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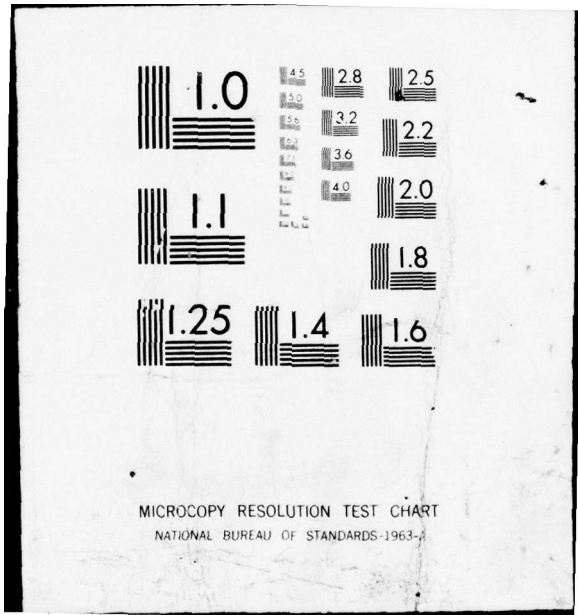
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9 OCCUPATIONAL SURVEY REPORT
ELECTRONIC PRINCIPLES

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ANALOG FLIGHT SIMULATOR SPECIALIST
AFSC 34153

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PREFACE

This report presents a summary of the results of a detailed Air Force Electronic Principles Survey of the Analog Flight Simulator Specialist, AFSC 34153.

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 Mr. James B. Keeth. All are members of the Occupational Survey Branch, USAF Occupational Measurement Center, Lackland AFB, Texas.

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

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

This report has been reviewed and is approved.

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

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

ELECTRONIC PRINCIPLES OCCUPATIONAL SURVEY REPORT
ANALOG FLIGHT SIMULATOR SPECIALIST
AFSC 34153

INTRODUCTION

→ This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Analog Flight Simulator Specialists (AFSC 34153). The data for this report were collected during the period April through June 1977.

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

↑
DEVELOPMENT OF THE ELECTRONIC PRINCIPLES INVENTORY (EPI)

The EPI was developed by personnel from the Occupational Survey Branch who were well qualified in theoretical physics and electronics, as well as in task analysis and survey development. Over 300 maintenance personnel from SAC, TAC, ADC, MAC, and AFCS participated in the development of the inventory. Representing the five ATC training centers, electronics experts who averaged 12 years of maintenance experience and four years of electronic principles instruction experience spent several weeks refining the EPI. In addition, personnel at the Electrical Engineering Department of the USAF Academy and the Air Force Human Resources Laboratory were consulted during the development of the inventory.

The final version of the EPI used in this survey contained 1,257 items in 62 subject matter areas covering all electronic principles training given at the five ATC technical training centers. Table 1 lists the 62 subject areas.

ADMINISTRATION

The Electronic Principles Inventory was administered by mail to AFSC 34153 airmen worldwide. Responses from 202 individuals represented 60 percent of the total of all AFSC 34153 personnel. Table 2 shows the percentage distribution by major command of the survey incumbents.

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TABLE 1
EPI SUBJECT AREAS

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

TABLE 1 (CONTINUED)

EPI SUBJECT AREAS

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

TABLE 2
COMMAND REPRESENTATION OF SURVEY SAMPLE

<u>COMMAND</u>	34153	
	<u>PERCENT ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
SAC	58	59
MAC	14	12
TAC	8	11
ADC	8	8
USAFE	5	2
ATC	3	1
OTHERS	4	7
TOTAL	100	100

Total Assigned - 335
 Total Sampled - 202
 Percent Sampled - 60%

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 eight selected groups identified for this report. Pages 2-44 show the percentage of the incumbents responding to the EPI items. The computer program results display the percent members answering "yes" to the subject area questions. The reader can locate a specific subject area by referring to the Appendix page number as listed in Table 1. For example, the Transformers area results are given on page 6 of the GPSUM. The percentage of survey respondents indicating use of specific electronic principles ranged from high in areas such as Resistance (pp. 2-3), Soldering (pp. 11-12), and Motors (pp. 28-29) to low in areas such as AM and FM Systems (pp. 23-25), SSB Systems (pp. 30-31), Antennas (pp. 32-34), Transmission Lines (pp. 34-35), Waveguides or Cavity Resonators (pp. 35-37), and Klystrons, Traveling Wave Tubes (TWT), Parametric Amplifiers, or Magnetrons (pp. 37-39). Additional AFSC 34153 data can be obtained upon request to the Chief, Occupational Survey Branch (OMY).

APPENDIX

PCT MBR'S RESPONDING 'YES' BY SELECTED GRPS

GPSUM3 PAGE 1

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS
IN THE 341X3 CAREER FIELD.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY - SPC051	ALL AIRMEN DAFSC 34153	CONTAINING	202 MEMBERS.
GROUP IDENTITY - SPC052	ALL AIRMEN DAFSC 34153 STATIONED IN CONUS	CONTAINING	185 MEMBERS.
GROUP IDENTITY - SPC053	ALL AIRMEN DAFSC 34153 STATIONED OVERSEAS	CONTAINING	18 MEMBERS.
GROUP IDENTITY - SPC054	ALL AIRMEN DAFSC 34153 ASSIGNED TO ADC	CONTAINING	17 MEMBERS.
GROUP IDENTITY - SPC055	ALL AMN DAFSC 34153 ASSIGNED TO MAC	CONTAINING	25 MEMBERS.
GROUP IDENTITY - SPC056	ALL AMN DAFSC 34153 ASSIGNED TO SAC	CONTAINING	119 MEMBERS.
GROUP IDENTITY - SPC057	ALL AMN DAFSC 34153 ASSIGNED TO TAC	CONTAINING	23 MEMBERS.
GROUP IDENTITY - SPC058	ALL AMN DAFSC 34153 ASSIGNED TO USAF	CONTAINING	5 MEMBERS.

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DT-TSK	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
A 34 A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE TOLERANCE.	95	95	100	100	68	96	91	100	100
A 35 A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE FAILURE RATE.	28	28	22	35	20	25	43	0	0
A 36 A3-13 DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO ACHIEVE A SPECIFIC VOLTAGE.	26	24	39	35	4	26	30	60	60
A 37 A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT BATTERIES, FUSES, CONDUCTORS, LAMPS, OR SWITCHES	99	99	100	94	100	99	100	100	100
A 38 A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	81	80	83	82	56	85	78	80	80
A 39 A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	74	74	78	71	48	78	78	80	80
A 40 A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	82	81	83	82	68	84	78	80	80
A 41 A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	50	49	67	59	28	52	43	60	60
A 42 A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	80	79	83	82	56	85	70	80	80
A 43 A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	73	73	78	76	48	77	70	80	80
A 44 A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	79	79	83	82	68	82	70	80	80
A 45 A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	71	71	78	71	44	76	70	80	80
A 46 A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	51	50	67	59	28	54	43	60	60
A 47 A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	79	78	83	76	60	85	65	80	80
A 48 A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	71	71	78	65	44	77	61	80	80
A 49 A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	76	76	78	76	68	79	61	80	80
A 50 A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	69	68	78	59	44	75	61	80	80
A 51 A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	50	49	67	59	28	52	39	60	60
B 52 B1-01 DO YOU MEASURE RESISTANCE.	100	100	100	100	100	100	100	100	100
B 53 B1-02 DO YOU REPAIR OHMMETERS.	8	7	17	6	0	7	17	0	0
B 54 B1-03 DO YOU MEASURE VOLTAGE.	99	99	100	100	100	98	100	100	100
B 55 B1-04 DO YOU REPAIR VOLTMETERS.	7	6	11	0	0	6	17	0	0
B 56 B1-05 DO YOU REPAIR AMMETERS.	6	6	11	0	0	8	4	0	0
B 57 B1-06 DO YOU MEASURE CURRENT.	84	84	83	88	68	84	96	100	100
B 58 B1-07 DO YOU USE MULTIMETERS.	99	99	100	100	100	98	100	100	100
B 59 B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	9	9	6	18	8	8	0	0	0
B 60 B1-09 DO YOU READ SCHEMATICS.	100	100	100	100	100	100	100	100	100

MULTIMETER USES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
B 61 82-01 DO YOU USE OR REFER TO THE TERM EFFECTIVE VOLTAGE (RMS)?	84	85	78	94	64	90	74	80
B 62 82-02 DO YOU USE OR REFER TO THE TERM PEAK TO PEAK VOLTAGE.	86	87	83	94	64	92	74	100
B 63 82-03 DO YOU USE OR REFER TO THE TERM AVERAGE VOLTAGE (DC).	74	75	78	94	36	79	74	100
B 64 82-04 DO YOU USE OR REFER TO THE TERM WAVE LENGTH.	56	57	44	65	40	58	57	60
B 65 82-05 DO YOU USE OR REFER TO THE TERM FREQUENCY.	91	91	83	88	80	94	87	100
B 66 82-06 DO YOU USE OR REFER TO THE TERM INSTANTANEOUS VALUE.	33	35	28	35	20	33	39	40
B 67 83-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.	70	70	61	47	68	74	74	80
B 68 83-02 DO YOU INSPECT INDUCTORS.	68	68	61	41	60	74	70	100
B 69 83-03 DO YOU CLEAN INDUCTORS.	45	45	39	35	28	50	43	80
B 70 83-04 DO YOU ADJUST INDUCTORS.	37	36	39	24	20	39	57	60
B 71 83-05 DO YOU REMOVE OR REPLACE INDUCTORS.	69	68	67	47	68	72	70	100
B 72 83-06 DO YOU USE OR REFER TO INDUCTANCE.	58	57	61	47	44	63	52	100
B 73 83-07 DO YOU USE OR REFER TO HENRIES.	43	42	44	47	40	42	43	60
B 74 83-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.	49	48	44	47	48	48	52	60
B 75 83-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.	13	14	6	12	16	11	26	0
B 76 83-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.	18	18	22	24	20	13	35	40
B 77 83-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS.	17	17	17	12	16	13	35	40
B 78 83-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE NUMBER OF TURNS OF THE COIL.	16	17	17	18	8	17	17	20
B 79 83-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS SECTIONAL AREA OF THE CORE.	14	15	6	18	4	16	13	0
B 80 83-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO ITS LENGTH.	15	16	11	24	4	16	13	0
B 81 83-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE PERMEABILITY OF THE CORE MATERIAL.	15	16	11	18	8	15	17	0
B 82 83-16 DO YOU CALCULATE INDUCTANCE FOR PARTICULAR INDUCTORS USING FORMULAS.	17	16	33	18	4	17	22	40
B 83 83-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTANCE IN SERIES.	25	25	33	18	16	25	39	40
B 84 83-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	25	24	33	18	16	24	39	40
B 85 83-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	23	23	28	18	16	24	35	40
B 86 83-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.	40	39	39	29	24	44	43	60
B 87 83-21 DO YOU CALCULATE INDUCTIVE REACTANCE.	27	27	22	29	20	27	35	40
B 88 83-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.	26	25	33	29	16	27	30	60
B 89 83-23 DO YOU WORK WITH POWER INDUCTORS.	49	51	28	41	52	50	57	60
B 90 83-24 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	42	43	28	35	28	44	43	40
B 91 83-25 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	21	22	11	35	28	16	22	20

ALTERNATING CURRENT

INDUCTORS AND INDUCTIVE REACTANCE

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task Description	95	99	94	94	94	88	97	91	80
C 92 CI-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS IN YOUR PRESENT JOB.	95	99	94	94	94	88	97	91	80
C 93 CI-02 DO YOU INSPECT CAPACITORS.	59	59	56	53	36	65	57	60	60
C 94 CI-03 DO YOU CLEAN CAPACITORS.	40	41	33	65	44	31	61	60	60
C 95 CI-04 DC YOU ADJUST CAPACITORS.	89	90	83	88	84	89	100	100	100
C 96 CI-05 DO YOU TEST CAPACITORS.	87	86	89	76	80	88	91	100	100
C 97 CI-06 DO YOU DISCHARGE CAPACITORS.	100	99	100	100	100	99	100	100	100
C 98 CI-07 DO YOU REMOVE OR REPLACE CAPACITORS.	20	21	11	18	12	24	13	0	0
C 99 CI-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	4	4	0	6	4	3	4	0	0
C 100 CI-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	87	86	94	88	80	87	87	100	100
C 101 CI-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	93	92	100	94	84	93	91	100	100
C 102 CI-11 DO YOU USE OR REFER TO CAPACITANCE.	23	24	22	47	32	18	17	20	20
C 103 CI-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT	79	79	78	71	76	79	83	80	80
C 104 CI-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS	47	47	44	53	44	47	43	40	40
C 105 CI-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE	48	49	44	65	56	45	48	60	60
C 106 CI-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES	94	94	100	100	96	93	87	100	100
C 107 CI-16 DO YOU WORK WITH CAPACITORS IN DC CIRCUITS	94	95	89	94	84	98	87	100	100
C 108 CI-17 DO YOU WORK WITH CAPACITORS IN AC CIRCUITS	88	89	78	82	84	91	83	100	100
C 109 CI-18 DO YOU WORK WITH CAPACITORS IN CIRCUITS WITH BOTH DC AND AC	20	18	28	12	16	22	17	20	20
C 110 CI-19 DO YOU WORK WITH CAPACITORS IN DON'T REMEMBER WHICH CIRCUITS	24	23	33	53	16	16	30	40	40
C 111 CI-20 DO YOU CALCULATE CAPACITANCE FOR PARTICULAR CAPACITORS USING FORMULAS	17	18	17	47	0	16	17	0	0
C 112 CI-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT	20	21	17	41	16	19	13	0	0
C 113 CI-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS	42	41	50	59	24	40	43	60	60
C 114 CI-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES	41	41	50	59	20	40	43	60	60
C 115 CI-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL	39	36	50	53	20	38	39	60	60
C 116 CI-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS	50	48	67	47	28	50	48	80	80
C 117 CI-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO	48	48	44	59	24	50	43	60	60
C 118 CI-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT FLACS VOLTAGE IN AC CAPACITOR CIRCUITS	33	32	44	47	12	33	26	60	60
C 119 CI-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY	32	32	33	53	24	30	30	40	40
C 120 CI-29 DO YOU CALCULATE CAPACITIVE REACTANCE									

CAPACITORS AND CAPACITIVE REACTANCE

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-15K

	SPC	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	058											
C 121 C1-30 DO YOU WORK WITH ROTOR-STATOR (VARIABLE) CAPACITORS	30	29	33	35	24	23	65	80											
C 122 C1-31 DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS	31	30	33	41	32	24	61	80											
C 123 C1-32 DO YOU WORK WITH ELECTROLYTIC (FIXED) CAPACITORS	95	95	94	94	96	94	100	100											
C 124 C1-33 DO YOU WORK WITH PAPER (FIXED) CAPACITORS	86	86	89	88	72	87	83	100											
C 125 C1-34 DO YOU WORK WITH MICA (FIXED) CAPACITORS	86	85	94	94	92	83	83	100											
C 126 C1-35 DO YOU WORK WITH CERAMIC (FIXED) CAPACITORS	85	85	89	71	92	85	83	100											
C 127 C1-36 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS	21	22	22	12	16	23	30	20											
C 128 C2-01 DO YOU WORK WITH TRANSFORMERS IN YOUR PRESENT JOB	86	90	72	88	68	94	87	60											
C 129 C2-02 DO YOU INSPECT TRANSFORMERS	91	92	78	94	84	94	83	80											
C 130 C2-03 DO YOU CLEAN TRANSFORMERS	63	62	72	71	32	70	43	80											
C 131 C2-04 DO YOU ADJUST TRANSFORMERS	41	42	33	59	32	42	39	60											
C 132 C2-05 DO YOU TROUBLESHOOT TRANSFORMERS	83	84	67	76	64	91	74	60											
C 133 C2-06 DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS	93	94	89	88	76	98	87	80											
C 134 C2-07 DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING	6	6	11	12	0	6	4	0											
C 135 C2-08 DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (M)	0	9	0	0	4	12	0	0											
C 136 C2-09 DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M	11	12	0	0	4	14	13	0											
C 137 C2-10 DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS	21	22	22	29	8	24	9	20											
C 138 C2-11 DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS	30	29	28	29	12	32	30	20											
C 139 C2-12 DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS	13	14	6	0	4	17	17	0											
C 140 C2-13 DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS	10	11	0	0	4	14	9	0											
C 141 C2-14 DO YOU WORK WITH AUTOTRANSFORMERS	50	51	33	53	44	50	70	20											
C 142 C2-15 DO YOU WORK WITH POWER TRANSFORMERS	86	86	83	88	72	88	83	80											
C 143 C2-16 DO YOU WORK WITH AUDIO TRANSFORMERS	64	64	61	47	72	61	76	60											
C 144 C2-17 DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS	25	26	22	41	16	25	22	40											
C 145 C2-18 DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMERS	24	25	17	35	20	28	17	0											
C 146 C2-19 DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE	88	88	83	76	68	92	87	80											
C 147 C2-20 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE	83	83	83	76	68	85	87	80											
C 148 C2-21 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES	70	70	67	53	40	78	70	60											
C 149 C2-22 DO YOU MEASURE RESISTANCE OF TRANSFORMER WINDINGS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	43	43	44	65	24	41	48	40											
C 150 C2-23 DO YOU MEASURE OUTPUT VOLTAGE OF TRANSFORMERS TO DETERMINE WHETHER A TRANSFORMER HAS A STEP-UP OR STEP-DOWN TURNS RATIO	57	57	67	53	36	60	57	60											
C 151 C2-24 DO YOU REFER TO BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS	93	93	89	88	80	96	91	80											

TRANSFORMERS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
	051	054	053	054	055	056	057	058	059	060	061	062	063	064	065	066	067	068	069
C 152 C2-25 DO YOU REFER TO MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS	79	79	83	71	68	82	83	80											
C 153 C2-26 DO YOU REFER TO MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	85	85	89	82	76	87	83	80											
C 154 C2-27 DO YOU REFER TO CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	89	89	89	88	74	91	87	80											
C 155 C2-28 DO YOU REFER TO AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	52	53	50	59	36	54	57	40											
C 156 C2-29 DO YOU REFER TO IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	61	62	56	71	44	63	65	40											
C 157 C2-30 DO YOU REFER TO COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS	73	74	67	88	48	75	78	60											
C 158 C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS	63	64	56	59	36	73	57	60											
C 159 C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH	29	29	33	35	16	28	34	20											
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	37	35	61	41	16	36	35	60											
C 161 C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS	65	65	72	53	60	69	52	80											
C 162 C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS	34	34	44	35	16	36	26	40											
C 163 C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS	23	23	33	29	8	24	17	40											
C 164 C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH THREE PHASE TRANSFORMERS	52	52	39	24	28	62	48	60											
C 165 C2-38 DO YOU INSPECT THREE PHASE TRANSFORMERS	41	41	33	18	12	52	39	60											
C 166 C2-39 DO YOU CLEAN OR LUBRICATE THREE PHASE TRANSFORMERS	27	26	22	0	20	32	30	40											
C 167 C2-40 DO YOU ADJUST THREE PHASE TRANSFORMERS	16	17	11	0	16	15	35	40											
C 168 C2-41 DO YOU TROUBLESHOOT THREE PHASE TRANSFORMERS	38	38	22	12	24	45	39	40											
C 169 C2-42 DO YOU REMOVE OR REPLACE COMPLETE THREE PHASE TRANSFORMERS	40	39	28	6	28	47	43	40											
C 170 C2-43 DO YOU REMOVE OR REPLACE THREE PHASE TRANSFORMER PARTS SUCH AS WINDINGS	7	6	11	0	0	8	9	20											
C 171 C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS	44	43	39	35	48	40	48	40											
C 172 C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS	44	44	44	41	32	45	57	40											
C 173 C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS	18	18	17	29	20	14	17	0											
C 174 C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS	20	21	22	29	16	18	17	20											
C 175 C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS	20	20	22	29	16	18	17	20											
C 176 C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM	25	24	28	29	20	20	39	20											
C 177 C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX	35	36	28	41	28	34	39	20											
C 178 C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM	8	9	11	6	0	9	9	0											

MAGNETISM

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task	SPC	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	058	059	060	061	062	063	064	065	066	067	068	069
C 179 C3-09 DO YOU USE OR REFER TO DOMAIN THEORY OF MAGNETISM	9	10	6	12	4	9													
C 180 C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION	34	35	22	35	28	34													
C 181 C3-11 DO YOU USE OR REFER TO FLUX DENSITY	21	22	17	29	16	20													
C 182 C3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT FOR MAGNETIC POLES, LIKE POLES REPEL AND UNLIKE POLES ATTRACT	48	49	33	41	32	51													
C 183 C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES	23	23	22	29	12	22													
C 184 C3-14 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL	22	22	22	24	12	20													
D 185 D1-01 DO YOU WORK WITH RC, LR, RCL CIRCUITS IN YOUR PRESENT JOB	68	70	50	71	72	71													
D 186 D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS	33	33	28	35	36	30													
D 187 D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS	26	26	22	24	32	24													
D 188 D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS	47	46	50	59	56	41													
D 189 D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS	46	45	50	59	52	41													
D 190 D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS	34	34	28	29	44	29													
D 191 D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS	36	36	39	41	32	36													
D 192 D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS	25	24	33	24	24	24													
D 193 D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS	20	20	28	24	8	21													
D 194 D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS	21	21	33	24	8	21													
D 195 D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS	18	18	33	24	8	18													
D 196 D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS	21	21	28	24	8	24													
D 197 D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS	40	39	39	53	32	39													
D 198 D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS	26	26	28	29	28	24													
D 199 D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS	29	29	28	29	24	29													
D 200 D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS	36	35	39	47	32	34													
D 201 D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS	13	13	17	18	4	13													
D 202 D1-18 DO YOU USE OR REFER TO BANDPASS REGION WHEN WORKING WITH RCL CIRCUITS	17	17	22	18	12	18													
D 203 D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS	13	14	11	24	4	13													

RCL CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
	051	052	053	054	055	056	057	058	059	060	061	062	063
D 204 DI-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS	48	48	44	47	48	50	39	60					
D 205 DI-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS	30	29	33	47	16	27	35	40					
D 206 DI-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS	19	20	22	41	12	18	17	20					
D 207 DI-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS	20	21	28	41	8	18	22	40					
D 208 DI-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS	14	14	22	24	4	14	13	40					
D 209 DI-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS	22	22	28	35	16	19	26	40					
D 210 DI-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS	13	13	17	24	4	11	17	20					
D 211 DI-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS	11	11	17	18	0	12	9	20					
D 212 DI-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS	14	15	17	18	12	15	9	20					
D 213 DI-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS	11	11	17	12	0	13	9	20					
D 214 DI-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS	23	24	28	41	16	21	26	40					
D 215 DI-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS	12	12	17	12	0	13	17	20					
D 216 DI-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD	14	14	17	18	0	14	17	20					
D 217 DI-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW	20	20	28	35	12	17	26	40					
D 218 DI-34 DO YOU CHECK CAPACITORS USING OHMMETERS	67	69	44	76	56	70	70	60					
D 219 DI-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION	53	54	44	59	36	57	52	40					
D 220 DI-36 DO YOU CHECK INDUCTORS USING OHMMETERS	59	61	44	71	56	62	52	60					
D 221 DI-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION	43	43	44	59	28	47	30	40					
D 222 DI-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT $\theta = \theta_{\text{META}} = \theta_{\text{PF}} = 1$, AND $\theta_{\text{PA}} = \theta_{\text{PT}}$ FOR RESONANT CIRCUITS	6	7	6	6	4	8	4	0					
D 223 DI-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS	15	15	17	24	16	13	26	20					
D 224 DI-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE RESONANT FREQUENCY FOR SERIES RCL CIRCUITS	22	22	28	41	16	19	30	40					
D 225 DI-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT RESONANT FREQUENCY FOR PARALLEL RCL CIRCUITS	18	18	33	29	12	17	17	40					
D 226 DI-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE	23	24	28	41	8	24	17	40					
D 227 DI-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q	10	10	17	12	4	11	4	20					
D 228 DI-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT OR PHASE ANGLES FOR RCL CIRCUITS	21	21	33	35	0	23	22	40					

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

GT-13A

	SPC	SPC	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	058	059	060	061	062	063	064	065	066	067	068	069	070
E 291 E2-19 DO YOU MAKE HARDWIRE CONNECTIONS	95	95	100	100	88	97	91	100												
E 292 E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	69	66	100	100	94	50	94	100												
E 293 E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	73	70	100	100	96	57	96	100												
E 294 E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	68	65	94	100	88	53	91	100												
E 295 E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	98	98	89	94	96	99	96	100												
E 296 E3-02 DO YOU ADJUST RELAYS	47	44	72	47	48	38	78	60												
E 297 E3-03 DO YOU CLEAN RELAYS	59	58	72	47	72	50	87	80												
E 298 E3-04 DO YOU INSPECT RELAYS	89	89	89	71	100	88	94	100												
E 299 E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS	99	98	100	94	100	99	96	100												
E 300 E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS	24	23	28	35	20	19	39	40												
E 301 E3-07 DO YOU TROUBLESHOOT RELAYS	84	85	89	74	92	83	94	100												
E 302 E3-08 DO YOU STRAIGHTEN RELAY CONTACTS	64	63	78	59	72	59	78	80												
E 303 E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS	51	50	67	65	80	37	74	60												
E 304 E3-10 DO YOU PERFORM TASKS ON RELAY CORES	11	12	17	24	4	12	4	0												
E 305 E3-11 DO YOU PERFORM TASKS ON RELAY COILS	18	19	22	41	12	14	22	0												
E 306 E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES	20	20	28	41	20	15	22	20												
E 307 E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS	23	23	28	41	24	17	35	20												
E 308 E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPEN (NO) SCHEMATIC SYMBOLS FOR RELAYS	79	79	67	71	72	80	91	60												
E 309 E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	77	77	67	71	72	77	87	60												
E 310 E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	76	77	61	71	68	77	87	60												
E 311 E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	80	80	72	82	72	80	87	60												
E 312 E3-18 DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	87	89	72	82	88	88	96	60												
E 313 E3-19 DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	79	79	83	82	68	82	74	100												
F 314 F1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	80	79	83	76	92	75	91	80												
F 315 F1-02 DO YOU INSPECT MICROPHONES	72	71	72	71	92	66	91	60												
F 316 F1-03 DO YOU CLEAN MICROPHONES	57	56	67	71	68	52	65	60												
F 317 F1-04 DO YOU OPERATE MICROPHONES	79	78	83	76	92	75	87	80												
F 318 F1-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OR MICROPHONES	68	67	78	65	64	67	74	60												
F 319 F1-06 DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	32	32	22	53	48	27	39	20												
F 320 F1-07 DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	76	75	83	71	92	71	83	80												
F 321 F1-08 DO YOU REMOVE OR REPLACE MICROPHONE PARTS	31	30	28	47	56	24	35	20												
F 322 F1-09 DO YOU PERFORM TASKS ON CARBON MICROPHONES	47	46	56	53	64	41	52	60												
F 323 F1-10 DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	9	10	0	0	8	13	4	0												
F 324 F1-11 DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	18	17	22	24	32	13	13	60												
F 325 F1-12 DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	37	36	39	29	48	34	39	20												
F 326 F1-13 DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	3	3	6	0	0	3	4	20												

RELAYS

MICROPHONES

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task ID	Description	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
G 410	G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC) RESISTANCE MEASUREMENTS	41	38	78	88	56	22	78	100										
G 411	G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	16	17	11	41	16	11	30	20										
G 412	G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	15	16	6	41	20	10	26	20										
G 413	G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	28	26	50	71	20	18	48	60										
G 414	G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR	13	12	22	29	16	8	22	20										
G 415	G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	61	58	100	88	68	45	100	100										
G 416	G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	59	56	94	88	60	45	96	100										
G 417	G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	44	42	56	76	44	34	70	40										
G 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)	18	18	22	29	16	13	39	20										
G 419	G2-16 DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR TRANSISTORS	30	28	50	53	20	22	61	40										
G 420	G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	15	14	33	24	8	11	26	40										
G 421	G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	15	15	22	24	12	9	39	40										
G 422	G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	13	13	17	29	8	10	17	0										
G 423	G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	11	11	17	29	4	9	13	0										
G 424	G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	11	12	11	29	4	9	17	0										
G 425	G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS	7	6	11	12	0	6	13	0										
G 426	G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	6	6	11	12	0	5	13	0										
G 427	G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	6	6	6	12	0	5	13	0										
G 428	G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	41	38	67	53	36	29	87	60										
G 429	G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	39	36	67	47	36	27	83	60										
G 430	G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	35	32	61	41	28	24	83	60										
G 431	G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	38	35	67	47	32	25	87	60										
G 432	G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	37	34	61	47	36	24	83	60										
G 433	G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	36	33	72	47	36	22	87	60										
G 434	G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	37	35	61	53	36	25	78	60										
G 435	G3-08 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE CURRENT	14	14	22	18	12	9	30	20										
G 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	7	6	17	0	4	5	17	20										

TRANSISTOR AMPLIFIERS

PCT HRS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

TASK	SYSTEM									
	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	SPC 059	SPC 060
G 454 G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION	13	13	22	12	4	12	30	40		
G 455 G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATION	16	16	22	18	16	13	35	40		
G 456 G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION	16	16	22	18	16	12	39	40		
G 457 G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION	15	15	22	12	8	13	35	40		
G 458 G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	20	19	28	18	16	14	52	60		
G 459 G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	20	19	28	18	12	14	57	60		
G 460 G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	15	15	22	12	8	12	39	60		
G 461 G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	19	18	22	18	16	14	43	60		
G 462 G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	19	18	22	18	16	14	43	60		
G 463 G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	15	15	22	12	8	13	35	60		
G 464 G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	21	20	28	29	24	13	48	40		
G 465 G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	25	23	39	35	24	18	48	40		
G 466 G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	18	17	28	24	12	15	35	40		
G 467 G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	16	16	28	18	16	14	26	40		
G 468 G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	17	16	28	18	12	16	26	40		
G 469 G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	18	17	22	24	12	15	30	40		
G 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	10	9	22	18	8	7	22	40		
G 471 G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	13	13	17	24	4	10	35	20		
G 472 G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	20	19	22	29	8	16	43	40		
G 473 G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	30	29	39	35	32	23	65	40		
G 474 G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	16	15	28	12	4	13	39	40		
G 475 G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	17	17	22	18	12	13	48	40		

PCT MBRS RESPONDING *YES* BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TASK	SFC	SFC	SFC	SFC	SFC	SFC	SFC	SFC	SFC	SFC	SFC	SFC	SFC	SFC	SFC	SFC	SFC	SFC	SFC
	051	052	053	054	055	056	057	058											
G 476 G3-49 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	19	18	28	24	12	13	48	40											
H 477 H1-01 DO YOU USE OR REFER TO VARACTORS	12	12	6	12	8	13	17	20											
H 478 H1-02 DO YOU USE OR REFER TO TUNNEL DIODES	18	16	22	24	12	16	30	40											
H 479 H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	23	21	44	29	24	13	57	80											
H 480 H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	17	16	28	24	14	11	39	40											
H 481 H1-05 DO YOU USE OR REFER TO ZENER DIODES	58	56	83	59	52	53	78	80											
H 482 H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS	47	44	78	41	52	40	61	80											
H 483 H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	93	94	89	100	92	92	100	100											
H 484 H2-02 DO YOU INSPECT POWER SUPPLIES	91	91	89	94	88	91	96	80											
H 485 H2-03 DO YOU CLEAN POWER SUPPLIES	78	78	78	76	60	81	83	100											
H 486 H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES	87	88	78	94	84	86	96	60											
H 487 H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	88	88	89	94	74	88	96	80											
H 488 H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	86	87	72	94	72	87	100	80											
H 489 H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	84	84	89	94	92	78	100	100											
H 490 H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	86	87	78	94	80	87	96	100											
H 491 H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS	73	75	50	71	48	81	78	40											
H 492 H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	72	75	39	71	52	80	74	40											
H 493 H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS	76	78	50	65	52	84	83	40											
H 494 H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS	55	57	28	29	36	65	65	40											
H 495 H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE	82	84	50	76	68	87	91	40											
H 496 H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY	59	62	33	59	44	62	70	40											
H 497 H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	69	71	39	65	56	75	74	40											
H 498 H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	68	70	44	71	44	71	87	40											
H 499 H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE	55	57	39	59	36	60	65	40											
H 500 H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY	46	48	33	41	36	47	61	40											
H 501 H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	45	45	39	53	32	47	52	40											
H 502 H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	68	70	39	59	28	82	70	40											
H 503 H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	70	73	39	65	52	78	74	40											
H 504 H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	63	64	44	47	49	70	65	60											
H 505 H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	53	54	39	41	36	61	48	60											
H 506 H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	50	50	39	35	40	55	48	60											
H 507 H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	45	45	39	35	32	50	43	60											
H 508 H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	37	37	33	35	32	39	35	60											
H 509 H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	47	48	39	41	32	53	39	60											
H 510 H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DONAT REMEMBER WHICH TYPE OF FILTER	45	45	44	47	48	43	39	60											
H 511 H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	5	5	11	6	0	8	0	0											
H 512 H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	45	46	28	59	64	41	52	20											

SOLID-STATE
SPECIAL PURPOSE
DEVICES

POWER SUPPLIES

PCT MORS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
	US1	US2	US3	US4	US5	US6	US7	US8	US9	US0	US1	US2	US3	US4	US5	US6	US7	US8	US9	US0
H 513 H3-02 00 YOU INSPECT OSCILLATORS	44	45	28	53	56	41	57	40												
H 514 H3-03 00 YOU ALIGN OR ADJUST OSCILLATORS	39	39	33	47	32	39	52	40												
H 515 H3-04 00 YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	34	35	28	41	44	31	48	40												
H 516 H3-05 00 YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	38	38	33	47	48	36	49	40												
H 517 H3-06 00 YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	41	42	33	47	52	39	48	40												
H 518 H3-07 00 YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	38	39	33	47	48	37	39	40												
H 519 H3-08 00 YOU USE OR REFER TO FEEDBACK	42	43	39	53	56	40	39	40												
H 520 H3-09 00 YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDDI)	20	21	17	35	20	18	22	20												
H 521 H3-10 00 YOU USE OR REFER TO AMPLITUDE STABILITY	28	29	28	47	32	26	26	40												
H 522 H3-11 00 YOU USE OR REFER TO FREQUENCY STABILITY	30	30	33	47	28	29	30	40												
H 523 H3-12 00 YOU USE OR REFER TO DAMPING	31	30	39	35	36	29	35	40												
H 524 H3-13 00 YOU USE OR REFER TO REGENERATIVE FEEDBACK	38	38	33	41	48	37	39	40												
H 525 H3-14 00 YOU USE OR REFER TO PIEZOELECTRIC EFFECT	8	9	6	18	8	8	4	0												
H 526 H3-15 00 YOU USE OR REFER TO CRITICAL DAMPING	12	13	11	18	8	14	9	20												
H 527 H3-16 00 YOU USE OR REFER TO UNDER DAMPING	15	15	11	18	16	14	17	20												
H 528 H3-17 00 YOU USE OR REFER TO OVER DAMPING	15	15	11	18	16	14	17	20												
H 529 H3-18 00 YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	26	26	28	35	32	24	26	40												
H 530 H3-19 00 YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	29	29	28	35	40	27	30	40												
H 531 H3-20 00 YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	8	8	11	0	16	7	9	20												
H 532 H3-21 00 YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	18	18	17	35	16	18	17	0												
H 533 H3-22 00 YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	14	15	6	24	28	12	9	0												
H 534 H3-23 00 YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	13	14	6	24	28	11	9	0												
H 535 H3-24 00 YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	13	14	6	24	28	11	9	0												
H 536 H3-25 00 YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	4	4	0	0	4	5	4	0												
H 537 H3-26 00 YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	3	4	0	0	4	5	0	0												
H 538 H3-27 00 YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	27	26	39	35	36	24	26	40												
I 539 I1-01 00 YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	29	27	44	53	28	18	65	60												
I 540 I1-02 00 YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	23	23	33	41	16	16	52	20												
I 541 I1-03 00 YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	21	21	33	47	4	15	48	20												
I 542 I1-04 00 YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	19	18	28	29	4	15	48	20												
I 543 I1-05 00 YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	23	23	33	41	20	15	52	20												
I 544 I1-06 00 YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	22	22	28	41	12	16	52	20												
I 545 I1-07 00 YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	19	19	33	47	16	10	48	20												
I 546 I1-08 00 YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS	22	23	28	47	12	16	52	20												
I 547 I1-09 00 YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	12	12	17	24	12	9	17	20												

OSCILLATORS

MULTIVIBRATORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task Description	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
548 11-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS	16	16	22	24	16	13	22	20						
549 11-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS	4	4	6	0	8	3	4	20						
550 11-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDO	11	10	22	29	4	8	26	0						
551 11-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS	15	15	28	29	24	10	26	20						
552 11-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS	16	15	28	29	24	10	30	20						
553 11-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS	17	17	38	29	24	12	35	20						
554 11-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS	12	11	11	18	0	8	39	0						
555 12-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB	49	48	56	65	32	45	61	60						
556 12-02 DO YOU WORK WITH SERIES DIODE LIMITERS	39	39	50	47	24	39	39	60						
557 12-03 DO YOU WORK WITH SHUNT DIODE LIMITERS	36	36	44	47	20	34	39	60						
558 12-04 DO YOU WORK WITH LIMITERS WITH BIAS	30	30	33	41	12	30	30	60						
559 12-05 DO YOU WORK WITH ZENER DIODE LIMITERS	31	31	33	41	20	28	43	60						
560 12-06 DO YOU WORK WITH TRANSISTOR LIMITERS	21	21	28	35	12	17	39	60						
561 12-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS	17	16	22	18	8	13	35	40						
562 12-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS	28	28	28	41	20	27	35	40						
563 12-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS	24	24	22	35	16	23	26	40						
564 12-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT	15	15	17	18	12	13	22	0						
565 13-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES	76	96	94	94	84	100	91	100						
566 13-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD	94	94	94	100	80	96	91	100						
567 13-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES	93	93	94	100	80	97	78	100						
568 13-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES	52	54	44	47	44	56	43	80						
569 13-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES	51	54	39	53	24	61	39	40						
570 13-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES	84	83	94	82	80	84	78	100						
571 13-07 DO YOU USE OR REFER TO CUTOFF	51	54	33	47	44	58	43	40						
572 13-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING	26	27	22	22	29	12	20	20						
573 13-09 DO YOU USE OR REFER TO PEAK CURRENT RATING	26	28	22	35	12	29	22	20						
574 13-10 DO YOU USE OR REFER TO TRANSIT TIME	17	18	17	18	0	21	17	20						
575 13-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING	20	21	17	24	8	23	17	20						
576 13-12 DO YOU USE OR REFER TO SATURATION	66	68	56	76	64	70	52	60						
577 13-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE	30	32	22	29	28	34	22	20						
578 13-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES	10	11	11	6	4	10	17	0						
579 13-15 DO YOU USE OR REFER TO PLATE VOLTAGE	81	81	72	88	68	84	74	80						
580 13-16 DO YOU USE OR REFER TO PLATE CURRENT	58	59	56	53	56	61	48	60						
581 13-17 DO YOU USE OR REFER TO GRID VOLTAGE	75	76	67	76	68	78	65	80						
582 13-18 DO YOU USE OR REFER TO GRID CURRENT	55	56	50	53	52	57	43	60						
583 13-19 DO YOU USE OR REFER TO CATHODE VOLTAGE	75	76	67	76	60	80	65	80						
584 13-20 DO YOU USE OR REFER TO CATHODE CURRENT	55	57	50	53	48	58	48	60						
585 13-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS THE RATIO OF CHANGE IN PLATE VOLTAGE TO A CHANGE IN GRID VOLTAGE)	23	24	22	29	8	27	17	20						

LIMITERS AND CLAMPERS

ELECTRON TUBES

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	US1	US2	US3	US4	US5	US6	US7	US8
I 586 13-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	13	14	0	12	4	15	13	0
I 587 13-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS	22	23	17	24	20	24	17	40
I 588 13-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)	10	11	0	6	8	11	4	0
I 589 13-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	8	9	0	0	0	10	9	0
I 590 13-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	18	19	0	12	8	22	17	0
I 591 13-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	11	12	0	0	0	14	13	0
I 592 13-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	25	26	28	41	12	27	17	20
I 593 13-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	18	19	11	24	8	18	26	0
I 594 13-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	9	10	6	0	4	11	9	20
I 595 13-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	8	9	6	0	4	10	4	20
I 596 13-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	14	14	17	0	12	16	9	20
I 597 13-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	14	14	17	0	12	16	13	20
I 598 13-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	75	75	83	71	72	77	70	100
I 599 13-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	36	36	39	53	24	35	35	80
I 600 13-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	65	68	56	82	52	71	52	60
I 601 13-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	57	57	61	47	44	63	52	40
I 602 13-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	59	59	72	41	24	71	43	60
I 603 13-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	14	15	17	6	8	15	17	40
I 604 13-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	9	10	0	0	4	12	4	0
I 605 13-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	89	89	89	94	72	92	87	80
I 606 13-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	94	94	89	94	76	98	91	100
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	10	10	11	6	8	10	4	20
I 608 13-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	49	49	56	71	32	45	65	60

J 809 J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB

J 810 J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS

	US1	US2	US3	US4	US5	US6	US7	US8
J 809 J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	94	95	89	94	84	97	91	80
J 810 J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	29	30	22	29	16	34	26	20

ELECTRON TUBE AMPLIFIERS AND CIRCUITS

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

TASK	DY-TSK	SPC		SPC		SPC		SPC		SPC		SPC		SPC		SPC		SPECIAL PURPOSE ELECTRON TUBES
		051	052	053	054	055	056	057	058	059	060	061	062	063	064	065	066	
J 611 J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS		47	50	22	35	28	53	52	40									
J 612 J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS		66	67	56	53	56	71	61	60									
J 613 J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS		42	43	28	24	40	42	57	40									
J 614 J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS		42	42	39	29	40	40	57	40									
J 615 J1-07 DO YOU TROUBLESHOOT OR REPAIR DONT KNOW WHICH TYPE OF AMPLIFIER		41	42	28	35	24	45	43	40									
J 616 J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)		70	72	50	82	44	82	43	80									
J 617 J2-02 DO YOU WORK WITH CATHODE-RAY TUBES		49	49	44	88	28	45	78	60									
J 618 J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES		17	17	22	12	17	18	22	40									
J 619 J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED		30	31	22	24	24	32	39	40									
J 620 J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS		27	28	17	29	12	31	22	20									
J 621 J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED		38	39	28	41	16	45	22	60									
J 622 J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)		27	26	39	47	20	20	48	60									
J 623 J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)		28	28	33	59	20	23	39	40									
J 624 J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)		21	22	17	29	16	19	26	40									
J 625 J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS		27	28	22	35	16	24	57	0									
J 626 J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS		14	15	11	24	4	14	22	20									
J 627 J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS		9	10	6	0	4	10	17	20									
J 628 J2-13 DO YOU USE OR REFER TO PERSISTENCE		20	19	28	29	8	14	57	20									
J 629 J2-14 DO YOU USE OR REFER TO DECAY TIMES		15	15	17	24	4	14	22	20									
J 630 J2-15 DO YOU USE OR REFER TO FLUORESCENCE		17	17	11	18	4	15	39	40									
J 631 J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE		18	18	6	18	4	16	48	20									
J 632 J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB		12	12	11	6	12	13	9	0									
J 633 J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS		4	4	0	6	4	5	0	0									
J 634 J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS		3	4	0	0	4	5	0	0									
J 635 J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS		2	3	0	0	0	4	0	0									
J 636 J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS		2	3	0	0	0	0	0	0									
J 637 J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS		4	5	0	6	0	7	0	0									
K 638 KI-01 DO YOU WORK ON A TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB		3	3	6	0	4	3	0	0									
K 639 KI-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS		2	2	0	0	4	3	0	0									
K 640 KI-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS		1	2	0	0	0	0	0	0									
K 641 KI-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS		2	2	0	0	4	3	0	0									

HETERODYNING,
MODULATION, AND
DEMODULATION

AM SYSTEMS

PCT MBMS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

TASK	GROUP	SUMMARY	PERCENT MEMBERS PERFORMING									
			051	052	053	054	055	056	057	058		
K 642	KI-05	DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	2	2	0	0	4	3	0	0	0	0
K 643	KI-06	DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	2	2	0	0	4	3	0	0	0	0
K 644	KI-07	DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	2	2	0	0	4	3	0	0	0	0
K 645	KI-08	DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	2	2	0	0	4	3	0	0	0	0
K 646	KI-09	DO YOU PERFORM TASKS ON RF OSCILLATORS	0	1	0	0	4	0	0	0	0	0
K 647	KI-10	DO YOU PERFORM TASKS ON RF AMPLIFIERS	1	1	0	0	4	1	0	0	0	0
K 648	KI-11	DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	1	2	0	0	4	2	0	0	0	0
K 649	KI-12	DO YOU PERFORM TASKS ON POWER AMPLIFIERS	1	1	0	0	4	1	0	0	0	0
K 650	KI-13	DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	0	1	0	0	0	1	0	0	0	0
K 651	KI-14	DO YOU PERFORM TASKS ON IF AMPLIFIERS	0	1	0	0	0	1	0	0	0	0
K 652	KI-15	DO YOU PERFORM TASKS ON DETECTORS	0	0	0	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	0	0	0
K 654	KI-17	DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	1	1	0	0	0	2	0	0	0	0
K 655	KI-18	DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	1	1	0	0	0	2	0	0	0	0
K 656	KI-19	DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	0	0	0	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	0	0	0
K 658	KI-21	DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	0	0	0	0	0	0	0	0	0	0
K 659	KI-22	DO YOU USE OR REFER TO BANDPASS DISTORTION	0	1	0	0	4	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	0	0	0
K 661	KI-24	DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	0	0	0	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	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	0	0	0
K 664	KI-27	DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	2	2	0	0	4	3	0	0	0	0
K 665	KI-28	DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	1	1	0	0	0	2	0	0	0	0
K 666	K2-01	DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	2	2	6	0	0	3	4	0	0	0
K 667	K2-02	DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	1	1	0	0	0	2	0	0	0	0
K 668	K2-03	DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	1	1	0	0	0	2	0	0	0	0
K 669	K2-04	DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	1	1	0	0	0	2	0	0	0	0
K 670	K2-05	DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	1	1	0	0	0	2	0	0	0	0
K 671	K2-06	DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	1	1	0	0	0	2	0	0	0	0
K 672	K2-07	DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	1	2	0	0	0	3	0	0	0	0
K 673	K2-08	DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	1	1	0	0	0	2	0	0	0	0
K 674	K2-09	DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	1	1	0	0	0	2	0	0	0	0
K 675	K2-10	DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	0	1	0	0	0	1	0	0	0	0

FM SYSTEMS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task Description	U51	U52	U53	U54	U55	U56	U57	U58	U59	U60
L 707 L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	10	10	0	0	24	8	22	0		
L 708 L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC CIRCUITS	5	5	6	0	12	3	9	0		
L 709 L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	5	5	0	0	8	4	13	0		
L 710 L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	4	4	0	0	8	4	9	0		
L 711 L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	6	6	0	0	16	4	13	0		
L 712 L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	7	6	0	0	16	4	22	0		
L 713 L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	6	6	0	0	16	4	13	0		
L 714 L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	5	5	0	0	12	4	13	0		
L 715 L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	5	5	0	0	8	4	13	0		
L 716 L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	4	4	0	0	8	4	9	0		
L 717 L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	6	6	0	0	16	4	13	0		
L 718 L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	4	4	0	0	12	4	4	0		
L 719 L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	5	5	0	0	12	4	9	0		
L 720 L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	6	6	0	0	16	5	13	0		
L 721 L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	7	7	0	0	16	5	22	0		
L 722 L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	7	7	0	0	16	5	17	0		
L 723 L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	5	5	0	0	12	3	17	0		
L 724 L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	5	5	0	0	12	3	13	0		
L 725 L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	6	5	0	0	12	3	22	0		
L 726 L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	5	5	0	0	12	3	13	0		
L 727 L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	5	5	0	0	12	3	17	0		
L 728 L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	5	5	0	0	12	3	17	0		
L 729 L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	5	5	0	0	12	3	13	0		
L 730 L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	6	6	0	0	16	3	22	0		
L 731 L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	6	6	0	0	16	3	22	0		
L 732 L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	4	4	0	0	12	3	13	0		

BOOLEAN EQUATIONS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UT-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058	COUNTERS
L 733 L3-01 DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	8	8	6	0	24	5	17	20	
L 734 L3-02 DO YOU USE OR REFER TO UP-COUNTERS	8	7	6	0	24	4	17	20	
L 735 L3-03 DO YOU USE OR REFER TO DOWN-COUNTERS	8	7	6	0	24	4	17	20	
L 736 L3-04 DO YOU USE OR REFER TO SERIAL COUNTERS	6	5	0	0	16	3	17	0	
L 737 L3-05 DO YOU USE OR REFER TO PARALLEL COUNTERS	5	5	0	0	16	3	13	0	
L 738 L3-06 DO YOU USE OR REFER TO RING COUNTERS	3	3	0	0	8	3	9	0	
L 739 L3-07 DO YOU USE OR REFER TO DECADE COUNTERS	6	6	0	0	16	4	13	0	
L 740 L3-08 DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	5	5	0	0	12	3	13	0	
L 741 L3-09 DO YOU USE OR REFER TO DOWN CLOCKS	7	6	0	0	20	4	17	0	
L 742 L3-10 DO YOU USE OR REFER TO UP CLOCKS	7	6	0	0	20	4	17	0	
L 743 L3-11 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	5	4	0	0	12	3	13	0	
L 744 L3-12 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	3	3	0	0	4	3	13	0	
L 745 L3-13 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	3	3	0	0	8	3	9	0	
L 746 L3-14 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	2	2	0	0	4	2	9	0	
L 747 L3-15 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	4	4	0	0	12	3	13	0	
L 748 L3-16 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	5	4	0	0	16	3	13	0	
L 749 L3-17 DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	3	3	6	0	8	2	9	20	
L 750 L3-18 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	4	4	0	0	8	3	9	0	
L 751 L3-19 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	4	4	0	0	8	3	9	0	
L 752 L3-20 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	3	3	0	0	8	3	9	0	
L 753 L3-21 DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	2	2	0	0	4	2	9	0	
L 754 L3-22 DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	2	2	0	0	4	2	9	0	
L 755 L3-23 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	2	2	0	0	4	2	9	0	
L 756 L3-24 DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	3	3	0	0	8	3	9	0	
M 757 M1-01 DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	24	24	22	76	20	13	61	20	
M 758 M1-02 DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	6	6	6	12	0	7	9	0	
M 759 M1-03 DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	15	16	17	35	16	11	26	20	TIMING CIRCUITS
M 760 M1-04 DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	12	12	17	35	8	9	17	20	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

07-TSK

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
M 761 M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	10	10	11	24	8	8	13	0
M 762 M1-06 DO YOU USE OR REFER TO RISE TIME	15	15	22	47	4	10	35	20
M 763 M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	13	13	17	41	0	9	30	20
M 764 M1-08 DO YOU USE OR REFER TO SWEEP TIME	22	23	22	47	12	17	52	20
M 765 M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	19	20	17	65	8	11	52	20
M 766 M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	18	19	17	65	4	12	43	20
M 767 M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	18	18	22	53	4	10	57	20
M 768 M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	16	16	17	53	4	8	52	20
M 769 M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	16	16	11	41	4	14	30	20
M 770 M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	15	15	11	41	4	12	30	20
M 771 M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS	15	15	17	29	4	14	26	40
M 772 M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	14	15	11	29	4	13	26	20
M 773 M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	13	13	11	29	4	12	22	20
M 774 M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	11	11	6	12	4	11	26	20
M 775 M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	9	9	6	12	4	8	26	20
M 776 M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	5	5	0	6	0	7	9	0
M 777 M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	2	3	0	0	0	4	0	0
M 778 M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	8	8	11	12	4	7	17	20
M 779 M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS	95	96	89	100	88	97	100	100
M 780 M3-02 DO YOU INSPECT MOTORS	92	92	89	100	84	94	91	80
M 781 M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	89	90	83	100	88	89	91	100
M 782 M3-04 DO YOU OPERATE MOTORS	86	86	78	94	76	87	96	80
M 783 M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	94	94	94	100	84	95	100	100
M 784 M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	60	61	50	82	74	55	61	60
M 785 M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	95	95	94	100	88	97	100	100
M 786 M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	53	55	39	76	68	52	39	40
M 787 M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	28	29	22	35	20	30	22	40
M 788 M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	38	39	33	53	52	34	35	40
M 789 M3-11 DO YOU PERFORM ANY TASKS ON ROTORS	37	37	39	53	32	36	30	80
M 790 M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	57	58	50	82	72	53	52	100
M 791 M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	44	44	44	65	40	41	43	80
M 792 M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	44	44	44	39	65	48	41	80
M 793 M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	27	28	17	29	24	29	22	20

USE OF SIGNAL GENERATORS

MOTORS AND GENERATORS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
	051	052	053	054	055	056	057	058	059	060	061	062	063	064
DY-TSK														
M 794 M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	16	17	6	12	0	22	9	20						
M 795 M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	31	32	33	47	20	34	26	20						
M 796 M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	25	25	22	29	8	28	22	40						
M 797 M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	68	69	54	41	56	71	83	80						
M 798 M3-20 DO YOU WORK WITH INDUCTION MOTORS	69	70	61	71	72	68	74	60						
M 799 M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	55	57	44	47	64	55	52	60						
M 800 M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	65	66	56	65	60	65	83	80						
M 801 M3-23 DO YOU INSPECT GENERATORS	89	90	78	94	80	92	91	60						
M 802 M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	81	83	67	94	76	84	83	60						
M 803 M3-25 DO YOU OPERATE GENERATORS	80	81	67	88	72	82	83	60						
M 804 M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	88	88	89	94	76	91	87	80						
M 805 M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	58	60	39	71	76	56	52	40						
M 806 M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	89	89	89	94	80	92	83	80						
M 807 M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	50	52	39	71	68	50	35	20						
N 808 N1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	87	86	94	100	88	87	74	100						
N 809 N1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	20	21	17	24	12	23	13	0						
N 810 N1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	21	22	17	24	16	24	13	0						
N 811 N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	21	22	17	24	12	23	17	0						
N 812 N1-05 DO YOU READ METER SCALES	88	87	94	94	88	89	74	100						
N 813 N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	36	36	33	47	32	37	35	60						
N 814 N1-07 DO YOU ZERO OHMMETERS	86	85	94	94	84	87	74	100						
N 815 N1-08 DO YOU ZERO AMMETERS	39	38	39	53	36	36	43	60						
N 816 N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	53	53	61	47	56	54	57	80						
N 817 N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	63	63	72	88	56	66	43	60						
N 818 N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	26	25	39	76	56	8	52	20						
N 819 N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	26	24	44	71	48	8	52	40						
N 820 N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	18	17	33	53	28	5	43	20						
N 821 N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	23	22	39	53	48	7	52	40						
N 822 N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	26	24	44	71	52	8	52	40						
N 823 N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	24	23	39	65	44	8	52	20						
N 824 N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	18	17	28	59	20	7	43	40						

SATURABLE REACTORS
AND MAGNETIC
AMPLIFIERS

METER MOVEMENTS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

Task ID	Description	US1	US2	US3	US4	US5	US6	US7	US8
N 825	N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS	4	4	11	6	0	3	9	20
N 826	N2-09 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	6	6	11	18	4	3	17	20
N 827	N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	9	8	22	24	8	3	22	40
N 828	N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS	8	8	11	24	0	3	30	20
N 829	N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS	3	3	0	6	0	2	13	0
N 830	N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS	4	5	0	18	0	2	13	0
N 831	N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS	5	5	0	24	4	1	13	0
N 832	N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS	7	8	0	18	8	4	17	0
N 833	N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS	15	15	17	59	24	5	26	20
N 834	N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB	24	24	28	65	8	17	48	60
N 835	N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS	12	12	17	29	0	10	30	20
N 836	N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)	16	15	28	41	0	10	48	60
N 837	N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	16	15	28	41	0	10	43	60
N 838	N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	15	14	28	41	0	9	43	60
N 839	N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS	18	18	22	47	4	13	39	40
N 840	N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS	20	20	22	59	4	14	39	40
N 841	N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT	12	12	28	41	4	8	22	60
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	7	6	17	12	0	5	13	60
N 843	N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS	13	12	22	29	0	8	43	60
N 844	N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS	8	8	11	18	0	5	24	20
N 845	O1-01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB	0	1	0	6	0	0	0	0
O 846	O1-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	0
O 847	O1-03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	0
O 848	O1-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	0
O 849	O1-05 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	0
O 850	O1-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	0	0	0	0
O 851	O1-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	0	0	0	0
O 852	O1-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	0	0	0	0

SINGLE SIDEBAND SYSTEMS

WAVESHAPING CIRCUITS

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
0 853 01-09 00 YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	0	0	0	0	0	0	0	0
0 854 01-10 00 YOU PERFORM TASKS ON SSB BALANCED OSCILLATORS	0	0	0	0	0	0	0	0
0 855 01-11 00 YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	0	0	0	0	0	0	0	0
0 856 01-12 00 YOU PERFORM TASKS ON SSB LC FILTERS	0	1	0	0	4	0	0	0
0 857 01-13 00 YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	0	0	0	0	0	0	0	0
0 858 01-14 00 YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	0	0	0	0	0	0	0	0
0 859 01-15 00 YOU PERFORM TASKS ON SSB OSCILLATORS	0	1	0	0	4	0	0	0
0 860 01-16 00 YOU PERFORM TASKS ON SSB MIXERS	0	0	0	0	0	0	0	0
0 861 01-17 00 YOU PERFORM TASKS ON SSB DRIVERS	0	0	0	0	0	0	0	0
0 862 01-18 00 YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	0	1	0	0	4	0	0	0
0 863 01-19 00 YOU PERFORM TASKS ON SSB RF AMPLIFIERS	0	1	0	0	4	0	0	0
0 864 01-20 00 YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	0	0	0	0	0	0	0	0
0 865 01-21 00 YOU PERFORM TASKS ON SSB IF AMPLIFIERS	0	0	0	0	0	0	0	0
0 866 01-22 00 YOU PERFORM TASKS ON SSB DEMODULATORS	0	1	0	0	4	0	0	0
0 867 01-23 00 YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES	0	1	0	0	4	0	0	0
0 868 01-24 00 YOU USE OR REFER TO SELECTIVE FADING	0	0	0	0	0	0	0	0
0 869 01-25 00 YOU USE OR REFER TO PEAK POWER	0	0	0	0	0	0	0	0
0 870 01-26 00 YOU USE OR REFER TO FREQUENCY STABILITY	0	0	0	0	0	0	0	0
0 871 01-27 00 YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS	0	0	0	0	0	0	0	0
0 872 01-28 00 YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS	0	0	0	0	0	0	0	0
0 873 01-29 00 YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0	0
0 874 01-30 00 YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS	0	0	0	0	0	0	0	0
0 875 02-01 00 YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB	7	8	6	6	29	0	6	13
0 876 02-02 00 YOU INSPECT PULSE MODULATION SYSTEMS	7	8	6	6	29	0	6	13
0 877 02-03 00 YOU CLEAN PULSE MODULATION SYSTEMS	7	8	6	6	24	0	6	13
0 878 02-04 00 YOU ALIGN PULSE MODULATION SYSTEMS	7	8	6	6	29	0	6	13
0 879 02-05 00 YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	8	9	6	6	29	0	6	17
0 880 02-06 00 YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS	6	9	6	6	29	0	6	17
0 881 02-07 00 YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	8	9	6	6	29	0	6	17
0 882 02-08 00 YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS	7	8	6	6	29	0	6	13
0 883 02-09 00 YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS	6	6	6	6	29	0	5	4
0 884 02-10 00 YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS	6	6	6	6	29	0	5	4
0 885 02-11 00 YOU WORK ON PULSE-POSITION MODULATION (PPH) SYSTEMS	5	5	0	12	0	6	4	0
0 886 02-12 00 YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	4	4	0	6	0	0	5	4
0 887 02-13 00 YOU WORK ON LINE PULSING MODULATION SYSTEMS	4	5	0	12	0	0	5	4
0 888 02-14 00 YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM	4	5	0	6	0	6	4	13

PULSE MODULATION SYSTEMS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY=JDK

SPC	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	058	059	060	061	062	063	064	065	066	067	068	069
0	889	02-15	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	7	8	6	29	0	4	17	0	0	0	0	0	0	0	0
0	890	02-16	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	4	4	0	12	0	4	4	0	0	0	0	0	0	0	0
0	891	02-17	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	6	6	0	18	0	5	13	0	0	0	0	0	0	0	0
0	892	02-18	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	5	6	0	12	0	5	13	0	0	0	0	0	0	0	0
0	893	02-19	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	5	5	6	24	0	5	0	0	0	0	0	0	0	0	0
0	894	02-20	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	6	6	6	24	0	5	9	0	0	0	0	0	0	0	0
0	895	02-21	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	3	3	6	12	0	3	4	0	0	0	0	0	0	0	0
0	896	02-22	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	4	4	6	24	0	3	4	0	0	0	0	0	0	0	0
0	897	02-23	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	6	7	6	29	0	5	9	0	0	0	0	0	0	0	0
0	898	02-24	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	5	6	6	29	0	3	9	0	0	0	0	0	0	0	0
0	899	02-25	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	5	6	6	29	0	3	9	0	0	0	0	0	0	0	0
0	900	02-26	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	6	6	6	29	0	3	13	0	0	0	0	0	0	0	0
0	901	02-27	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	5	6	6	29	0	3	9	0	0	0	0	0	0	0	0
0	902	02-28	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	4	4	6	18	0	2	13	0	0	0	0	0	0	0	0
0	903	02-29	DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	7	8	6	29	0	6	13	0	0	0	0	0	0	0	0
0	904	02-30	DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	7	8	6	29	0	6	13	0	0	0	0	0	0	0	0
0	905	02-31	DO YOU USE OR REFER TO PULSE WIDTH (PW)	7	8	6	29	0	6	13	0	0	0	0	0	0	0	0
0	906	02-32	DO YOU USE OR REFER TO PULSE SHAPE	7	8	6	29	0	6	13	0	0	0	0	0	0	0	0
0	907	02-33	DO YOU USE OR REFER TO PEAK POWER	6	6	6	18	0	5	13	0	0	0	0	0	0	0	0
0	908	02-34	DO YOU USE OR REFER TO AVERAGE POWER	6	6	6	18	0	5	13	0	0	0	0	0	0	0	0
0	909	02-35	DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	4	5	6	18	0	3	9	0	0	0	0	0	0	0	0
0	910	02-36	DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	6	7	6	29	0	4	13	0	0	0	0	0	0	0	0
0	911	02-37	DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	2	3	0	6	0	3	0	0	0	0	0	0	0	0	0
0	912	02-38	DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	6	6	6	24	0	4	13	0	0	0	0	0	0	0	0
0	913	02-39	DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	4	4	0	6	0	5	4	0	0	0	0	0	0	0	0
0	914	03-01	DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	915	03-02	DO YOU INSPECT ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ANTENNAS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
	051	052	053	054	055	056	057	058	059	060	061	062	063
0 916 03-03 DO YOU CLEAN ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 917 03-04 DO YOU PHYSICALLY ALIGN ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 918 03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 919 03-06 DO YOU TROUBLESHOOT TO ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 920 03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 921 03-08 DO YOU REMOVE OR INSTALL ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 922 03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 923 03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	0	0	0	0	0	0	0	0	0	0	0	0	0
0 924 03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	0	0	0	0	0	0	0	0	0	0	0	0	0
0 925 03-12 DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 926 03-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE OF CORRECT LENGTH (HALF-WAVE) ACT AS INDUCTIVE LOADS TO THE GENERATOR	0	0	0	0	0	0	0	0	0	0	0	0	0
0 927 03-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE LONGER THAN A HALF-WAVE ACT AS INDUCTIVE LOADS TO THE GENERATOR	0	0	0	0	0	0	0	0	0	0	0	0	0
0 928 03-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT ANTENNAS WHICH ARE SHORTER THAN A HALF-WAVE ACT AS CAPACITIVE LOADS TO THE GENERATOR	0	0	0	0	0	0	0	0	0	0	0	0	0
0 929 03-16 DO YOU WORK WITH HERTZ ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 930 03-17 DO YOU WORK WITH MARCONI ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 931 03-18 DO YOU WORK WITH BROADSIDE ARRAYS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 932 03-19 DO YOU WORK WITH END-FIRE ARRAYS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 933 03-20 DO YOU WORK WITH CARDIOID ARRAYS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 934 03-21 DO YOU WORK WITH COLLINEAR ARRAYS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 935 03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 936 03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 937 03-24 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 938 03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	0	0	0	0	0	0	0	0	0	0	0	0	0
0 939 03-26 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA RADIATION	0	0	0	0	0	0	0	0	0	0	0	0	0
0 940 03-27 DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD	0	0	0	0	0	0	0	0	0	0	0	0	0
0 941 03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	0	0	0	0	0	0	0	0	0	0	0	0	0
0 942 03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	0	0	0	0	0	0	0	0	0	0	0	0	0
0 943 03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	0	0	0	0	0	0	0	0	0	0	0	0	0
0 944 03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR SPECIFIC WAVELENGTHS	0	0	0	0	0	0	0	0	0	0	0	0	0

UT-13K

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
0 945 03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	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
0 947 03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	0	0	0	0	0	0	0	0
0 948 03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS	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
0 950 03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS	0	0	0	0	0	0	0	0
0 951 03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	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

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)

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
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)	3	4	0	12	8	1	9	0

P 954 PI-02 DO YOU REFER TO OR USE COPPER LOSS OR IZR LOSS IN TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
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

P 955 PI-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
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

P 956 PI-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 956 PI-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	0	0	0	0	0	0	0	0

P 957 PI-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 957 PI-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	0	0	0	0	0	0	0	0

P 958 PI-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 958 PI-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	0	0	0	0	0	0	0	0

P 959 PI-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 959 PI-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	3	3	0	12	4	1	9	0

P 960 PI-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 960 PI-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	2	2	0	12	0	0	9	0

P 961 PI-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 961 PI-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	0	1	0	0	0	0	4	0

P 962 PI-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 962 PI-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	3	4	0	12	8	1	9	0

P 963 PI-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 963 PI-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	0	0	0	0	0	0	0	0

P 964 PI-12 DO YOU TROUBLESHOOT TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 964 PI-12 DO YOU TROUBLESHOOT TRANSMISSION LINES	2	3	0	12	4	0	9	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)

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 965 PI-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION (OPEN, SHORTED, CAPACITIVE, INDUCTIVE)	1	2	0	6	4	0	4	0

P 966 PI-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 966 PI-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	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

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 967 PI-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	1	2	0	6	4	0	4	0

P 968 PI-16 DO YOU MEASURE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 968 PI-16 DO YOU MEASURE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	0	0	0	0	0	0	0	0

P 969 PI-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 969 PI-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	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

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
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

TRANSMISSION LINES

PCT NUMS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P 971 P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	1	1	0	0	4	0	4	0
P 972 P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	0	1	0	0	4	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	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	0
P 975 P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES	0	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	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	0
P 978 P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	0	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	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	0
P 981 P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	0	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	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	0
P 984 P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	0	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	0
P 986 P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0	0	0
P 987 P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	0	0	0	0
P 988 P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	0	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	0
P 990 P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	0	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	0
P 992 P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	0	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	0
P 994 P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	0	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	0
P 996 P2-13 DO YOU REMOVE OR INSTALL H BENDS	0	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	0
P 998 P2-15 DO YOU REMOVE OR INSTALL CHOKES	0	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	0
P1000 P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	0	0	0	0	0	0	0	0
P1001 P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS	0	0	0	0	0	0	0	0
P1002 P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES	0	0	0	0	0	0	0	0

WAVEGUIDES AND
CAVITY RESONATORS

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC 051	SPC 052	SPC 053	SPC 054	SPC 055	SPC 056	SPC 057	SPC 058
P1025 P2-42 DO YOU DETERMINE THE POSITIONING OR SIZE OF APERTURES IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	0	0	0	0
P1026 P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	0
P1027 P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	0
P1028 P2-45 ARE DON'T REMEMBER THE KIND OF JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	0	0	0	0
P1029 P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	0	0	0	0	0	0	0	0
P1030 P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	0	0	0	0	0	0	0	0
P1031 P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	0	0	0	0	0	0	0	0
P1032 P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	0	0	0	0	0	0	0	0
P1033 P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	0	0	0	0	0	0	0	0
P1034 P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR MAGNETRONS	0	0	0	0	0	0	0	0
P1035 P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE	0	0	0	0	0	0	0	0
P1036 P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME	0	0	0	0	0	0	0	0
P1037 P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE	0	0	0	0	0	0	0	0
P1038 P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	0	0	0	0	0	0	0	0
P1039 P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	0	0	0	0	0	0	0	0
P1040 P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING	0	0	0	0	0	0	0	0
P1041 P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	0	0	0	0	0	0	0	0
P1042 P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	0	0	0	0	0	0	0	0
P1043 P3-10 DO YOU WORK WITH REFLEX KLYSTRONS	0	0	0	0	0	0	0	0
P1044 P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT) AMPLIFIERS	0	0	0	0	0	0	0	0
P1045 P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1046 P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1047 P3-14 DO YOU WORK WITH MAGNETRONS	0	0	0	0	0	0	0	0
P1048 P3-15 DO YOU INSPECT KLYSTRONS OR TWT	0	0	0	0	0	0	0	0
P1049 P3-16 DO YOU CLEAN KLYSTRONS OR TWT	0	0	0	0	0	0	0	0
P1050 P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	0	0	0	0	0	0	0	0
P1051 P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	0	0	0	0	0	0	0	0
P1052 P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	0	0	0	0	0	0	0	0
P1053 P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	0	0	0	0	0	0	0	0
P1054 P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	0	0	0	0	0	0	0	0
P1055 P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	0	0	0	0	0	0	0	0
P1056 P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1057 P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0
P1058 P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0

MICROWAVE
AMPLIFIERS AND
OSCILLATORS

PCT MBR'S RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
	001	002	003	004	005	006	007	008	009	010	011	012	013	014	015	016	017	018	019	020
P1059 P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1060 P3-27 DO YOU TUNE PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1061 P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1062 P3-29 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1063 P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1064 P3-31 DO YOU INSPECT MAGNETRONS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1065 P3-32 DO YOU CLEAN MAGNETRONS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1066 P3-33 DO YOU ADJUST MAGNETRONS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1067 P3-34 DO YOU TUNE MAGNETRONS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1068 P3-35 DO YOU TROUBLESHOOT MAGNETRONS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1069 P3-36 DO YOU TROUBLESHOOT MAGNETRONS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1070 P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1071 P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1072 P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1073 P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1074 P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1075 P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1076 P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1077 P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1078 P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1079 P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1080 P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1081 P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1082 P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1083 P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRID CAVITY GAPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1084 P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1085 P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON MAGNETIC COUPLING LOOPS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1086 P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
P1087 P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BY-YSM

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	SPC 058
P1088 P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	0	0	0	0	0	0	0	0
P1089 P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	0	1	0	6	0	0	0	0
P1090 P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	0	1	0	6	0	0	0	0
P1091 P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	0	1	0	6	0	0	0	0
P1092 P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	0	1	0	6	0	0	0	0
P1093 P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	0	0	0	0	0	0	0	0
P1094 P3-61 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	0	0	0	0	0	0	0	0
P1095 P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	0	0	0	0	0	0	0	0
P1096 P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	0	0	0	0	0	0	0	0
P1097 P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	0	0	0	0	0	0	0	0
P1098 P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	0	0	0	0	0	0	0	0
P1099 P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	0	0	0	0	0	0	0	0
P1100 P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	0	0	0	0	0	0	0	0
P1101 P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	0	0	0	0	0	0	0	0
P1102 P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	0	0	0	0	0	0	0	0
P1103 P3-70 DO YOU PERFORM TASKS ON ANODES	0	0	0	0	0	0	0	0
P1104 P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PIMS	0	0	0	0	0	0	0	0
P1105 P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	0	0	0	0	0	0	0	0
P1106 P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	0	0	0	0	0	0	0	0
P1107 P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	0	0	0	0	0	0	0	0
P1108 P3-75 DO YOU PERFORM TASKS ON CATHODES	0	0	0	0	0	0	0	0
P1109 P3-76 DO YOU PERFORM TASKS ON MAGNETS	0	0	0	0	0	0	0	0
P1110 Q1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	5	5	0	0	20	3	9	0
P1111 Q1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	5	5	0	0	20	3	9	0
P1112 Q1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	5	5	0	0	20	3	9	0
P1113 Q1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	5	5	0	0	20	3	9	0
P1114 Q1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	4	4	0	0	20	2	4	0
P1115 Q1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	4	4	0	0	20	2	4	0

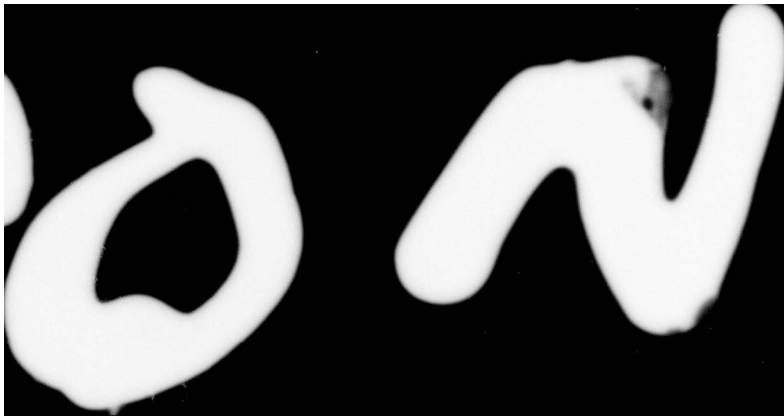
REGISTERS

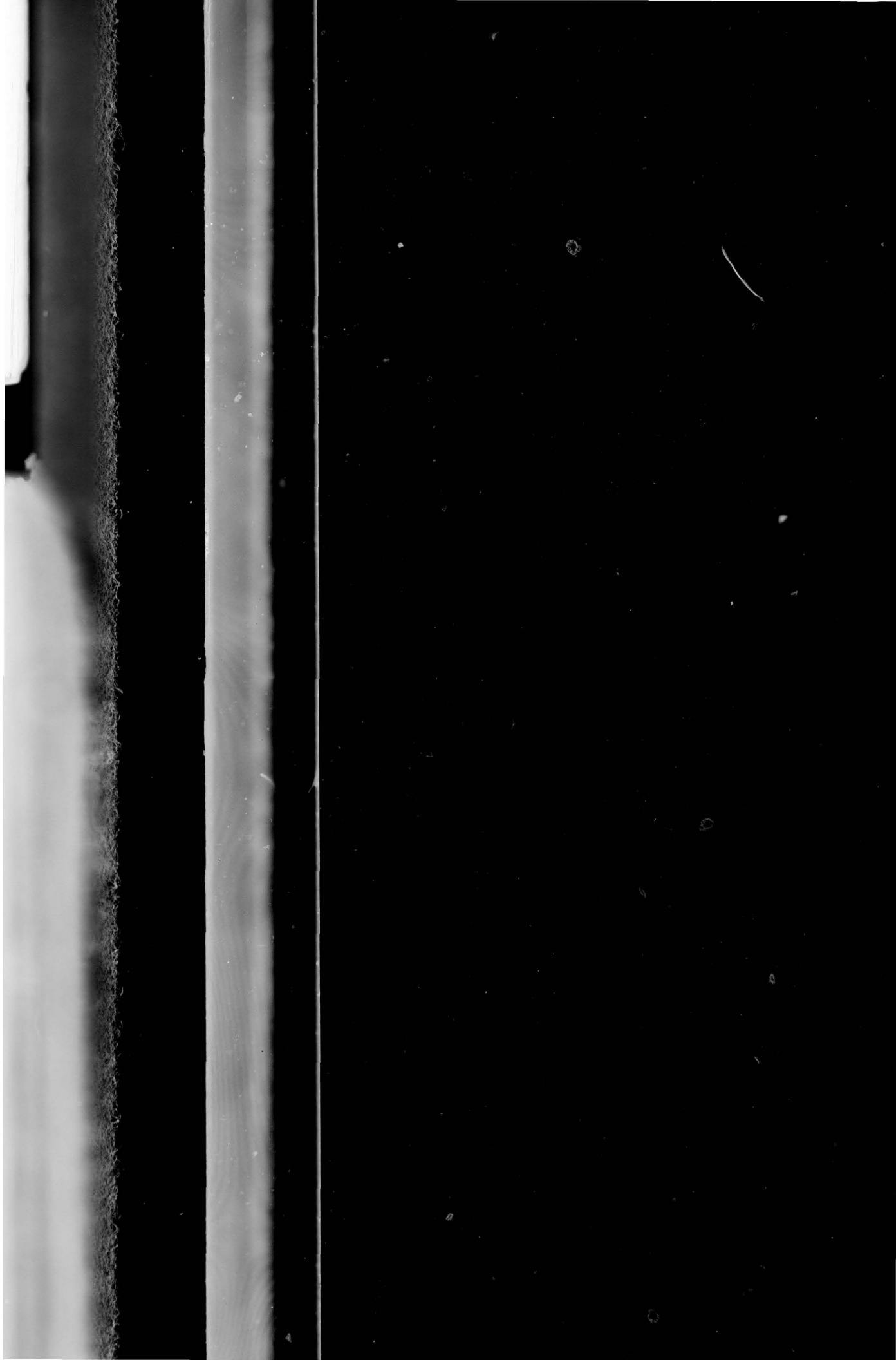
TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

TASK	DESCRIPTION	GRP 1		GRP 2		GRP 3		GRP 4		GRP 5		GRP 6		GRP 7		GRP 8		GRP 9		GRP 10	
		SPC	PER	SPC	PER	SPC	PER	SPC	PER	SPC	PER	SPC	PER	SPC	PER	SPC	PER	SPC	PER	SPC	PER
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	3	3	0	0	0	0	12	3	4	0										
Q1117	Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	8	8	0	0	0	0	28	4	17	0										
Q1118	Q2-02 DO YOU USE OR REFER TO DELAY LINES	6	5	0	0	0	0	12	4	17	0										
Q1119	Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES	5	5	0	0	0	0	8	4	17	0										
Q1120	Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS	6	5	0	0	0	0	12	4	17	0										
Q1121	Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES	6	5	0	0	0	0	12	4	17	0										
Q1122	Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR MEMORY SYSTEMS	6	6	0	0	0	0	16	4	13	0										
Q1123	Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	7	6	0	0	0	0	24	3	17	0										
Q1124	Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	4	4	0	0	0	0	8	4	4	0										
Q1125	Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	4	4	0	0	0	0	4	4	13	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	12	12	6	6	0	0	40	7	26	20										
Q1127	Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES	6	5	6	6	0	0	20	3	13	20										
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	4	3	6	6	0	0	4	3	9	20										
Q1129	Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	6	5	6	6	0	0	16	3	13	20										
Q1130	Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	3	3	0	0	0	0	12	3	4	0										
Q1131	Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	3	3	0	0	0	0	8	3	4	0										
Q1132	Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	3	3	0	0	0	0	12	3	4	0										
Q1133	Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	3	3	0	0	0	0	12	3	0	0										
Q1134	Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	4	4	0	0	0	0	12	3	13	0										
Q1135	Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	4	4	0	0	0	0	12	3	4	0										
Q1136	Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	4	4	0	0	0	0	12	3	4	0										
Q1137	Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	4	4	0	0	0	0	12	3	9	0										
Q1138	Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	5	5	0	0	0	0	16	3	9	0										
Q1139	Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	8	8	0	0	0	0	24	5	17	0										

STORAGE DEVICES

DIGITAL TO ANALOG CONVERTERS







AD-A044 125 AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9
ANALOG FLIGHT SIMULATOR SPECIALIST, AFSC 34153.(U)
AUG 77 T J O'CONNOR, J B KEETH

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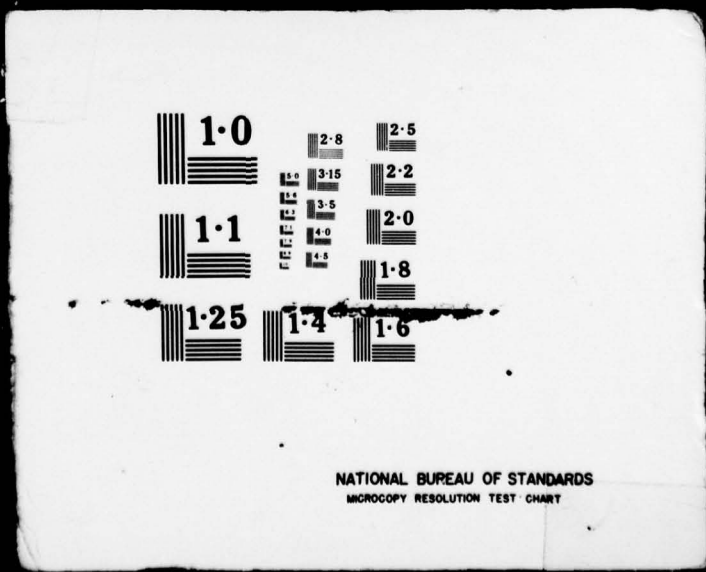


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NATIONAL BUREAU OF STANDARDS
MICROCOPY RESOLUTION TEST CHART

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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER AFPT 90-341-222	2. GOVT ACCESSION NO. AD A044125/154	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Analog Flight Simulator Specialist AFSC 34153		5. TYPE OF REPORT & PERIOD COVERED FINAL April 77 - June 77
7. AUTHOR(s) Thomas J. O'Connor James B. Keeth		6. PERFORMING ORG. REPORT NUMBER
9. PERFORMING ORGANIZATION NAME AND ADDRESS Occupational Survey Branch USAF Occupational Measurement Center Lackland AFB TX 78236		8. CONTRACT OR GRANT NUMBER(s)
11. CONTROLLING OFFICE NAME AND ADDRESS SAME AS ITEM 9		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)		12. REPORT DATE 22 August 1977
		13. NUMBER OF PAGES 14
		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Electronic principles Electronics Basic electronics Air Force Training Avionics Teaching Methods Electronic Equipment Training Electronic Technicians		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report summarized the results of the administration of the Electronic Principles Inventory to airmen assigned as Analog Flight Simulator Specialists (AFSC 34153). The report gives a detailed listing of the technical tasks and knowledge needed to perform the jobs within the specialty or career ladder. <i>Zover</i>		

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→ This specialty has the following functions:

Installs, maintains, repairs, inspects, operates and modifies analog flight simulators, motion systems, and associated electronic equipment. Performs preventive maintenance on analog flight simulators. Installs, repairs, adjusts, and modifies analog flight simulators. Operates analog flight simulators and simulator equipment. Supervises analog flight simulator personnel.

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