

Q1124 Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS

0 0 0 0 0 0 0

Q1125 Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES

0 0 0 0 0 0 0

Q1126 Q3-01 IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D) CONVERTERS, OR BINARY-TO-DECIMAL READOUT CONVERTERS

0 0 0 0 0 0 0

Q1127 Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES

0 0 0 0 0 0 0

Q1128 Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS IS DETERMINED BY ADDING THE DENOMINATORS OF THE RESISTORS

0 0 0 0 0 0 0

Q1129 Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS

0 0 0 0 0 0 0

Q1130 Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

0 0 0 0 0 0 0

Q1131 Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

0 0 0 0 0 0 0

Q1132 Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

0 0 0 0 0 0 0

Q1133 Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

0 0 0 0 0 0 0

Q1134 Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

0 0 0 0 0 0 0

Q1135 Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS

0 0 0 0 0 0 0

Q1136 Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS

0 0 0 0 0 0 0

Q1137 Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS

0 0 0 0 0 0 0

Q1138 Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS

0 0 0 0 0 0 0

Q1139 Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS

0 0 0 0 0 0 0

DIGITAL TO
ANALOG CONVERTERS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

NY-TSK

NY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
R1140 R1-01 DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB	0	0	0	0	0	0	0
R1141 R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	0	0	0	0	0	0	0
R1142 R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0
R1143 R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	0	0	0	0	0	0	0
R1144 R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	20	26	8	15	24	18	5
R1145 R3-02 DO YOU FABRICATE COAXIAL CABLES	8	8	7	6	11	7	7
S1146 S1-01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	5	6	5	5	5	8	5
S1147 S1-02 DO YOU PERFORM ANY TASKS ON MIXIE LIGHTS OR MIXIE LIGHT DECODER SYSTEMS	1	0	1	0	0	2	0
S1148 S1-03 DO YOU ANALYZE MIXIE LIGHT DECODER SYSTEMS USING POOLEAN ALGEBRA	0	0	1	0	0	1	0
S1149 S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	2	3	1	2	1	5	0
S1150 S3-01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	1	0	2	0	0	2	2
S1151 S3-02 DO YOU MEASURE EXCITATION FREQUENCIES	1	0	2	0	0	2	2
S1152 S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	1	0	2	0	0	2	2
S1153 S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES	1	0	2	0	0	2	2
S1154 S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	1	0	3	2	1	2	2
S1155 S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	0	0	1	0
S1156 S3-07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	1	0	2	0	0	2	2
S1157 S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	1	0	1	0	0	2	0
S1158 S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	1	0	1	0	0	2	0
T1159 T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	0	0	1	0	0	0	2
T1160 T1-02 DO YOU INSPECT INFRARED SYSTEMS	0	0	1	0	0	0	2
T1161 T1-03 DO YOU CLEAN INFRARED SYSTEMS	0	0	1	0	0	0	2
T1162 T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	0	0	0	0	0	0	0
T1163 T1-05 DO YOU OPERATE INFRARED SYSTEMS	0	0	0	0	0	0	0
T1164 T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	0	0	1	0	0	0	2
T1165 T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	1	0	0	0	2
T1166 T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	0	0	1	0	0	0	2
T1167 T1-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	1	0	0	0	2
T1168 T1-10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	0	0	1	0	0	0	2

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DI-TSM	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057
11169 11-11 DO YOU USE OR REFER TO FAR REGION	0	0	0	0	0	0	0
11170 11-12 DO YOU USE OR REFER TO INTERMEDIATE REGION	0	0	0	0	0	0	0
11171 11-13 DO YOU USE OR REFER TO NEAR REGION	0	0	0	0	0	0	0
11172 11-14 DO YOU USE OR REFER TO MICRON	0	0	0	0	0	0	0
11173 11-15 DO YOU USE OR REFER TO GRAY BODIES	0	0	0	0	0	0	0
11174 11-16 DO YOU USE OR REFER TO BLACK BODIES	0	0	0	0	0	0	0
11175 11-17 DO YOU USE OR REFER TO ABSORPTION	0	0	0	0	0	0	0
11176 11-18 DO YOU USE OR REFER TO SCATTERING	0	0	0	0	0	0	0
11177 11-19 DO YOU USE OR REFER TO ABSOLUTE ZERO	0	0	0	0	0	0	0
11178 11-20 DO YOU PERFORM TASKS ON BLITZ	0	0	0	0	0	0	0
11179 11-21 DO YOU PERFORM TASKS ON TARGET BUTTONS	0	0	0	0	0	0	0
11180 11-22 DO YOU PERFORM TASKS ON EJECTOR LENSES	0	0	0	0	0	0	0
11181 11-23 DO YOU PERFORM TASKS ON OCULAR LENSES	0	0	0	0	0	0	0
11182 11-24 DO YOU PERFORM TASKS ON CORRECTION LENSES	0	0	0	0	0	0	0
11183 11-25 DO YOU PERFORM TASKS ON FILTERS	0	0	0	0	0	0	0
11184 11-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	0	0	0	0	0	0	0
11185 11-27 DO YOU PERFORM TASKS ON PLANE MIRRORS	0	0	0	0	0	0	0
11186 12-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH LASERS	0	0	0	0	0	0	0
11187 12-02 DO YOU INSPECT LASER SYSTEMS	0	0	0	0	0	0	0
11188 12-03 DO YOU CLEAN LASER SYSTEMS	0	0	1	2	0	0	0
11189 12-04 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0
11190 12-05 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	0	0	0
11191 12-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	0	0	1	2	0	0	0
11192 12-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0	0
11193 12-08 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0
11194 12-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	0	0	0
11195 12-10 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	0	0	0
11196 12-11 DO YOU USE OR REFER TO ANGSTROMS (A)	0	0	1	2	0	0	0
11197 12-12 DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	0	0	0	0	0	0	0
11198 12-13 DO YOU USE OR REFER TO GROUND STATE	0	0	0	0	0	0	0
11199 12-14 DO YOU USE OR REFER TO EXCITED STATE	0	0	0	0	0	0	0
11200 12-15 DO YOU USE OR REFER TO PACKET OF RADIATION	0	0	0	0	0	0	0
11201 12-16 DO YOU USE OR REFER TO PHOTONS	0	0	0	0	0	0	0
11202 12-17 DO YOU USE OR REFER TO SPONTANEOUS EMISSION	0	0	0	0	0	0	0
11203 12-18 DO YOU USE OR REFER TO STIMULATED EMISSION	0	0	0	0	0	0	0
11204 12-19 DO YOU USE OR REFER TO COHERENCE OR INCORHERENCE	0	0	0	0	0	0	0
11205 12-20 DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0	0	0	0	0
11206 12-21 DO YOU USE OR REFER TO MONOCHROMATIC	0	0	0	0	0	0	0
11207 12-22 DO YOU WORK WITH ACTIVE MATERIALS	0	0	0	0	0	0	0
11208 12-23 DO YOU WORK WITH PUMPING SOURCES	0	0	0	0	0	0	0
11209 12-24 DO YOU WORK WITH FULL SILVERED (100% REFLECTIVE) MIRRORS	0	0	0	0	0	0	0

LASERS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

SPC SPC SPC SPC SPC SPC SPC SPC SPC SPC
051 052 053 054 055 056 057

CV-TSM

U1249 U1-16 DO YOU PERFORM TASKS ON INPUT DEVICES 0 0 0 0 0 0 1 0
 U1250 U1-17 DO YOU PERFORM TASKS ON STORAGE DEVICES 0 0 0 0 0 0 1 0
 U1251 U1-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS 0 0 0 0 0 0 1 0
 U1252 U1-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS 0 0 0 0 0 0 0 0
 U1253 U1-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES 0 0 0 0 0 0 0 0
 U1254 U1-21 DO YOU PERFORM TASKS ON POWER SUPPLIES 0 0 0 0 0 0 1 0

U1255 U2-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION 1 1 0 2 0 0 1 0

U1256 U2-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS 1 1 0 2 0 0 1 0

U1257 U2-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS 0 0 0 0 0 0 1 0

U1258 U2-04 DUMMY TASK TO IDENTIFY INCUMBENTS WHO PERFORMED NO TASKS 0 0 0 1 0 0 0 2

DB AND POWER RATIOS

AD-A047 869

AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9
AIRCRAFT ELECTRICAL SYSTEMS SPECIALIST CAREER LADDER AFSC 42350--ETC(U)
OCT 77 T J O'CONNOR, W F KASPER

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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 Aircraft Electrical Systems Specialist (AFSC 42350). The report gives a detailed listing of the technical tasks and knowledge needed to perform the jobs within the specialty or career ladder.		

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This specialty has the following functions:

Troubleshoots, inspects, installs, repairs, modifies, and overhauls aircraft electrical systems and associated electronic components, subsystems, and test equipment. Maintains inspection and maintenance records. Supervises aircraft electrical systems maintenance personnel.



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