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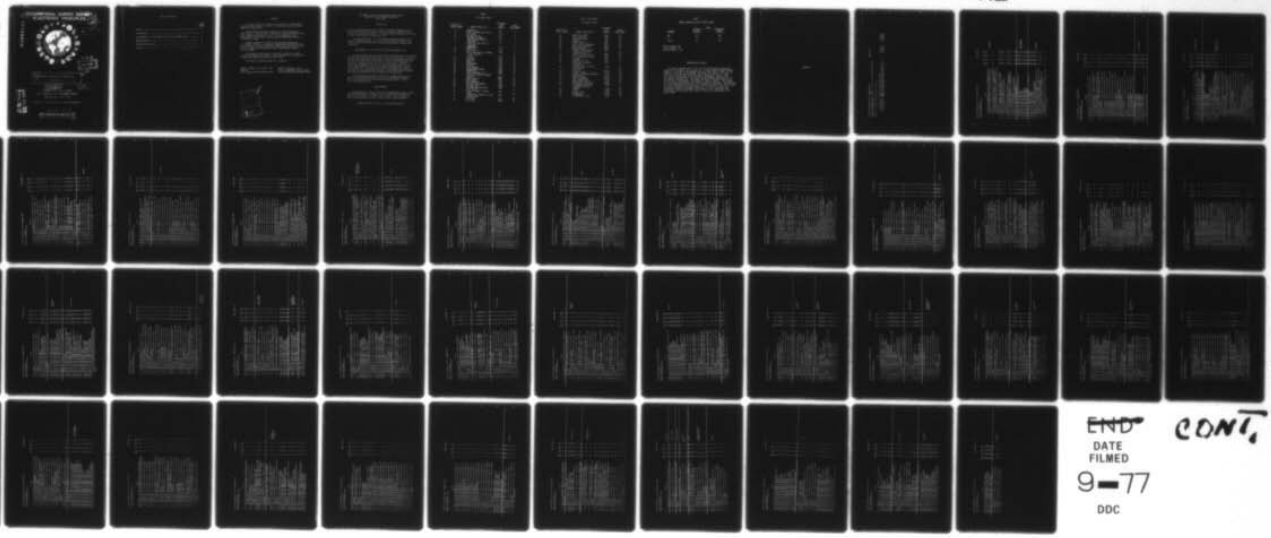

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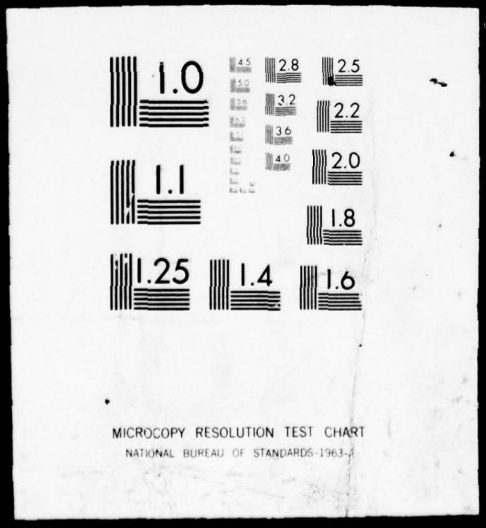

OCCUPATIONAL SURVEY REPORT.
ELECTRONIC PRINCIPLES

Apr-Jun 77.

DEFENSIVE SYSTEMS TRAINER SPECIALIST

AFSC 34152.

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22 AUGUST 1977

52 p.

OCCUPATIONAL SURVEY BRANCH
USAF OCCUPATIONAL MEASUREMENT CENTER
LACKLAND AFB TEXAS 78236

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PREFACE

This report presents a summary of the results of a detailed Air Force Electronic Principles Survey of the Defensive Systems Trainer Specialist, AFSC 34152.

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 Capt John X. Olivo. 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
DEFENSIVE SYSTEMS TRAINER SPECIALIST
AFSC 34152

INTRODUCTION

This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Defensive Systems Trainer Specialists (AFSC 34152). 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 34152 airmen worldwide. Responses from 48 individuals represented 78 percent of the total of all AFSC 34152 personnel. Table 2 shows the percentage distribution by major command of the survey incumbents.

TABLE 1

EPI SUBJECT AREAS

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

TABLE 1 (CONTINUED)

EPI SUBJECT AREAS

SEQUENCE OF SUBJECT AREAS	SUBJECT AREA TITLE	BEGINNING ITEM NUMBER	GPSUM PAGE NUMBER
33	NUMBERING SYSTEMS	K685	25
34	LOGIC FUNCTIONS	L695	25
35	BOOLEAN EQUATIONS	L708	26
36	COUNTERS	L733	27
37	TIMING CIRCUITS	M757	27
38	USE OF SIGNAL GENERATORS	M769	28
39	MOTORS AND GENERATORS	M779	28
40	METER MOVEMENTS	N808	29
41	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS	N818	29
42	WAVESHAPING CIRCUITS	N834	30
43	SINGLE SIDEBAND SYSTEMS	0845	30
44	PULSE MODULATION SYSTEMS	0875	31
45	ANTENNAS	0914	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

	34152	
COMMAND	PERCENT ASSIGNED	PERCENT OF SAMPLE
SAC	89	83
ATC	11	17
TOTAL	100	100

Total Assigned - 62
Total Sampled - 48
Percent Sampled - 78%

PRESENTATON OF RESULTS

Personnel responded "yes" or "no" to the 1,257 electronic principles questions as related to their present job. A Group Summary (GPSUM) computer printout is provided in the Appendix portion of this report. Page 1 of the GPSUM lists the four selected groups identified for this report. Pages 2-44 show the percentage of the incumbents responding to the EPI items. The computer program results display the percent members answering "yes" to the subject area questions. The reader can locate a specific subject area by referring to the Appendix page number as listed in Table 1. For example, the 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 Power Supplies (p. 19) to low in areas such as Saturable Reactors and Magnetic Amplifiers (p. 29). Additional AFSC 34152 data can be obtained upon request to the Chief, Occupational Survey Branch (OMY).

APPENDIX

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS
IN THE 341X2 CAREER FIELD.

REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY =	SPC026	ALL AIRMEN DAFSC 34152	CONTAINING	48 MEMBERS.
GROUP IDENTITY =	SPC027	ALL AIRMEN DAFSC 34152 STATIONED IN CONUS	CONTAINING	46 MEMBERS.
GROUP IDENTITY =	SPC029	ALL AIRMEN DAFSC 34152 ASSIGNED TO ATC	CONTAINING	6 MEMBERS.
GROUP IDENTITY =	SPC030	ALL AMN DAFSC 34152 ASSIGNED TO SAC	CONTAINING	40 MEMBERS.

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
A 1	A1-01 IN YOUR PRESENT JOB, DO YOU USE INSTRUMENTS, SUCH AS METERS OR OSCILLOSCOPES, IN WHICH IT IS NECESSARY TO AMPLIFY OR ATTENUATE VOLTAGE, RESISTANCE, ETC., BY POWERS OF 10.	92	92	100	90	MATHEMATICS
A 2	A1-02 DO YOU USE PUBLICATIONS, SUCH AS A TECHNICAL ORDERS OR MAINTENANCE MANUALS, IN WHICH IT IS NECESSARY FOR YOU TO MULTIPLY OR DIVIDE BY A POWER OF 10 BEFORE YOU CAN APPLY THE INFORMATION FROM THE PUBLICATION IN A USEFUL WAY ON THE JOB.	60	60	63	60	
A 3	A1-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	52	52	50	52	
A 4	A1-04 DO YOU CALCULATE THE SQUARE ROOT OF A QUANTITY.	13	13	0	15	
A 5	A1-05 DO YOU SOLVE FOR UNKNOWN QUANTITIES.	40	40	38	40	
A 6	A1-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	8	8	0	10	
A 7	A1-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	8	8	0	10	
A 8	A1-08 DO YOU SOLVE QUADRATIC EQUATIONS.	13	13	13	13	
A 9	A1-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS.	6	6	0	7	
A 10	A1-10 DO YOU PERFORM CALCULATIONS ON VECTOR QUANTITIES.	29	29	25	30	
A 11	A1-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	19	19	0	22	
A 12	A1-12 DO YOU DETERMINE AREAS OF PLANE FIGURES.	4	4	13	2	
A 13	A1-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	8	8	0	10	
A 14	A1-14 DO YOU SOLVE OR USE PROPORTIONS.	25	25	0	30	
A 15	A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT (V).	98	98	100	97	
A 16	A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	50	50	38	52	
A 17	A2-03 DO YOU USE THE TERM OHM.	98	98	100	97	DIRECT CURRENT AND VOLTAGE
A 18	A2-04 DO YOU USE THE TERM ION.	21	21	13	22	
A 19	A2-05 DO YOU USE THE TERM DYNE.	21	21	25	20	
A 20	A2-06 DO YOU USE THE TERM AMPERE.	96	96	88	97	
A 21	A2-07 DO YOU USE THE TERM NEUTRON.	19	19	0	22	
A 22	A2-08 DO YOU USE THE TERM COULOMB.	27	27	13	30	
A 23	A2-09 DO YOU USE THE TERM PROTON.	19	19	0	22	
A 24	A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	85	85	63	90	
A 25	A3-02 DO YOU INSPECT RESISTORS.	96	96	88	97	
A 26	A3-03 DO YOU CLEAN RESISTORS.	83	83	75	85	
A 27	A3-04 DO YOU ADJUST RESISTORS.	94	94	88	95	
A 28	A3-05 DO YOU CHECK OHMIC VALUE OF RESISTORS.	96	96	88	97	
A 29	A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	96	96	88	97	
A 30	A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS YOU PERFORM.	35	35	38	35	RESISTANCE
A 31	A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS SUCH AS FIXED RESISTOR SYMBOLS OR TAPPED RESISTOR SYMBOLS.	98	98	100	97	
A 32	A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT, OR POTENTIOMETER.	98	98	100	97	
A 33	A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE OHMIC VALUE OF RESISTANCE,	98	98	100	97	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
A	34	A3-11 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE TOLERANCE.	98	98	100	97	
A	35	A3-12 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE FAILURE RATE.	21	21	0	25	
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.	33	33	50	30	
A	37	A3-14 DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT BATTERIES, FUSES, CONDUCTORS, LAMPS, OR SWITCHES	98	98	100	97	
A	38	A3-15 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	65	65	50	67	
A	39	A3-16 DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	65	65	50	67	
A	40	A3-17 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	69	69	50	72	
A	41	A3-18 DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	56	56	38	60	
A	42	A3-19 DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	67	67	63	67	
A	43	A3-20 DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	67	67	63	67	
A	44	A3-21 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	69	69	63	70	
A	45	A3-22 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	65	65	50	67	
A	46	A3-23 DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	54	54	25	60	
A	47	A3-24 DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	67	67	63	67	
A	48	A3-25 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	67	67	63	67	
A	49	A3-26 DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	69	69	63	70	
A	50	A3-27 DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	60	60	50	63	
A	51	A3-28 DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	52	52	13	60	
B	52	B1-01 DO YOU MEASURE RESISTANCE.	98	98	100	97	
B	53	B1-02 DO YOU REPAIR OHMMETERS.	0	6	13	5	
B	54	B1-03 DO YOU MEASURE VOLTAGE.	96	96	88	97	
B	55	B1-04 DO YOU REPAIR VOLTMETERS.	6	6	0	7	MULTIMETER USES
B	56	B1-05 DO YOU REPAIR AMMETERS.	6	6	0	7	
B	57	B1-06 DO YOU MEASURE CURRENT.	88	88	86	88	
B	58	B1-07 DO YOU USE MULTIMETERS.	96	96	88	97	
B	59	B1-08 DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	17	17	13	17	
B	60	B1-09 DO YOU READ SCHEMATICS.	98	98	100	97	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
B	61	B2-01 DO YOU USE OR REFER TO THE TERM EFFECTIVE VOLTAGE (RMS).	73	73	63	75	ALTERNATING CURRENT
B	62	B2-02 DO YOU USE OR REFER TO THE TERM PEAK TO PEAK VOLTAGE.	92	92	75	95	
B	63	B2-03 DO YOU USE OR REFER TO THE TERM AVERAGE VOLTAGE (DC).	79	79	63	82	
B	64	B2-04 DO YOU USE OR REFER TO THE TERM WAVE LENGTH.	60	60	50	63	
B	65	B2-05 DO YOU USE OR REFER TO THE TERM FREQUENCY.	90	90	88	90	
B	66	B2-06 DO YOU USE OR REFER TO THE TERM INSTANTANEOUS VALUE.	23	23	0	27	
B	67	B3-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.	67	67	50	70	
B	68	B3-02 DO YOU INSPECT INDUCTORS.	60	60	50	63	
B	69	B3-03 DO YOU CLEAN INDUCTORS.	52	52	25	57	
B	70	B3-04 DO YOU ADJUST INDUCTORS.	52	52	38	55	
B	71	B3-05 DO YOU REMOVE OR REPLACE INDUCTORS.	63	63	50	65	
B	72	B3-06 DO YOU USE OR REFER TO INDUCTANCE.	44	44	25	47	
B	73	B3-07 DO YOU USE OR REFER TO HENRIES.	42	42	25	45	
B	74	B3-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.	42	42	25	45	
B	75	B3-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.	10	10	0	13	
B	76	B3-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.	15	15	0	17	INDUCTORS AND
B	77	B3-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS	17	17	0	20	INDUCTIVE REACTANCE
B	78	B3-12 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE NUMBER OF TURNS OF THE COIL.	15	15	25	13	
B	79	B3-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS SECTIONAL AREA OF THE CORE.	15	15	25	13	
B	80	B3-14 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO ITS LENGTH.	15	15	25	13	
B	81	B3-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE PERMEABILITY OF THE CORE MATERIAL.	17	17	25	15	
B	82	B3-16 DO YOU CALCULATE INDUCTANCE FOR PARTICULAR INDUCTORS USING FORMULAS.	17	17	0	20	
B	83	B3-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTANCE IN SERIES.	27	27	13	30	
B	84	B3-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	27	27	13	30	
B	85	B3-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	25	25	13	27	
B	86	B3-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.	27	27	13	30	
B	87	B3-21 DO YOU CALCULATE INDUCTIVE REACTANCE.	23	23	13	25	
B	88	B3-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.	21	21	13	22	
B	89	B3-23 DO YOU WORK WITH POWER INDUCTORS.	33	33	0	40	
B	90	B3-24 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	44	44	13	50	
B	91	B3-25 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	46	46	50	45	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		SPC 026	SPC 027	SPC 029	SPC 030	
	BY-TSK					
C 92	C1-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS IN YOUR PRESENT JOB.	92	92	100	90	CAPACITORS AND CAPACITIVE REACTANCE
C 93	C1-02 DO YOU INSPECT CAPACITORS.	96	96	100	95	
C 94	C1-03 DO YOU CLEAN CAPACITORS.	79	79	75	80	
C 95	C1-04 DO YOU ADJUST CAPACITORS.	88	88	88	88	
C 96	C1-05 DO YOU TEST CAPACITORS.	94	94	100	92	
C 97	C1-06 DO YOU DISCHARGE CAPACITORS.	88	88	100	85	
C 98	C1-07 DO YOU REMOVE OR REPLACE CAPACITORS.	98	98	100	97	
C 99	C1-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	27	27	25	27	
C 100	C1-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	2	2	0	2	
C 101	C1-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	90	90	75	92	
C 102	C1-11 DO YOU USE OR REFER TO CAPACITANCE.	88	88	63	92	
C 103	C1-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT	27	27	13	30	
C 104	C1-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS	81	81	63	85	
C 105	C1-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE	52	52	13	60	
C 106	C1-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES	58	58	38	63	
C 107	C1-16 DO YOU WORK WITH CAPACITORS IN DC CIRCUITS	98	98	100	97	
C 108	C1-17 DO YOU WORK WITH CAPACITORS IN AC CIRCUITS	94	94	100	92	
C 109	C1-18 DO YOU WORK WITH CAPACITORS IN CIRCUITS WITH BOTH DC AND AC	85	85	63	90	
C 110	C1-19 DO YOU WORK WITH CAPACITORS IN DON'T REMEMBER WHICH CIRCUITS	13	13	38	7	
C 111	C1-20 DO YOU CALCULATE CAPACITANCE FOR PARTICULAR CAPACITORS USING FORMULAS	19	19	13	20	
C 112	C1-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT	15	15	0	17	
C 113	C1-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS	15	15	13	15	
C 114	C1-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES	35	35	13	40	
C 115	C1-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL	38	38	13	42	
C 116	C1-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS	38	38	13	42	
C 117	C1-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO	33	33	13	38	
C 118	C1-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS	40	40	25	42	
C 119	C1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY	31	31	25	32	
C 120	C1-29 DO YOU CALCULATE CAPACITIVE REACTANCE	27	27	13	30	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
C 121	C1-30 DO YOU WORK WITH ROTOR-STATOR (VARIABLE) CAPACITORS	75	75	75	75	
C 122	C1-31 DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS	52	52	25	57	
C 123	C1-32 DO YOU WORK WITH ELECTROLYTIC (FIXED) CAPACITORS	96	96	100	95	
C 124	C1-33 DO YOU WORK WITH PAPER (FIXED) CAPACITORS	92	92	88	92	
C 125	C1-34 DO YOU WORK WITH MICA (FIXED) CAPACITORS	88	88	88	88	
C 126	C1-35 DO YOU WORK WITH CERAMIC (FIXED) CAPACITORS	90	90	88	90	
C 127	C1-36 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS	8	8	0	10	
C 128	C2-01 DO YOU WORK WITH TRANSFORMERS IN YOUR PRESENT JOB	90	90	100	88	
C 129	C2-02 DO YOU INSPECT TRANSFORMERS	94	94	100	92	
C 130	C2-03 DO YOU CLEAN TRANSFORMERS	73	73	75	72	
C 131	C2-04 DO YOU ADJUST TRANSFORMERS	73	73	63	75	
C 132	C2-05 DO YOU TROUBLESHOOT TRANSFORMERS	83	83	75	85	
C 133	C2-06 DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS	94	94	100	92	TRANSFORMERS
C 134	C2-07 DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING	19	19	13	20	
C 135	C2-08 DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTION AND MUTUAL INDUCTANCE (M)	8	8	0	10	
C 136	C2-09 DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M	10	10	0	13	
C 137	C2-10 DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS	19	19	0	22	
C 138	C2-11 DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS	19	19	0	22	
C 139	C2-12 DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS	10	10	0	13	
C 140	C2-13 DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS	10	10	0	13	
C 141	C2-14 DO YOU WORK WITH AUTOTRANSFORMERS	27	27	13	30	
C 142	C2-15 DO YOU WORK WITH POWER TRANSFORMERS	83	83	75	85	
C 143	C2-16 DO YOU WORK WITH AUDIO TRANSFORMERS	65	65	63	65	
C 144	C2-17 DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS	65	65	88	60	
C 145	C2-18 DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMERS	13	13	0	15	
C 146	C2-19 DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE	85	85	75	88	
C 147	C2-20 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE	81	81	75	82	
C 148	C2-21 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES	75	75	63	77	
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	44	44	38	45	
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	67	67	63	67	
C 151	C2-24 DO YOU REFER TO BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS	88	88	75	90	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 020	SPC 027	SPC 029	SPC 030	
C 152	C2-25	DO YOU REFER TO MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS	69	69	75	67	
C 153	C2-26	DO YOU REFER TO MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	81	81	75	82	
C 154	C2-27	DO YOU REFER TO CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS	81	81	75	82	
C 155	C2-28	DO YOU REFER TO AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	52	52	38	55	
C 156	C2-29	DO YOU REFER TO IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS	54	54	38	57	
C 157	C2-30	DO YOU REFER TO COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS	60	60	50	63	
C 158	C2-31	DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS	46	48	13	55	
C 159	C2-32	DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH	33	33	0	40	
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	27	27	0	32	
C 161	C2-34	DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS FOR TRANSFORMERS	52	52	25	57	
C 162	C2-35	DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS	23	23	0	27	
C 163	C2-36	DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS	17	17	0	20	
C 164	C2-37	DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH THREE PHASE TRANSFORMERS	54	54	50	55	
C 165	C2-38	DO YOU INSPECT THREE PHASE TRANSFORMERS	38	38	25	40	
C 166	C2-39	DO YOU CLEAN OR LUBRICATE THREE PHASE TRANSFORMERS	27	27	25	27	
C 167	C2-40	DO YOU ADJUST THREE PHASE TRANSFORMERS	25	25	13	27	
C 168	C2-41	DO YOU TROUBLESHOOT THREE PHASE TRANSFORMERS	40	40	25	42	
C 169	C2-42	DO YOU REMOVE OR REPLACE COMPLETE THREE PHASE TRANSFORMERS	42	42	25	45	
C 170	C2-43	DO YOU REMOVE OR REPLACE THREE PHASE TRANSFORMER PARTS SUCH AS WINDINGS	8	8	0	10	
C 171	C3-01	DO YOU USE OR REFER TO PERMANENT MAGNETS	35	35	13	40	
C 172	C3-02	DO YOU USE OR REFER TO TEMPORARY MAGNETS	33	33	0	40	
C 173	C3-03	DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS	19	19	0	22	
C 174	C3-04	DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS	13	13	0	15	
C 175	C3-05	DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS	15	15	0	17	MAGNETISM
C 176	C3-06	DO YOU USE OR REFER TO RESIDUAL MAGNETISM	21	21	0	25	
C 177	C3-07	DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX	23	23	0	27	
C 178	C3-08	DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM	6	6	0	10	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		DI-ISK	SPC 026	SPC 027	SPC 029	SPC 030	
C	179	C3-09 DO YOU USE OR REFER TO DOMAIN THEORY OF MAGNETISM	8	8	0	10	
C	180	C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION	23	23	13	25	
C	181	C3-11 DO YOU USE OR REFER TO FLUX DENSITY	17	17	0	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	42	42	38	42	
C	183	C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES	27	27	25	27	
C	184	C3-14 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL	27	27	25	27	
D	185	D1-01 DO YOU WORK WITH RC, LR, RCL CIRCUITS IN YOUR PRESENT JOB	58	58	13	67	
D	186	D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS	21	21	0	25	
D	187	D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS	19	19	0	22	
D	188	D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS	15	15	0	17	RCL CIRCUITS
D	189	D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS	13	13	0	15	
D	190	D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS	10	10	0	13	
D	191	D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS	48	48	13	55	
D	192	D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS	23	23	0	27	
D	193	D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS	19	19	0	22	
D	194	D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS	19	19	0	22	
D	195	D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS	19	19	0	22	
D	196	D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS	19	19	0	22	
D	197	D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS	35	35	0	42	
D	198	D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS	56	56	0	67	
D	199	D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS	29	29	0	35	
D	200	D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS	35	35	0	42	
D	201	D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS	21	21	0	25	
D	202	D1-18 DO YOU USE OR REFER TO BANDPASS REGION WHEN WORKING WITH RCL CIRCUITS	23	23	0	27	
D	203	D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS	21	21	0	25	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030
D 204	D1-20 DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS	50	50	13	57
D 205	D1-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS	15	15	0	17
D 206	D1-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS	15	15	13	15
D 207	D1-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS	21	21	13	22
D 208	D1-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS	15	15	13	15
D 209	D1-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS	19	19	0	22
D 210	D1-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS	4	4	0	5
D 211	D1-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS	15	15	0	17
D 212	D1-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS	17	17	0	20
D 213	D1-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS	15	15	0	17
D 214	D1-30 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS	19	19	0	22
D 215	D1-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS	4	4	0	5
D 216	D1-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD	6	6	0	7
D 217	D1-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHMS LAW	21	21	0	25
D 218	D1-34 DO YOU CHECK CAPACITORS USING OHMMETERS	73	73	50	77
D 219	D1-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION	60	60	50	63
D 220	D1-36 DO YOU CHECK INDUCTORS USING OHMMETERS	54	54	38	57
D 221	D1-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION	42	42	25	45
D 222	D1-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA= 0, PF = 1, AND PA = PT FOR RESONANT CIRCUITS	15	15	0	17
D 223	D1-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS	17	17	0	20
D 224	D1-40 DO YOU USE OR REFER TO THE GENERAL RULE THAT IMPEDANCE IS MINIMUM AND CURRENT MAXIMUM AT THE RESONANT FREQUENCY FOR SERIES RCL CIRCUITS	15	15	0	17
D 225	D1-41 DO YOU USE OR REFER TO THE GENERAL RULE THAT LINE CURRENT IS MINIMUM AND IMPEDANCE MAXIMUM AT RESONANT FREQUENCY FOR PARALLEL RCL CIRCUITS	10	10	0	13
D 226	D1-42 DO YOU USE OR REFER TO THE GENERAL RULE THAT HALF POWER POINTS ARE AT 70.7 PERCENT OF THE PEAK CURRENT VALUE	23	23	13	25
D 227	D1-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q	13	13	13	13
D 228	D1-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT OR PHASE ANGLES FOR RCL CIRCUITS	21	21	0	25

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
D 229	D2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANT CIRCUITS OR TIME CONSTANTS	38	38	13	42	
D 230	D2-02 DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS	40	40	13	45	
D 231	D2-03 DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE	27	27	0	32	SERIES AND PARALLEL RESONANCE (TIME CONSTANTS)
D 232	D3-04 DO YOU WORK WITH, USE, OR REFER TO TRANSIENT INTERVALS	17	17	0	20	
D 233	D2-05 DO YOU USE OR REFER TO THE GENERAL RULE THAT A CAPACITOR IS FULLY CHARGED (OR DISCHARGED) AFTER FIVE (5) TIME CONSTANTS (TC)	29	29	13	32	
D 234	D2-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS	10	10	0	13	
D 235	D2-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUIT CURRENT OR COMPONENT VOLTAGES AFTER A SPECIFIC TIME FOR RC OR LR CIRCUITS	19	19	0	22	
D 236	D2-08 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE THE TIME REQUIRED FOR CIRCUIT CURRENT OR COMPONENT VOLTAGES TO REACH SPECIFIC VALUES FOR RC OR LR CIRCUITS	19	19	0	22	
D 237	D2-09 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE COMPONENT VALUES REQUIRED FOR CIRCUIT CURRENT AND COMPONENT VOLTAGES TO REACH SPECIFIC VALUES IN SPECIFIC TIMES	17	17	13	17	
D 238	D2-10 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT IN LR CIRCUITS REACHES ITS MINIMUM VALUE (OR ZERO) AFTER FIVE (5) TIME CONSTANTS	19	19	0	22	
D 239	D3-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS IN YOUR PRESENT JOB	63	63	38	67	
D 240	D3-02 DO YOU INSPECT FILTER CIRCUITS	69	69	25	77	
D 241	D3-03 DO YOU CLEAN FILTER CIRCUITS	50	50	25	55	
D 242	D3-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS	50	50	25	55	
D 243	D3-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT LEVEL	65	65	25	72	
D 244	D3-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS	65	65	25	72	
D 245	D3-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT	63	63	25	70	FILTERS
D 246	D3-08 DO YOU REMOVE OR REPLACE FILTER CIRCUIT COMPONENT PARTS	65	65	13	75	
D 247	D3-09 DO YOU WORK WITH LOW PASS FILTERS	50	50	25	55	
D 248	D3-10 DO YOU WORK WITH HIGH PASS FILTERS	48	48	25	52	
D 249	D3-11 DO YOU WORK WITH BANDPASS FILTERS	46	46	25	50	
D 250	D3-12 DO YOU WORK WITH BAND-REJECT FILTERS	42	42	25	45	
D 251	D3-13 DON'T REMEMBER WHICH TYPE OF FILTER YOU WORK WITH	29	29	13	32	
D 252	D3-14 DO YOU WORK WITH L-SECTION FILTER CONFIGURATION	40	40	0	47	
D 253	D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATION	42	42	0	50	
D 254	D3-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATION	35	35	0	42	
D 255	D3-17 DON'T REMEMBER WHICH TYPE FILTER CONFIGURATION	25	25	38	22	
D 256	D3-18 DO THE FILTERS YOU WORK WITH USE PARALLEL RESONANT CIRCUITS	40	40	25	42	
D 257	D3-19 DO THE FILTERS YOU WORK WITH USE SERIES-PARALLEL CIRCUITS	50	50	25	55	
D 258	D3-20 DO THE FILTERS YOU WORK WITH USE SERIES RESONANT CIRCUITS	40	40	25	42	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
D 259	D3-21 DON'T REMEMBER WHICH TYPE OF BASIC CIRCUIT	25	25	13	27	
D 260	D3-22 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC FILTERS	17	17	13	17	
E 261	E1-01 DO YOU WORK WITH COUPLING DEVICES IN YOUR PRESENT JOB	77	77	50	82	
E 262	E1-02 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH RC COUPLING	71	71	38	77	
E 263	E1-03 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH IMPEDANCE COUPLING	58	58	38	63	
E 264	E1-04 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH TRANSFORMER COUPLING	67	67	13	77	COUPLING
E 265	E1-05 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM RC COUPLING	71	71	38	77	
E 266	E1-06 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM IMPEDANCE COUPLING	56	56	38	60	
E 267	E1-07 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM TRANSFORMER COUPLING	69	69	38	75	
E 268	E1-08 DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS	71	71	38	77	
E 269	E1-09 DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS	65	65	25	72	
E 270	E1-10 DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS	54	54	25	60	
E 271	E1-11 DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS	67	67	38	72	
E 272	E1-12 DON'T REMEMBER WHICH TYPE OF COUPLING CIRCUITS	15	15	13	15	
E 273	E2-01 IN YOUR PRESENT JOB, DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS	96	96	100	95	
E 274	E2-02 DO YOU SELECT TYPE OF SOLDER TO USE	81	81	75	82	
E 275	E2-03 DO YOU ADD FLUX TO CONNECTIONS	88	88	75	90	
E 276	E2-04 DO YOU CLEAN CONNECTIONS USING SOLVENTS	81	81	63	85	
E 277	E2-05 DO YOU STRIP INSULATION FROM WIRES	98	98	100	97	SOLDERING
E 278	E2-06 DO YOU CONNECT OR DISCONNECT HEAT SINKS	98	98	100	97	
E 279	E2-07 DO YOU BEND OR SHAPE WIRES OR LEADS	98	98	100	97	
E 280	E2-08 DO YOU CUT WIRES	96	96	88	97	
E 281	E2-09 DO YOU FILE OR SHAPE SOLDERING IRON TIPS	79	79	75	80	
E 282	E2-10 DO YOU TIN SOLDERING IRON TIPS	94	94	88	95	
E 283	E2-11 DO YOU CLEAN SOLDERING IRON TIPS	98	98	100	97	
E 284	E2-12 DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS	90	90	75	92	
E 285	E2-13 DO YOU TIN OR PRE-TIN CONDUCTORS	96	96	88	97	
E 286	E2-14 DO YOU INSPECT SOLDERED CONNECTIONS	98	98	100	97	
E 287	E2-15 DO YOU DESOLDER CONNECTIONS BY WICKING	79	79	100	75	
E 288	E2-16 DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS	88	88	75	90	
E 289	E2-17 DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS	81	81	100	77	
E 290	E2-18 DO YOU CRUSH COMPONENTS FOR REMOVAL	44	44	50	42	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
E 291	E2-19 DO YOU MAKE HARDWIRE CONNECTIONS	96	96	100	95	
E 292	E2-20 DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	94	94	100	92	
E 293	E2-21 DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	96	96	100	95	
E 294	E2-22 DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	94	94	100	92	
E 295	E3-01 DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	94	94	88	95	
E 296	E3-02 DO YOU ADJUST RELAYS	63	63	88	57	
E 297	E3-03 DO YOU CLEAN RELAYS	90	90	100	88	
E 298	E3-04 DO YOU INSPECT RELAYS	96	96	100	95	
E 299	E3-05 DO YOU REMOVE OR REPLACE COMPLETE RELAYS	90	90	75	92	
E 300	E3-06 DO YOU REMOVE OR REPLACE PARTS OR RELAYS	46	46	75	42	
E 301	E3-07 DO YOU TROUBLESHOOT RELAYS	88	88	75	90	
E 302	E3-08 DO YOU STRAIGHTEN RELAY CONTACTS	83	83	100	80	
E 303	E3-09 DO YOU PERFORM TASKS ON RELAY CONTACTS	83	83	100	80	RELAYS
E 304	E3-10 DO YOU PERFORM TASKS ON RELAY CORES	29	29	50	25	
E 305	E3-11 DO YOU PERFORM TASKS ON RELAY COILS	38	38	63	32	
E 306	E3-12 DO YOU PERFORM TASKS ON RELAY ARMATURES	40	40	63	35	
E 307	E3-13 DO YOU PERFORM TASKS ON RELAY SPRINGS	52	52	75	47	
E 308	E3-14 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPEN (NO) SCHEMATIC SYMBOLS FOR RELAYS	85	85	88	85	
E 309	E3-15 DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	85	85	88	85	
E 310	E3-16 DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	79	79	88	77	
E 311	E3-17 DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	81	81	88	80	
E 312	E3-18 DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	79	79	75	80	
E 313	E3-19 DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	83	83	75	85	
F 314	F1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	83	83	75	85	
F 315	F1-02 DO YOU INSPECT MICROPHONES	79	79	75	80	
F 316	F1-03 DO YOU CLEAN MICROPHONES	75	75	75	75	
F 317	F1-04 DO YOU OPERATE MICROPHONES	83	83	75	85	
F 318	F1-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OR MICROPHONES	69	69	25	77	
F 319	F1-06 DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	33	33	50	30	MICROPHONES
F 320	F1-07 DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	81	81	75	82	
F 321	F1-08 DO YOU REMOVE OR REPLACE MICROPHONE PARTS	29	29	50	25	
F 322	F1-09 DO YOU PERFORM TASKS ON CARBON MICROPHONES	63	63	75	60	
F 323	F1-10 DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	10	10	0	13	
F 324	F1-11 DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	33	33	38	32	
F 325	F1-12 DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	63	63	75	60	
F 326	F1-13 DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	2	2	0	2	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
F	327	F2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS	65	65	75	63	SPEAKERS
F	328	F2-02 DO YOU INSPECT SPEAKERS	60	60	75	57	
F	329	F2-03 DO YOU CLEAN SPEAKERS	58	58	75	55	
F	330	F2-04 DO YOU OPERATE SPEAKERS	63	63	75	60	
F	331	F2-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS	54	54	25	60	
F	332	F2-06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS	29	29	63	22	
F	333	F2-07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS	63	63	75	60	
F	334	F2-08 DO YOU REMOVE OR REPLACE SPEAKER PARTS	19	19	63	10	
F	335	F2-09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES	10	10	13	10	
F	336	F2-10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS	0	0	0	0	
F	337	F2-11 DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS	6	6	13	5	
F	338	F2-12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS	8	8	0	10	
F	339	F2-13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS	8	8	0	10	
F	340	F2-14 DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS	10	10	13	10	
F	341	F2-15 DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON CORES	4	4	0	5	
F	342	F3-01 DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB	96	96	100	95	
F	343	F3-02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS	96	96	100	95	
F	344	F3-03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS	96	96	100	95	
F	345	F3-04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS	94	94	88	95	OSCILLOSCOPES
F	346	F3-05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY	96	96	100	95	
F	347	F3-06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME	94	94	88	95	
F	348	F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISAJOUS PATTERNS	54	54	38	57	
F	349	F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES	96	96	100	95	
F	350	F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS	67	67	63	67	
F	351	F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE	96	96	100	95	
F	352	F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS	83	83	75	85	
F	353	F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE	96	96	100	95	
G	354	G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB	98	96	100	97	
G	355	G1-02 DO YOU INSPECT DIODES	98	98	100	97	
G	356	G1-03 DO YOU REMOVE OR REPLACE DIODES	98	98	100	97	
G	357	G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT	98	98	100	97	SEMICONDUCTOR DIODES
G	358	G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES	15	15	0	17	
G	359	G1-06 DO YOU USE PN JUNCTION DIODE CHARACTERISTIC CURVES, TOGETHER WITH VALUES OF FORWARD AND REVERSE BIAS VOLTAGE, TO COMPUTE FORWARD OR REVERSE BIAS RESISTANCE	23	23	13	25	
G	360	G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES	38	38	25	40	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030
G 361	G1-08 DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	79	79	75	80
G 362	G1-09 DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE	90	90	88	90
G 363	G1-10 DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	25	25	0	30
G 364	G1-11 DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	71	71	38	77
G 365	G1-12 DO YOU USE OR REFER TO DIODE COLOR CODING	67	67	13	77
G 366	G1-13 DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	10	10	0	13
G 367	G1-14 DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	8	8	0	10
G 368	G1-15 DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	88	88	75	90
G 369	G1-16 DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	10	10	0	13
G 370	G1-17 DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	10	10	0	13
G 371	G1-18 DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	67	67	50	70
G 372	G1-19 DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	13	13	0	15
G 373	G1-20 DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	10	10	0	13
G 374	G1-21 DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	13	13	0	15
G 375	G1-22 DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	15	15	0	17
G 376	G1-23 DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	15	15	0	17
G 377	G1-24 DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	90	90	100	88
G 378	G1-25 DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	42	42	38	42
G 379	G1-26 DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES RESISTANCE DECREASES)	48	48	25	52
G 380	G1-27 DO YOU USE OR REFER TO PN JUNCTION DIODE CHARACTERISTIC CURVES, SUCH AS VOLTAGE - CURRENT CHARACTERISTIC CURVES (PERHAPS YOU DO THIS TO IDENTIFY POINTS OF STRUCTURAL BREAKDOWN OR OPERATING REGIONS)	27	27	0	32
G 381	G1-28 DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS	69	69	63	70
G 382	G1-29 DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	23	23	0	27

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
G 383	G1-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	17	17	0	20	
G 384	G1-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	19	19	0	22	
G 385	G1-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	19	19	0	22	
G 386	G1-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	19	19	0	22	
G 387	G1-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	27	27	0	32	
G 388	G1-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	21	21	0	25	
G 389	G1-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	23	23	0	27	
G 390	G1-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	44	44	50	42	
G 391	G1-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	44	44	50	42	
G 392	G1-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	27	27	0	32	
G 393	G1-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	27	27	0	32	
G 394	G1-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	21	21	0	25	
G 395	G1-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	25	25	13	27	
G 396	G1-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	27	27	0	32	
G 397	G1-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	54	54	50	55	
G 398	G1-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	17	17	0	20	
G 399	G1-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	83	83	75	85	
G 400	G1-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	48	48	13	55	
G 401	G1-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	44	44	13	50	
G 402	G1-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	46	46	13	52	
G 403	G1-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	52	52	13	60	
G 404	G2-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB•	96	96	100	95	
G 405	G2-02 DO YOU INSPECT TRANSISTORS	98	98	100	97	
G 406	G2-03 DO YOU REMOVE OR REPLACE TRANSISTORS	98	98	100	97	
G 407	G2-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	98	98	100	97	TRANSISTORS
G 408	G2-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	96	96	100	95	
G 409	G2-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	96	96	100	95	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
G 410	G2-07 DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC) RESISTANCE MEASUREMENTS	94	94	88	95	
G 411	G2-08 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	40	40	13	45	
G 412	G2-09 DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	40	40	13	45	
G 413	G2-10 DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	73	73	63	75	
G 414	G2-11 DO YOU USE OR REFER TO LEAKAGE CURRENT (ICBO) IN A TRANSISTOR	46	46	25	50	
G 415	G2-12 DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS	98	98	100	97	
G 416	G2-13 DO YOU USE OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, ETC	98	98	100	97	
G 417	G2-14 DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	90	90	75	92	
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)	54	54	25	60	
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	67	67	25	75	
G 420	G2-17 DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICBO) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	38	38	13	42	
G 421	G2-18 DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	25	25	13	27	
G 422	G2-19 DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	25	25	0	30	
G 423	G2-20 DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	25	25	0	30	
G 424	G2-21 DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	23	23	0	27	
G 425	G2-22 DO YOU CALCULATE BETA TRANSISTOR GAINS	13	13	0	15	
G 426	G2-23 DO YOU CALCULATE ALPHA TRANSISTOR GAINS	13	13	0	15	
G 427	G2-24 DO YOU CALCULATE GAMMA TRANSISTOR GAINS	13	13	0	15	
G 428	G3-01 DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	85	85	88	85	
G 429	G3-02 DO YOU INSPECT TRANSISTOR AMPLIFIERS	77	77	63	80	
G 430	G3-03 DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	75	75	50	80	TRANSISTOR AMPLIFIERS
G 431	G3-04 DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	81	81	88	80	
G 432	G3-05 DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	81	81	88	80	
G 433	G3-06 DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	73	73	63	75	
G 434	G3-07 DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	83	83	88	82	
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	44	44	25	47	
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	23	23	0	27	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030
G 437	G3-10 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT	46	46	25	50
G 438	G3-11 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	27	27	13	30
G 439	G3-12 DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	46	46	25	50
G 440	G3-13 DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL	29	29	25	30
G 441	G3-14 DO YOU USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR CIRCUIT ANALYSIS (THIS METHOD REQUIRES YOU TO PLOT A LOAD-LINE ON A TRANSISTOR CHARACTERISTIC CURVE)	15	15	0	17
G 442	G3-15 DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR	19	19	13	20
G 443	G3-16 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	13	13	13	13
G 444	G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION	58	58	25	65
G 445	G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION	48	48	25	52
G 446	G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION	42	42	25	45
G 447	G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE-EMITTER VOLTAGE INTO THE CHANGE THE BASE COLLECTOR VOLTAGE TO DETERMINE THE VOLTAGE GAIN	17	17	0	20
G 448	G3-21 DO YOU CALCULATE THE CURRENT GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS, DO YOU DIVIDE THE CHANGE IN BASE CURRENT INTO THE CHANGE IN COLLECTOR CURRENT TO DETERMINE THE CURRENT GAIN	17	17	0	20
G 449	G3-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY THE CURRENT GAIN TIMES THE VOLTAGE GAIN TO DETERMINE THE POWER GAIN	19	19	13	20
G 450	G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES (THIS AFFECTS THE STATIC OPERATING POINT [Q] OF THE TRANSISTOR)	21	21	13	22
G 451	G3-24 DO YOU COMPUTE THE STATIC OPERATING POINT [Q] OF A TRANSISTOR AT DIFFERENT TEMPERATURES	10	10	0	13
G 452	G3-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH EMITTER (SWAMPING) RESISTOR STABILIZATION	48	48	0	57
G 453	G3-26 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION	46	48	13	55

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030
G 454	G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION	40	40	13	45
G 455	G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATION	48	48	13	55
G 456	G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION	48	48	13	55
G 457	G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION	38	38	13	42
G 458	G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION	54	54	0	65
G 459	G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION	54	54	13	63
G 460	G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION	44	44	13	50
G 461	G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION	56	56	13	65
G 462	G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION	54	54	13	63
G 463	G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION	40	40	13	45
G 464	G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS	63	63	13	72
G 465	G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION	67	67	25	75
G 466	G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS	56	56	13	65
G 467	G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS	50	50	13	57
G 468	G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION	46	46	13	52
G 469	G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION	52	52	13	60
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	33	33	13	38
G 471	G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	42	42	13	47
G 472	G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	35	35	13	40
G 473	G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	60	60	13	70
G 474	G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS	38	38	0	45
G 475	G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	38	38	0	45

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		KY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
G	476	G3-49 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	40	40	13	45	
M	477	H1-01 DO YOU USE OR REFER TO VARACTORS	35	35	13	40	
M	478	H1-02 DO YOU USE OR REFER TO TUNNEL DIODES	38	38	13	42	
M	479	H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	56	56	25	63	SOLID-STATE SPECIAL PURPOSE DEVICES
M	480	H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	58	58	13	67	
M	481	H1-05 DO YOU USE OR REFER TO ZENER DIODES	90	90	75	92	
M	482	H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS	90	90	75	92	
M	483	H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	98	98	100	97	
M	484	H2-02 DO YOU INSPECT POWER SUPPLIES	98	96	100	97	
M	485	H2-03 DO YOU CLEAN POWER SUPPLIES	96	96	100	95	
M	486	H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES	98	98	100	97	
M	487	H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	96	96	100	95	
M	488	H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	94	94	100	92	
M	489	H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	94	94	100	92	POWER SUPPLIES
M	490	H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	96	96	100	95	
M	491	H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS	85	85	63	90	
M	492	H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	90	90	63	95	
M	493	H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS	92	92	88	92	
M	494	H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS	69	69	63	70	
M	495	H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE	96	96	100	95	
M	496	H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY	75	75	63	77	
M	497	H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	85	85	63	90	
M	498	H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	75	75	63	77	
M	499	H2-17 DO YOU USE OR REFER TO RIPPLE AMPLITUDE	83	83	75	85	
M	500	H2-18 DO YOU USE OR REFER TO RIPPLE FREQUENCY	63	63	50	65	
M	501	H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	54	54	38	57	
M	502	H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS	92	92	88	92	
M	503	H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	85	85	75	88	
M	504	H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	77	77	75	77	
M	505	H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	60	60	50	63	
M	506	H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	58	58	50	60	
M	507	H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	52	52	25	57	
M	508	H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	50	50	25	55	
M	509	H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	54	54	50	55	
M	510	H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DON'T REMEMBER WHICH TYPE OF FILTER	21	21	13	22	
M	511	H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	10	10	0	13	
M	512	H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	73	73	75	72	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
M 513	H3-02 DO YOU INSPECT OSCILLATORS	77	77	75	77	
M 514	H3-03 DO YOU ALIGN OR ADJUST OSCILLATORS	71	71	75	70	OSCILLATORS
M 515	H3-04 DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	71	71	75	70	
M 516	H3-05 DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	71	71	75	70	
M 517	H3-06 DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	77	77	75	77	
M 518	H3-07 DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	69	69	75	67	
M 519	H3-08 DO YOU USE OR REFER TO FEEDBACK	50	50	38	52	
M 520	H3-09 DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)	48	48	38	50	
M 521	H3-10 DO YOU USE OR REFER TO AMPLITUDE STABILITY	50	50	25	55	
M 522	H3-11 DO YOU USE OR REFER TO FREQUENCY STABILITY	56	56	25	63	
M 523	H3-12 DO YOU USE OR REFER TO DAMPING	46	46	25	50	
M 524	H3-13 DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	48	48	25	52	
M 525	H3-14 DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	33	33	13	38	
M 526	H3-15 DO YOU USE OR REFER TO CRITICAL DAMPING	35	35	25	38	
M 527	H3-16 DO YOU USE OR REFER TO UNDER DAMPING	33	33	25	35	
M 528	H3-17 DO YOU USE OR REFER TO OVER DAMPING	33	33	25	35	
M 529	H3-18 DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	46	46	25	50	
M 530	H3-19 DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	48	48	25	52	
M 531	H3-20 DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	44	44	38	45	
M 532	H3-21 DO YOU WORK WITH OSCILLATORS WHICH USE DON'T REMEMBER WHICH TYPE OF FDD	17	17	13	17	
M 533	H3-22 DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	35	35	25	38	
M 534	H3-23 DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	35	35	25	38	
M 535	H3-24 DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	35	35	25	38	
M 536	H3-25 DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	27	27	25	27	
M 537	H3-26 DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	31	31	25	32	
M 538	H3-27 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF OSCILLATORS	25	25	13	27	
I 539	I1-01 DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	81	81	75	82	
I 540	I1-02 DO YOU INSPECT WAVE GENERATING OR SHAPING CIRCUITS	75	75	38	82	
I 541	I1-03 DO YOU ALIGN OR ADJUST WAVE GENERATING OR SHAPING CIRCUITS	73	73	38	80	
I 542	I1-04 DO YOU CALIBRATE WAVE GENERATING OR SHAPING CIRCUITS	73	73	38	80	MULTIVIBRATORS
I 543	I1-05 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUITS	71	71	38	77	
I 544	I1-06 DO YOU TROUBLESHOOT TO WAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	75	75	63	77	
I 545	I1-07 DO YOU REMOVE OR REPLACE COMPLETE WAVE GENERATING OR SHAPING CIRCUITS	71	71	75	70	
I 546	I1-08 DO YOU REMOVE OR REPLACE WAVE GENERATING OR SHAPING COMPONENTS	81	81	75	82	
I 547	I1-09 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	46	46	25	50	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
I 548	I1-10 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS	54	54	25	60	
I 549	I1-11 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS	42	42	25	45	
I 550	I1-12 DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD	29	29	25	30	
I 551	I1-13 DO YOU WORK WITH ASTABLE MULTIVIBRATORS	69	69	38	75	
I 552	I1-14 DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS	69	69	38	75	
I 553	I1-15 DO YOU WORK WITH BISTABLE MULTIVIBRATORS	69	69	38	75	
I 554	I1-16 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS	17	17	38	13	
I 555	I2-01 DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB	67	67	38	72	
I 556	I2-02 DO YOU WORK WITH SERIES DIODE LIMITERS	54	54	25	60	
I 557	I2-03 DO YOU WORK WITH SHUNT DIODE LIMITERS	46	46	25	50	LIMITERS AND CLAMPERS
I 558	I2-04 DO YOU WORK WITH LIMITERS WITH BIAS	40	40	25	42	
I 559	I2-05 DO YOU WORK WITH ZENER DIODE LIMITERS	54	54	25	60	
I 560	I2-06 DO YOU WORK WITH TRANSISTOR LIMITERS	50	50	25	55	
I 561	I2-07 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS	21	21	13	22	
I 562	I2-08 DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS	46	46	25	50	
I 563	I2-09 DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS	44	44	25	47	
I 564	I2-10 DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT	27	27	13	30	
I 565	I3-01 IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES	96	96	100	95	
I 566	I3-02 DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD	94	94	100	92	
I 567	I3-03 DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES	94	94	100	92	
I 568	I3-04 DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES	50	50	50	50	
I 569	I3-05 DO YOU USE SCOPES TO CHECK ELECTRON TUBES	77	77	63	80	
I 570	I3-06 DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES	94	94	100	92	ELECTRON TUBES
I 571	I3-07 DO YOU USE OR REFER TO CUTOFF	60	60	38	65	
I 572	I3-08 DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING	42	42	13	47	
I 573	I3-09 DO YOU USE OR REFER TO PEAK CURRENT RATING	48	48	13	55	
I 574	I3-10 DO YOU USE OR REFER TO TRANSIT TIME	31	31	13	35	
I 575	I3-11 DO YOU USE OR REFER TO PLATE DISSIPATION RATING	42	42	13	47	
I 576	I3-12 DO YOU USE OR REFER TO SATURATION	56	58	50	60	
I 577	I3-13 DO YOU USE OR REFER TO DC PLATE RESISTANCE	46	46	13	52	
I 578	I3-14 DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES	10	10	0	13	
I 579	I3-15 DO YOU USE OR REFER TO PLATE VOLTAGE	83	83	38	92	
I 580	I3-16 DO YOU USE OR REFER TO PLATE CURRENT	65	65	38	70	
I 581	I3-17 DO YOU USE OR REFER TO GRID VOLTAGE	83	83	38	92	
I 582	I3-18 DO YOU USE OR REFER TO GRID CURRENT	67	67	38	72	
I 583	I3-19 DO YOU USE OR REFER TO CATHODE VOLTAGE	81	81	38	90	
I 584	I3-20 DO YOU USE OR REFER TO CATHODE CURRENT	67	67	38	72	
I 585	I3-21 DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS THE RATIO OF CHANGE IN PLATE VOLTAGE TO A CHANGE IN GRID VOLTAGE)	31	31	13	35	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		SPC 026	SPC 027	SPC 029	SPC 030	
I 586	I3-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	13	13	0	15	
I 587	I3-23 DO YOU USE OR REFER TO MULTIGRID (TETRODE, PENTODE, ETC) AMPLIFICATION FACTORS	44	44	25	47	
I 588	I3-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (G, WHICH IS MEASURED IN MHOS)	19	19	0	22	
I 589	I3-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	17	17	0	20	
I 590	I3-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	23	23	0	27	
I 591	I3-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	17	17	0	20	
I 592	I3-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	29	29	13	32	
I 593	I3-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	23	23	13	25	
I 594	I3-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	17	17	13	17	
I 595	I3-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	17	17	13	17	
I 596	I3-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	19	19	13	20	
I 597	I3-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	19	19	13	20	
I 598	I3-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	54	54	25	60	
I 599	I3-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	44	44	25	47	
I 600	I3-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	60	60	38	65	
I 601	I3-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	44	44	13	50	
I 602	I3-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	65	65	25	72	
I 603	I3-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	17	17	13	17	
I 604	I3-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	15	15	0	17	
I 605	I3-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	92	92	75	95	
I 606	I3-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	96	96	100	95	
I 607	I3-43 DO YOU USE OR REFER TO THE TYPE OF MATERIAL OR THE OPERATING TEMPERATURE OF THE EMITTING SURFACE IN THE ELECTRON TUBES YOU WORK ON	19	19	0	22	
I 608	I3-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	77	77	75	77	
J 609	J1-01 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	85	85	63	90	
J 610	J1-02 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	52	52	38	55	ELECTRON TUBE AMPLIFIERS AND CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
J 611	J1-03 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	42	42	25	45	
J 612	J1-04 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	56	56	25	63	
J 613	J1-05 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	35	35	13	40	
J 614	J1-06 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	35	35	25	38	
J 615	J1-07 DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER	44	44	25	47	
J 616	J2-01 DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	60	60	13	70	
J 617	J2-02 DO YOU WORK WITH CATHODE-RAY TUBES	90	90	75	92	SPECIAL PURPOSE ELECTRON TUBES
J 618	J2-03 DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	21	21	13	24	
J 619	J2-04 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	23	23	13	25	
J 620	J2-05 DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS	17	17	13	17	
J 621	J2-06 DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED	23	23	13	25	
J 622	J2-07 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)	60	60	25	67	
J 623	J2-08 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	52	52	25	57	
J 624	J2-09 DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	56	56	25	63	
J 625	J2-10 DO YOU USE OR REFER TO PHOSPHOR SCREENS	54	54	25	60	
J 626	J2-11 DO YOU USE OR REFER TO AQUADAG COATINGS	27	27	25	27	
J 627	J2-12 DO YOU USE OR REFER TO ELECTRON OPTICS	23	23	13	25	
J 628	J2-13 DO YOU USE OR REFER TO PERSISTENCE	21	21	13	22	
J 629	J2-14 DO YOU USE OR REFER TO DECAY TIMES	19	19	13	20	
J 630	J2-15 DO YOU USE OR REFER TO FLUORESCENCE	38	38	25	40	
J 631	J2-16 DO YOU USE OR REFER TO PHOSPHORESCENCE	40	40	25	42	
J 632	J3-01 DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	21	21	38	17	
J 633	J3-02 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	17	17	13	17	HETERODYNING, MODULATION, AND DEMODULATION
J 634	J3-03 DO YOU PERFORM TASKS ON FREQUENCY MIXERS	10	10	0	13	
J 635	J3-04 DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	2	2	0	2	
J 636	J3-05 DO YOU PERFORM TASKS ON REACTANCE MODULATORS	4	4	0	5	
J 637	J3-06 DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	4	4	0	5	
K 638	K1-01 DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	10	10	38	5	
K 639	K1-02 DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	10	10	38	5	AM SYSTEMS
K 640	K1-03 DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	10	10	38	5	
K 641	K1-04 DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	10	10	38	5	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
K 642	K1-05 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE SYSTEMS	10	10	38	5	
K 643	K1-06 DO YOU TROUBLESHOOT TO AM TRANSMIT OR RECEIVE COMPONENTS	10	10	38	5	
K 644	K1-07 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE SYSTEMS	10	10	38	5	
K 645	K1-08 DO YOU REMOVE OR REPLACE AM TRANSMIT OR RECEIVE COMPONENTS	10	10	38	5	
K 646	K1-09 DO YOU PERFORM TASKS ON RF OSCILLATORS	2	2	0	2	
K 647	K1-10 DO YOU PERFORM TASKS ON RF AMPLIFIERS	2	2	0	2	
K 648	K1-11 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	6	6	13	5	
K 649	K1-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	4	4	0	5	
K 650	K1-13 DO YOU PERFORM TASKS ON LOCAL OSCILLATORS	2	2	0	2	
K 651	K1-14 DO YOU PERFORM TASKS ON IF AMPLIFIERS	2	2	0	2	
K 652	K1-15 DO YOU PERFORM TASKS ON DETECTORS	0	0	0	0	
K 653	K1-16 DO YOU PERFORM TASKS ON DON'T REMEMBER WHICH AM STAGE	0	0	0	0	
K 654	K1-17 DO YOU USE OR REFER TO AMPLITUDE STABILIZATION IN TRANSMITTERS	0	0	0	0	
K 655	K1-18 DO YOU USE OR REFER TO FREQUENCY STABILIZATION IN TRANSMITTERS	0	0	0	0	
K 656	K1-19 DO YOU USE OR REFER TO SENSITIVITY OF RECEIVERS	2	2	13	0	
K 657	K1-20 DO YOU USE OR REFER TO SELECTIVITY OF RECEIVERS	2	2	13	0	
K 658	K1-21 DO YOU USE OR REFER TO 2ND HARMONIC DISTORTION	0	0	0	0	
K 659	K1-22 DO YOU USE OR REFER TO BANDPASS DISTORTION	0	0	0	0	
K 660	K1-23 DO YOU USE OR REFER TO SQUARE LAW DISTORTION	0	0	0	0	
K 661	K1-24 DO YOU USE OR REFER TO CO-CHANNEL INTERFERENCE	0	0	0	0	
K 662	K1-25 DO YOU USE OR REFER TO IMAGE FREQUENCIES IN RECEIVERS	0	0	0	0	
K 663	K1-26 DO YOU USE OR REFER TO SIGNAL TO IMAGE RATIOS OR IMAGE REJECTION RATIOS	0	0	0	0	
K 664	K1-27 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM TRANSMITTER SCHEMATIC DIAGRAMS	4	4	13	2	
K 665	K1-28 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH AM RECEIVER SCHEMATIC DIAGRAMS	4	4	13	2	
K 666	K2-01 DO YOU WORK WITH FM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	13	13	25	10	
K 667	K2-02 DO YOU INSPECT FM TRANSMIT OR RECEIVE SYSTEMS	13	13	25	10	
K 668	K2-03 DO YOU CLEAN FM TRANSMIT OR RECEIVE SYSTEMS	13	13	25	10	FM SYSTEMS
K 669	K2-04 DO YOU ALIGN FM TRANSMIT OR RECEIVE SYSTEMS	10	10	25	7	
K 670	K2-05 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE SYSTEMS	13	13	25	10	
K 671	K2-06 DO YOU TROUBLESHOOT TO FM TRANSMIT OR RECEIVE COMPONENTS	13	13	25	10	
K 672	K2-07 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE SYSTEMS	8	8	25	5	
K 673	K2-08 DO YOU REMOVE OR REPLACE FM TRANSMIT OR RECEIVE COMPONENTS	8	8	25	5	
K 674	K2-09 DO YOU PERFORM TASKS ON AUDIO AMPLIFIERS	13	13	25	10	
K 675	K2-10 DO YOU PERFORM TASKS ON FREQUENCY MULTIPLIERS	10	10	25	7	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
K 676	K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	4	4	0	5	
K 677	K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	10	10	25	7	
K 678	K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	6	6	0	7	
K 679	K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	13	13	25	10	
K 680	K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	4	4	0	5	
K 681	K2-16 DO YOU PERFORM TASKS ON LIMITERS	4	4	0	5	
K 682	K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	4	4	0	5	
K 683	K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	6	6	0	7	
K 684	K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	6	6	0	7	
K 685	K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	52	52	38	55	
K 686	K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	73	73	88	70	NUMBERING SYSTEMS
K 687	K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	52	52	38	55	
K 688	K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	50	50	38	52	
K 689	K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	65	65	63	65	
K 690	K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	52	52	38	55	
K 691	K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	58	58	50	60	
K 692	K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	50	50	25	55	
K 693	K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	50	50	25	55	
K 694	K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	48	48	25	52	
L 695	L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	75	75	75	75	
L 696	L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	52	52	25	57	
L 697	L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	52	52	25	57	
L 698	L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	52	52	25	57	LOGIC FUNCTIONS
L 699	L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	52	52	25	57	
L 700	L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	58	58	25	65	
L 701	L1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	58	58	25	65	
L 702	L1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	56	56	25	63	
L 703	L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	58	58	25	65	
L 704	L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	73	73	75	72	
L 705	L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	73	73	75	72	
L 706	L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	73	73	75	72	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
L 707	L1-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	73	73	75	72	
L 708	L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC CIRCUITS	44	44	38	45	
L 709	L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	33	33	13	38	BOOLEAN EQUATIONS
L 710	L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	27	27	13	30	
L 711	L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	35	35	13	40	
L 712	L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	50	50	38	52	
L 713	L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	35	35	13	40	
L 714	L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	35	35	13	40	
L 715	L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	33	33	13	38	
L 716	L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	27	27	13	30	
L 717	L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	52	52	25	57	
L 718	L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	42	42	13	47	
L 719	L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	46	46	13	52	
L 720	L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	56	56	38	60	
L 721	L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	56	56	38	60	
L 722	L2-15 DO YOU WORK WITH MONOSTABLE (ONE-SHOT) MULTIVIBRATORS	56	56	38	60	
L 723	L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	52	52	13	60	
L 724	L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	52	52	13	60	
L 725	L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	52	52	13	60	
L 726	L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	44	44	13	50	
L 727	L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	42	42	13	47	
L 728	L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	42	42	13	47	
L 729	L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	52	52	38	55	
L 730	L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	44	44	25	47	
L 731	L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	44	44	25	47	
L 732	L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	40	40	13	45	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

		BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
L 733	L3-01	DO YOU WORK WITH DIGITAL COUNTERS IN YOUR PRESENT JOB	60	60	50	63	
L 734	L3-02	DO YOU USE OR REFER TO UP-COUNTERS	54	54	50	55	COUNTERS
L 735	L3-03	DO YOU USE OR REFER TO DOWN-COUNTERS	54	54	50	55	
L 736	L3-04	DO YOU USE OR REFER TO SERIAL COUNTERS	48	48	50	47	
L 737	L3-05	DO YOU USE OR REFER TO PARALLEL COUNTERS	52	52	50	52	
L 738	L3-06	DO YOU USE OR REFER TO RING COUNTERS	38	38	25	40	
L 739	L3-07	DO YOU USE OR REFER TO DECADE COUNTERS	48	48	50	47	
L 740	L3-08	DO YOU USE OR REFER TO COUNT DETECT CIRCUITS	33	33	13	38	
L 741	L3-09	DO YOU USE OR REFER TO DOWN CLOCKS	54	54	50	55	
L 742	L3-10	DO YOU USE OR REFER TO UP CLOCKS	56	56	50	57	
L 743	L3-11	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	42	42	38	42	
L 744	L3-12	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	35	35	38	35	
L 745	L3-13	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF DECADE COUNTERS	42	42	38	42	
L 746	L3-14	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF RING COUNTERS	31	31	13	35	
L 747	L3-15	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTER	44	44	38	45	
L 748	L3-16	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	48	48	38	50	
L 749	L3-17	DO YOU TRACE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF COUNTERS	42	42	38	42	
L 750	L3-18	DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR UP-COUNTERS HAVING COMPLEMENTED FLIP-FLOPS	35	35	25	38	
L 751	L3-19	DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP- OR DOWN-COUNTERS HAVING COMPLEMENTING FLIP-FLOPS	33	33	25	35	
L 752	L3-20	DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR SERIAL UP-COUNTERS FEEDING A PARALLEL STORAGE REGISTERS	40	40	25	42	
L 753	L3-21	DO YOU COMPUTE THE BINARY COUNT AFTER SPECIFIC INPUT PULSES FOR OTHER TYPES OF COUNTERS	40	40	13	45	
L 754	L3-22	DO YOU CONSTRUCT TRUTH TABLES FROM LOGIC DIAGRAMS OF DECADE COUNTERS	38	38	25	40	
L 755	L3-23	DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP IN RING COUNTERS FOR SPECIFIC INPUT PULSES	35	35	25	38	
L 756	L3-24	DO YOU DETERMINE THE APPROPRIATE AND GATE NECESSARY IN COUNT DETECT CIRCUITS TO INDICATE A REQUIRED COUNT	40	40	25	42	
M 757	M1-01	DO YOU WORK WITH SAWTOOTH WAVE GENERATORS	83	83	38	92	
M 758	M1-02	DO YOU WORK WITH TRAPEZOIDAL WAVE GENERATORS	54	54	13	63	
M 759	M1-03	DO YOU WORK WITH PULSED OSCILLATORS WITH REGENERATIVE FEEDBACK	65	65	25	72	TIMING CIRCUITS
M 760	M1-04	DO YOU WORK WITH PULSED OSCILLATORS WITHOUT REGENERATIVE FEEDBACK	56	56	25	63	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
M 761	M1-05 DO YOU WORK WITH BLOCKING OSCILLATORS	71	71	50	75	
M 762	M1-06 DO YOU USE OR REFER TO RISE TIME	67	67	38	72	
M 763	M1-07 DO YOU USE OR REFER TO FALL OR FLYBACK TIME	63	63	25	70	
M 764	M1-08 DO YOU USE OR REFER TO SWEEP TIME	83	83	50	90	
M 765	M1-09 DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	77	77	38	85	
M 766	M1-10 DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	79	79	38	88	
M 767	M1-11 DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	75	75	25	85	
M 768	M1-12 DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	65	65	13	75	
M 769	M2-01 DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	58	58	50	60	
M 770	M2-02 DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	56	56	50	57	
M 771	M2-03 DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS	56	56	50	57	USE OF SIGNAL GENERATORS
M 772	M2-04 DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	52	52	38	55	
M 773	M2-05 DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	46	46	38	47	
M 774	M2-06 DO YOU USE AUDIO SINE-WAVE GENERATORS	38	38	38	38	
M 775	M2-07 DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	33	33	25	35	
M 776	M2-08 DO YOU USE RF GENERATORS LESS THAN 1,000 MH	25	25	13	27	
M 777	M2-09 DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	17	17	0	20	
M 778	M2-10 DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	31	31	13	35	
M 779	M3-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS	85	85	75	88	MOTORS AND GENERATORS
M 780	M3-02 DO YOU INSPECT MOTORS	92	92	100	90	
M 781	M3-03 DO YOU CLEAN OR LUBRICATE MOTORS	92	92	100	90	
M 782	M3-04 DO YOU OPERATE MOTORS	85	85	100	82	
M 783	M3-05 DO YOU REMOVE OR REPLACE COMPLETE MOTORS	90	90	100	88	
M 784	M3-06 DO YOU REMOVE OR REPLACE MOTOR PARTS	60	60	63	60	
M 785	M3-07 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	90	90	100	88	
M 786	M3-08 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	56	56	63	55	
M 787	M3-09 DO YOU PERFORM ANY TASKS ON FIELD COILS	35	35	38	35	
M 788	M3-10 DO YOU PERFORM ANY TASKS ON ARMATURES	44	44	38	45	
M 789	M3-11 DO YOU PERFORM ANY TASKS ON ROTORS	42	42	38	42	
M 790	M3-12 DO YOU PERFORM ANY TASKS ON BRUSHES	40	40	25	42	
M 791	M3-13 DO YOU PERFORM ANY TASKS ON SLIP RINGS	40	40	38	40	
M 792	M3-14 DO YOU PERFORM ANY TASKS ON COMMUTATORS	35	35	38	35	
M 793	M3-15 DO YOU PERFORM ANY TASKS ON POLE PIECES	29	29	38	27	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
N 794	M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	4	4	13	2	
N 795	M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	17	17	25	15	
N 796	M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	13	13	13	13	
N 797	M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	67	67	50	70	
N 798	M3-20 DO YOU WORK WITH INDUCTION MOTORS	46	46	38	47	
N 799	M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	31	31	13	35	
N 800	M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	48	48	38	50	
N 801	M3-23 DO YOU INSPECT GENERATORS	25	25	38	22	
N 802	M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	19	19	38	15	
N 803	M3-25 DO YOU OPERATE GENERATORS	23	23	38	20	
N 804	M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	25	25	38	22	
N 805	M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	23	23	38	20	
N 806	M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	25	25	38	22	
N 807	M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	21	21	38	17	
N 808	N1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	85	85	88	85	
N 809	N1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	33	33	0	40	
N 810	N1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	35	35	0	42	METER MOVEMENTS
N 811	N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	40	40	0	47	
N 812	N1-05 DO YOU READ METER SCALES	90	90	88	90	
N 813	N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	44	44	25	47	
N 814	N1-07 DO YOU ZERO OHMMETERS	90	90	88	90	
N 815	N1-08 DO YOU ZERO AMMETERS	48	48	50	47	
N 816	N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	60	60	25	67	
N 817	N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	73	73	75	72	
N 818	N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	6	6	0	7	
N 819	N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	6	6	0	7	
N 820	N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	4	4	0	5	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
N 821	N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	2	2	0	2	
N 822	N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	6	6	0	7	
N 823	N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	6	6	0	7	
N 824	N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	6	6	0	7	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
N 825	N2-08 DO YOU USE OR REFER TO HYSTERESIS CURVES OR LOOPS	2	2	0	2	
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	0	7	
N 827	N2-10 DO YOU MEASURE OUTPUT WAVEFORMS ACROSS REACTOR WINDINGS OR LOAD RESISTORS OF SINGLE WINDING SATURABLE REACTORS	6	6	0	7	
N 828	N2-11 DO YOU INTERPRET SCHEMATIC DRAWINGS TO DEVELOP OUTPUT WAVEFORMS FOR MAGNETIC AMPLIFIERS	4	4	0	5	
N 829	N2-12 DO YOU USE OR REFER TO COERCIVE FORCE IN SATURABLE REACTORS	0	0	0	0	
N 830	N2-13 DO YOU USE OR REFER TO RESIDUAL MAGNETISM IN SATURABLE REACTORS	2	2	0	2	
N 831	N2-14 DO YOU USE OR REFER TO FLUX DENSITY IN SATURABLE REACTORS	2	2	0	2	
N 832	N2-15 DO YOU USE OR REFER TO POINT OF SATURATION IN SATURABLE REACTORS	4	4	0	5	
N 833	N2-16 DO YOU USE OR REFER TO SATURABLE REACTOR SCHEMATIC SYMBOLS	4	4	0	5	
N 834	N3-01 DO YOU WORK WITH WAVESHAPING CIRCUITS IN YOUR PRESENT JOB	85	85	63	90	
N 835	N3-02 DO YOU USE OR REFER TO TRANSIENT INTERVALS	46	46	0	55	
N 836	N3-03 DO YOU USE OR REFER TO PULSE WIDTH (PW)	83	83	63	88	
N 837	N3-04 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	71	71	38	77	WAVESHAPING CIRCUITS
N 838	N3-05 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	77	77	50	82	
N 839	N3-06 DO YOU USE OR REFER TO DIFFERENTIATING CIRCUITS	56	56	25	63	
N 840	N3-07 DO YOU USE OR REFER TO INTEGRATING CIRCUITS	69	69	25	77	
N 841	N3-08 DO YOU USE OR REFER TO THE CLASSIFICATION OF TIME CONSTANTS (TC) AS LONG, MEDIUM, OR SHORT	46	46	13	52	
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	31	31	0	38	
N 843	N3-10 DO YOU WORK WITH SQUARE WAVE GENERATORS	69	69	38	75	
N 844	N3-11 DO YOU WORK WITH RECTANGULAR WAVE GENERATORS	56	56	25	63	
O 845	O1-01 DO YOU WORK ON SINGLE SIDEBAND SYSTEMS IN YOUR PRESENT JOB	0	0	0	0	
O 846	O1-02 DO YOU INSPECT SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	SINGLE SIDEBAND SYSTEMS
O 847	O1-03 DO YOU CLEAN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	
O 848	O1-04 DO YOU ALIGN SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	
O 849	O1-05 DO YOU TROUBLESHOUT TO SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	
O 850	O1-06 DO YOU TROUBLESHOOT TO SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	
O 851	O1-07 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE SYSTEMS	0	0	0	0	
O 852	O1-08 DO YOU REMOVE OR REPLACE SSB TRANSMIT OR RECEIVE COMPONENTS	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
0 853	01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	0	0	0	0	
0 854	01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS	0	0	0	0	
0 855	01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	0	0	0	0	
0 856	01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS	0	0	0	0	
0 857	01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	0	0	0	0	
0 858	01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	0	0	0	0	
0 859	01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS	0	0	0	0	
0 860	01-16 DO YOU PERFORM TASKS ON SSB MIXERS	0	0	0	0	
0 861	01-17 DO YOU PERFORM TASKS ON SSB DRIVERS	0	0	0	0	
0 862	01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	2	2	0	2	
0 863	01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS	0	0	0	0	
0 864	01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	0	0	0	0	
0 865	01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS	0	0	0	0	
0 866	01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS	0	0	0	0	
0 867	01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB SYSTEM STAGES	0	0	0	0	
0 868	01-24 DO YOU USE OR REFER TO SELECTIVE FADING	0	0	0	0	
0 869	01-25 DO YOU USE OR REFER TO PEAK POWER	0	0	0	0	
0 870	01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY	0	0	0	0	
0 871	01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS	0	0	0	0	
0 872	01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS	0	0	0	0	
0 873	01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS	0	0	0	0	
0 874	01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS	0	0	0	0	
0 875	02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB	35	35	0	42	
0 876	02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	33	33	0	40	
0 877	02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	29	29	0	35	PULSE MODULATION SYSTEMS
0 878	02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	35	35	0	42	
0 879	02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	35	35	0	42	
0 880	02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS	35	35	0	42	
0 881	02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	33	33	0	40	
0 882	02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS	33	33	0	40	
0 883	02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS	29	29	0	35	
0 884	02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS	27	27	0	32	
0 885	02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS	27	27	0	32	
0 886	02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	21	21	0	45	
0 887	02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	21	21	0	25	
0 888	02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM	8	8	0	10	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
0 889	02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	33	33	0	40	
0 890	02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHARGING DIODES	21	21	0	25	
0 891	02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	33	33	0	40	
0 892	02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	29	29	0	35	
0 893	02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRONS	15	15	0	17	
0 894	02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	23	23	0	27	
0 895	02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	15	15	0	17	
0 896	02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	23	23	0	27	
0 897	02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	25	25	0	30	
0 898	02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	21	21	0	25	
0 899	02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	25	25	0	30	
0 900	02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	27	27	0	32	
0 901	02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	21	21	0	25	
0 902	02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	10	10	0	13	
0 903	02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	31	31	0	38	
0 904	02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	29	29	0	35	
0 905	02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	31	31	0	38	
0 906	02-32 DO YOU USE OR REFER TO PULSE SHAPE	31	31	0	38	
0 907	02-33 DO YOU USE OR REFER TO PEAK POWER	27	27	0	32	
0 908	02-34 DO YOU USE OR REFER TO AVERAGE POWER	25	25	0	30	
0 909	02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	21	21	0	25	
0 910	02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	27	27	0	32	
0 911	02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	17	17	0	20	
0 912	02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	25	25	0	30	
0 913	02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	21	21	0	25	
0 914	03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	2	2	0	2	
0 915	03-02 DO YOU INSPECT ANTENNAS	2	2	0	2	ANTENNAS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 027	SPC 030
0 916	03-03 DO YOU CLEAN ANTENNAS	2	2	0	2
0 917	03-04 DO YOU PHYSICALLY ALIGN ANTENNAS	2	2	0	2
0 918	03-05 DO YOU ELECTRICALLY ALIGN ANTENNAS	2	2	0	2
0 919	03-06 DO YOU TROUBLESHOOT TO ANTENNAS	2	2	0	2
0 920	03-07 DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	2	2	0	2
0 921	03-08 DO YOU REMOVE OR INSTALL ANTENNAS	2	2	0	2
0 922	03-09 DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	2	2	0	2
0 923	03-10 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	0	0	0	0
0 924	03-11 DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	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
0 926	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
0 927	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
0 928	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
0 929	03-16 DO YOU WORK WITH HERTZ ANTENNAS	2	2	0	2
0 930	03-17 DO YOU WORK WITH MARCONI ANTENNAS	0	0	0	0
0 931	03-18 DO YOU WORK WITH BROADSIDE ARRAYS	2	2	0	2
0 932	03-19 DO YOU WORK WITH END-FIRE ARRAYS	2	2	0	2
0 933	03-20 DO YOU WORK WITH CARDIOID ARRAYS	2	2	0	2
0 934	03-21 DO YOU WORK WITH COLLINEAR ARRAYS	2	2	0	2
0 935	03-22 DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	0	0	0	0
0 936	03-23 DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	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
0 938	03-25 DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	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
0 940	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
0 941	03-28 ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	0	0	0	0
0 942	03-29 ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	0	0	0	0
0 943	03-30 DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	0	0	0	0
0 944	03-31 DO YOU CONSTRUCT, OR MAKE THE CALCULATIONS NECESSARY TO CONSTRUCT, ANTENNAS OF CORRECT LENGTH FOR SPECIFIC WAVELENGTHS	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
O 945	03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	0	0	0	0	
O 946	03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS	0	0	0	0	
O 947	03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	0	0	0	0	
O 948	03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS	2	2	0	2	
O 949	03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	0	0	0	0	
O 950	03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS	0	0	0	0	
O 951	03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	2	2	0	2	
O 952	03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS	0	0	0	0	
P 953	P1-01 IN YOUR PRESENT JOB DO YOU WORK WITH TRANSMISSION LINES (TRANSMISSION LINES ARE DEFINED TO INCLUDE LEADS BETWEEN RECEIVERS AND ANTENNAS, TELEPHONE LEADS, AS WELL AS HIGH VOLTAGE POWER LINES, ETC. DO NOT CONSIDER WAVEGUIDES AS TRANSMISSION LINES	10	10	13	10	
P 954	P1-02 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN TRANSMISSION LINES	0	0	0	0	TRANSMISSION LINES
P 955	P1-03 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	2	2	0	2	
P 956	P1-04 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	0	0	0	0	
P 957	P1-05 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	2	2	0	2	
P 958	P1-06 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	0	0	0	0	
P 959	P1-07 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	4	4	0	5	
P 960	P1-08 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	6	6	13	5	
P 961	P1-09 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	4	4	13	2	
P 962	P1-10 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	8	8	13	7	
P 963	P1-11 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	0	0	0	0	
P 964	P1-12 DO YOU TROUBLESHOOT TRANSMISSION LINES	6	6	13	5	
P 965	P1-13 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION (OPEN, SHORTED, CAPACITIVE, INDUCTIVE)	0	0	0	0	
P 966	P1-14 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	0	0	0	0	
P 967	P1-15 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	2	2	13	0	
P 968	P1-16 DO YOU MEASURE STANDING WAVE RATIOS (SR) OF TRANSMISSION LINES	0	0	0	0	
P 969	P1-17 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	0	0	0	0	
P 970	P1-18 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH MATCHING TRANSFORMERS TO MATCH TRANSMISSION LINES TO LOADS	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY TSK	SPC 026	SPC 027	SPC 029	SPC 030	
P 971	P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	2	2	0	2	
P 972	P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	0	0	0	0	
P 973	P1-21 DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0	
P 974	P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	0	0	0	0	
P 975	P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (ZO) OF TRANSMISSION LINES	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	
P 977	P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	0	0	0	0	
P 978	P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	0	0	0	0	
P 979	P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	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	2	2	0	2	
P 981	P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	2	2	0	2	
P 982	P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	2	2	0	2	
P 983	P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	2	2	13	0	
P 984	P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB	0	0	0	0	
P 985	P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	
P 986	P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	
P 987	P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	WAVEGUIDES AND CAVITY RESONATORS
P 988	P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	
P 989	P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	
P 990	P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	
P 991	P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	0	0	0	0	
P 992	P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	0	0	0	0	
P 993	P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	0	0	0	0	
P 994	P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	0	0	0	0	
P 995	P2-12 DO YOU REMOVE OR INSTALL E BENDS	0	0	0	0	
P 996	P2-13 DO YOU REMOVE OR INSTALL H BENDS	0	0	0	0	
P 997	P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS	0	0	0	0	
P 998	P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS	0	0	0	0	
P 999	P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	0	0	0	0	
P1000	P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	0	0	0	0	
P1001	P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS	0	0	0	0	
P1002	P2-19 DO YOU USE OR REFER TO "A" WALL OF WAVEGUIDES	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030
P1003 P2-20 DO YOU USE OR REFER TO "B" WALL OF WAVEGUIDES	0	0	0	0
P1004 P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES	0	0	0	0
P1005 P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES	0	0	0	0
P1006 P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES	0	0	0	0
P1007 P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS	0	0	0	0
P1008 P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS	0	0	0	0
P1009 P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS	0	0	0	0
P1010 P2-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST WAVEGUIDES ARE MADE WITH A "B" WALL SIZE OF .7 WAVELENGTHS OF THE OPERATING FREQUENCY	0	0	0	0
P1011 P2-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT MOST "A" WALLS RANGE FROM .2 TO .5 WAVELENGTHS IN SIZE, WITH .35 USED AS AN AVERAGE	0	0	0	0
P1012 P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF	0	0	0	0
P1013 P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION	0	0	0	0
P1014 P2-31 DO YOU USE THE RIGHT HAND RULE TO DETERMINE THE DIRECTION OF PROPAGATION, DIRECTION OF "E" FIELD, OR DIRECTION OF "H" FIELD IN WAVEGUIDES	0	0	0	0
P1015 P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0
P1016 P2-33 DO YOU MEASURE THE TIME PHASE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0
P1017 P2-34 DO YOU USE OR REFER TO THE SPACE QUADRATURE OF "E" OR "H" LINES IN WAVEGUIDES	0	0	0	0
P1018 P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0
P1019 P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0
P1020 P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0
P1021 P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0
P1022 P2-39 ARE DON'T REMEMBER THE KIND OF ENERGY COUPLING USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0
P1023 P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0
P1024 P2-41 DO YOU DETERMINE THE POSITIONING OF LOOPS IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK		SPC 026	SPC 027	SPC 029	SPC 030	
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	
P1026	P2-43 ARE CHOKE JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	0	0	0	0	
P1027	P2-44 ARE ROTATING JOINTS USED IN WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH	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	
P1029	P2-46 DO YOU TUNE CAVITY RESONATORS USING CAPACITIVE TUNING	0	0	0	0	
P1030	P2-47 DO YOU TUNE CAVITY RESONATORS USING INDUCTIVE TUNING	0	0	0	0	
P1031	P2-48 DO YOU TUNE CAVITY RESONATORS USING VOLUME TUNING	0	0	0	0	
P1032	P2-49 DO YOU TUNE CAVITY RESONATORS USING DON'T REMEMBER THE METHOD OF TUNING	0	0	0	0	
P1033	P2-50 DO YOU MEASURE THE FREQUENCY OF SIGNALS IN CAVITY RESONATORS	0	0	0	0	
P1034	P3-01 IN YOUR PRESENT JOB DO YOU WORK WITH KLYSTRONS, TRAVELING WAVE TUBES (TWT), PARAMETRIC AMPLIFIERS, OR MAGNETRONS	2	2	0	2	
P1035	P3-02 DO YOU USE OR REFER TO INTERELECTRODE CAPACITANCE	0	0	0	0	
P1036	P3-03 DO YOU USE OR REFER TO ELECTRON TRANSIT TIME	0	0	0	0	MICROWAVE
P1037	P3-04 DO YOU USE OR REFER TO LEAD INDUCTANCE	0	0	0	0	AMPLIFIERS AND
P1038	P3-05 DO YOU USE OR REFER TO RF LOSSES IN EXTERNAL CIRCUITRY	0	0	0	0	OSCILLATORS
P1039	P3-06 DO YOU USE OR REFER TO PRINCIPLE OF ELECTRON VELOCITY MODULATION	0	0	0	0	
P1040	P3-07 DO YOU USE OR REFER TO ELECTRON BUNCHING	0	0	0	0	
P1041	P3-08 DO YOU WORK WITH TWO-CAVITY KLYSTRONS	0	0	0	0	
P1042	P3-09 DO YOU WORK WITH THREE-CAVITY KLYSTRONS	0	0	0	0	
P1043	P3-10 DO YOU WORK WITH REFLEX KLYSTRONS	0	0	0	0	
P1044	P3-11 DO YOU WORK WITH TRAVELING-WAVE TUBES (TWT)	0	0	0	0	
P1045	P3-12 DO YOU WORK WITH NONDEGENERATIVE PARAMETRIC AMPLIFIERS	0	0	0	0	
P1046	P3-13 DO YOU WORK WITH UP-CONVERTER PARAMETRIC AMPLIFIERS	0	0	0	0	
P1047	P3-14 DO YOU WORK WITH MAGNETRONS	0	0	0	0	
P1048	P3-15 DO YOU INSPECT KLYSTRONS OR TWT	0	0	0	0	
P1049	P3-16 DO YOU CLEAN KLYSTRONS OR TWT	0	0	0	0	
P1050	P3-17 DO YOU TUNE KLYSTRONS OR TWT ELECTRICALLY	0	0	0	0	
P1051	P3-18 DO YOU TUNE KLYSTRONS OR TWT MECHANICALLY	0	0	0	0	
P1052	P3-19 DO YOU PERFORM OPERATIONAL CHECKS OF KLYSTRONS OR TWT	0	0	0	0	
P1053	P3-20 DO YOU TROUBLESHOOT KLYSTRONS OR TWT	0	0	0	0	
P1054	P3-21 DO YOU REMOVE OR REPLACE COMPLETE KLYSTRON OR TWT	0	0	0	0	
P1055	P3-22 DO YOU REMOVE OR REPLACE KLYSTRON OR TWT COMPONENTS	0	0	0	0	
P1056	P3-23 DO YOU INSPECT PARAMETRIC AMPLIFIERS	0	0	0	0	
P1057	P3-24 DO YOU CLEAN PARAMETRIC AMPLIFIERS	0	0	0	0	
P1058	P3-25 DO YOU ADJUST PARAMETRIC AMPLIFIERS	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030
P1059	P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	0	0	0	0
P1060	P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	0	0	0	0
P1061	P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	0	0	0	0
P1062	P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIER	0	0	0	0
P1063	P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	0	0	0	0
P1064	P3-31 DO YOU INSPECT MAGNETRONS	2	2	0	2
P1065	P3-32 DO YOU CLEAN MAGNETRONS	2	2	0	2
P1066	P3-33 DO YOU ADJUST MAGNETRONS	2	2	0	2
P1067	P3-34 DO YOU TUNE MAGNETRONS	2	2	0	2
P1068	P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	2	2	0	2
P1069	P3-36 DO YOU TROUBLESHOOT MAGNETRONS	2	2	0	2
P1070	P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	2	2	0	2
P1071	P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	2	2	0	2
P1072	P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	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
P1074	P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	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
P1076	P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	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
P1078	P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	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
P1080	P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES	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
P1082	P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	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
P1084	P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	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
P1086	P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	0	0	0	0
P1087	P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES	0	0	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	UY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
P1088	P3-55 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	0	0	0	0	
P1089	P3-56 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	0	0	0	0	
P1090	P3-57 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	0	0	0	0	
P1091	P3-58 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	0	0	0	0	
P1092	P3-59 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	0	0	0	0	
P1093	P3-60 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	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	
P1095	P3-62 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	0	0	0	0	
P1096	P3-63 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELLING-WAVE TUBES ATTENUATORS	0	0	0	0	
P1097	P3-64 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	0	0	0	0	
P1098	P3-65 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	0	0	0	0	
P1099	P3-66 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	0	0	0	0	
P1100	P3-67 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	0	0	0	0	
P1101	P3-68 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	0	0	0	0	
P1102	P3-69 DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	0	0	0	0	
P1103	P3-70 DO YOU PERFORM TASKS ON ANODES	0	0	0	0	
P1104	P3-71 DO YOU PERFORM TASKS ON ANODE COOLING PINS	0	0	0	0	
P1105	P3-72 DO YOU PERFORM TASKS ON COUPLING LOOPS	0	0	0	0	
P1106	P3-73 DO YOU PERFORM TASKS ON HEATER LEADS	0	0	0	0	
P1107	P3-74 DO YOU PERFORM TASKS ON RESONANT CAVITIES	0	0	0	0	
P1108	P3-75 DO YOU PERFORM TASKS ON CATHODES	0	0	0	0	
P1109	P3-76 DO YOU PERFORM TASKS ON MAGNETS	2	2	0	2	
G1110	G1-01 DO YOU USE OR REFER TO STORAGE REGISTERS	63	63	50	65	
G1111	G1-02 DO YOU USE OR REFER TO SHIFT REGISTERS	60	60	38	65	
G1112	G1-03 DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	60	60	38	65	
G1113	G1-04 DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	63	63	50	65	REGISTERS
G1114	G1-05 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	52	52	25	57	
G1115	G1-06 DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	58	58	38	63	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
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	44	44	13	50	
Q1117	Q2-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	63	63	50	65	
Q1118	Q2-02 DO YOU USE OR REFER TO DELAY LINES	27	27	13	30	
Q1119	Q2-03 DO YOU USE OR REFER TO MAGNETIC CORES	52	52	38	55	
Q1120	Q2-04 DO YOU USE OR REFER TO MAGNETIC DRUMS	21	21	0	25	STORAGE DEVICES
Q1121	Q2-05 DO YOU USE OR REFER TO MAGNETIC TAPES	38	38	0	45	
Q1122	Q2-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OF MEMORY SYSTEMS	56	56	38	60	
Q1123	Q2-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	52	52	50	52	
Q1124	Q2-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	29	29	13	32	
Q1125	Q2-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	27	27	25	27	
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	73	73	75	72	
Q1127	Q3-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES	35	35	13	40	DIGITAL TO ANALOG CONVERTERS
Q1128	Q3-03 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS IS DETERMINED BY ADDING THE DENOMINATORS OF THE RESISTORS	29	29	13	32	
Q1129	Q3-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	46	46	38	47	
Q1130	Q3-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	23	23	0	27	
Q1131	Q3-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	21	21	0	25	
Q1132	Q3-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	23	23	0	27	
Q1133	Q3-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	25	25	0	30	
Q1134	Q3-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	29	29	13	32	
Q1135	Q3-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	31	31	13	35	
Q1136	Q3-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	27	27	0	32	
Q1137	Q3-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	29	29	0	35	
Q1138	Q3-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	40	40	13	45	
Q1139	Q3-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	33	33	13	38	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK		SPC 024	SPC 027	SPC 029	SPC 030	
R1140	R1-01 DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB	4	4	13	2	PHANTASTRONS
R1141	R2-01 IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	52	52	38	55	
R1142	R2-02 DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	48	48	25	52	SCHMITT TRIGGERS
R1143	R2-03 DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	40	40	25	42	
R1144	R3-01 IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	60	60	50	63	CABLE FABRICATION
R1145	R3-02 DO YOU FABRICATE COAXIAL CABLES	63	63	38	67	
S1146	S1-01 IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	67	67	75	65	
S1147	S1-02 DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS	29	29	13	32	INPUT/OUTPUT DEVICES
S1148	S1-03 DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA	19	19	0	22	
S1149	S2-01 DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	46	46	0	55	PHOTO SENSITIVE DEVICES
S1150	S3-01 IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	31	31	13	35	
S1151	S3-02 DO YOU MEASURE EXCITATION FREQUENCIES	21	21	0	25	
S1152	S3-03 DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	19	19	0	22	
S1153	S3-04 DO YOU USE OR REFER TO EXCITATION FREQUENCIES	19	19	0	24	
S1154	S3-05 DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	17	17	0	20	
S1155	S3-06 DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	23	23	0	27	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
S1156	S3-07 DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	23	23	0	27	
S1157	S3-08 DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	23	23	0	27	
S1158	S3-09 DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	25	25	0	30	
T1159	T1-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	0	0	0	0	
T1160	T1-02 DO YOU INSPECT INFRARED SYSTEMS	0	0	0	0	
T1161	T1-03 DO YOU CLEAN INFRARED SYSTEMS	0	0	0	0	
T1162	T1-04 DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	0	0	0	0	INFRARED
T1163	T1-05 DO YOU OPERATE INFRARED SYSTEMS	0	0	0	0	
T1164	T1-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	0	0	0	0	
T1165	T1-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	0	0	
T1166	T1-08 DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	0	0	0	0	
T1167	T1-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	0	0	
T1168	T1-10 DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	DT-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
T1169	T1-11 DO YOU USE OR REFER TO FAR REGION	0	0	0	0	
T1170	T1-12 DO YOU USE OR REFER TO INTERMEDIATE REGION	0	0	0	0	
T1171	T1-13 DO YOU USE OR REFER TO NEAR REGION	0	0	0	0	
T1172	T1-14 DO YOU USE OR REFER TO MICRON	0	0	0	0	
T1173	T1-15 DO YOU USE OR REFER TO GRAY BODIES	0	0	0	0	
T1174	T1-16 DO YOU USE OR REFER TO BLACK BODIES	0	0	0	0	
T1175	T1-17 DO YOU USE OR REFER TO ABSORPTION	0	0	0	0	
T1176	T1-18 DO YOU USE OR REFER TO SCATTERING	0	0	0	0	
T1177	T1-19 DO YOU USE OR REFER TO ABSOLUTE ZERO	0	0	0	0	
T1178	T1-20 DO YOU PERFORM TASKS ON BLITZ	0	0	0	0	
T1179	T1-21 DO YOU PERFORM TASKS ON TARGET BUTTONS	0	0	0	0	
T1180	T1-22 DO YOU PERFORM TASKS ON ERECTOR LENSES	0	0	0	0	
T1181	T1-23 DO YOU PERFORM TASKS ON OCULAR LENSES	0	0	0	0	
T1182	T1-24 DO YOU PERFORM TASKS ON CORRECTION LENSES	0	0	0	0	
T1183	T1-25 DO YOU PERFORM TASKS ON FILTERS	0	0	0	0	
T1184	T1-26 DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	0	0	0	0	
T1185	T1-27 DO YOU PERFORM TASKS ON PLANE MIRRORS	0	0	0	0	
T1186	T2-01 DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH LASERS	0	0	0	0	
T1187	T2-02 DO YOU INSPECT LASER SYSTEMS	0	0	0	0	
T1188	T2-03 DO YOU CLEAN LASER SYSTEMS	0	0	0	0	
T1189	T2-04 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	
T1190	T2-05 DO YOU OPERATE LASER SYSTEMS	0	0	0	0	LASERS
T1191	T2-06 DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	0	0	0	0	
T1192	T2-07 DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	
T1193	T2-08 DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	
T1194	T2-09 DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0	0	
T1195	T2-10 DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	0	0	0	0	
T1196	T2-11 DO YOU USE OR REFER TO ANGSTROMS (A)	0	0	0	0	
T1197	T2-12 DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	0	0	0	0	
T1198	T2-13 DO YOU USE OR REFER TO GROUND STATE	0	0	0	0	
T1199	T2-14 DO YOU USE OR REFER TO EXCITED STATE	0	0	0	0	
T1200	T2-15 DO YOU USE OR REFER TO PACKET OF RADIATION	0	0	0	0	
T1201	T2-16 DO YOU USE OR REFER TO PHOTONS	0	0	0	0	
T1202	T2-17 DO YOU USE OR REFER TO SPONTANEOUS EMISSION	0	0	0	0	
T1203	T2-18 DO YOU USE OR REFER TO STIMULATED EMISSION	0	0	0	0	
T1204	T2-19 DO YOU USE OR REFER TO COHERENCE OR INCOHERENCE	0	0	0	0	
T1205	T2-20 DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0	0	
T1206	T2-21 DO YOU USE OR REFER TO MONOCHROMATIC	0	0	0	0	
T1207	T2-22 DO YOU WORK WITH ACTIVE MATERIALS	0	0	0	0	
T1208	T2-23 DO YOU WORK WITH PUMPING SOURCES	0	0	0	0	
T1209	T2-24 DO YOU WORK WITH FULL SILVERED (100% REFLECTIVE) MIRRORS	0	0	0	0	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

	BY-TSK	SPC 026	SPC 027	SPC 029	SPC 030	
T1210	T2-25 DO YOU WORK WITH HALF SILVERED (92% REFLECTIVE) MIRRORS	0	0	0	0	
T1211	T2-26 DO YOU WORK WITH HELICAL FLASHTUBES	0	0	0	0	
T1212	T2-27 DO YOU WORK WITH RUBY	0	0	0	0	
T1213	T2-28 DO YOU WORK WITH HELIUM-NEON	0	0	0	0	
T1214	T2-29 DO YOU WORK WITH HELIUM-XENON	0	0	0	0	
T1215	T2-30 DO YOU WORK WITH XENON	0	0	0	0	
T1216	T2-31 DO YOU WORK WITH CESIUM-HELIUM	0	0	0	0	
T1217	T2-32 DO YOU WORK WITH ARGON	0	0	0	0	
T1218	T2-33 DO YOU WORK WITH NEODYMIUM IN GLASS	0	0	0	0	
T1219	T2-34 DO YOU WORK WITH GALLIUM ARSENIDE	0	0	0	0	
T1220	T3-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE STORAGE TUBES (MMST)	0	0	0	0	
T1221	T3-02 DO YOU INSPECT DVST OR MMST	2	2	0	2	
T1222	T3-03 DO YOU CLEAN DVST OR MMST	2	2	0	2	
T1223	T3-04 DO YOU ADJUST OR CALIBRATE DVST OR MMST	0	0	0	0	DISPLAY TUBES
T1224	T3-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR MMST	2	2	0	2	
T1225	T3-06 DO YOU TROUBLESHOOT DVST OR MMST CIRCUITS	0	0	0	0	
T1226	T3-07 DO YOU REMOVE OR REPLACE DVST OR MMST TUBES FROM MAJOR ASSEMBLIES OR UNITS	2	2	0	2	
T1227	T3-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST	0	0	0	0	
T1228	T3-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF MMST	2	2	0	2	
T1229	T3-10 DO YOU PERFORM TASKS ON FLOOD GUNS	0	0	0	0	
T1230	T3-11 DO YOU PERFORM TASKS ON WRITE GUNS	0	0	0	0	
T1231	T3-12 DO YOU PERFORM TASKS ON ATTACK GUNS	0	0	0	0	
T1232	T3-13 DO YOU PERFORM TASKS ON ERASE GUNS	0	0	0	0	
T1233	T3-14 DO YOU PERFORM TASKS ON STORAGE GRIDS	0	0	0	0	
U1234	U1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY PROGRAMMING TASKS	73	73	50	77	
U1235	U1-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS	65	65	63	65	
U1236	U1-03 DO YOU USE OR REFER TO PROGRAMS	69	69	75	67	
U1237	U1-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS	69	69	75	67	PROGRAMMING
U1238	U1-05 DO YOU USE OR REFER TO 8-4-2-1 SYSTEMS	48	48	63	45	
U1239	U1-06 DO YOU USE OR REFER TO FOUR SYSTEMS	17	17	0	20	
U1240	U1-07 DO YOU USE OR REFER TO BINARY SYSTEMS	71	71	75	70	
U1241	U1-08 DO YOU USE OR REFER TO TIME-SHARING	35	35	13	40	
U1242	U1-09 DO YOU USE OR REFER TO DATA WORDS	60	60	50	63	
U1243	U1-10 DO YOU USE OR REFER TO ADDRESS WORDS	69	69	75	67	
U1244	U1-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS	63	63	63	63	
U1245	U1-12 DO YOU USE OR REFER TO STEERING/INFORMATION	35	35	13	40	
U1246	U1-13 DO YOU USE OR REFER TO INFORMATION WORDS	48	48	25	52	
U1247	U1-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING	46	46	25	50	
U1248	U1-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING	33	33	13	38	

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK		SPC 026	SPC 027	SPC 029	SPC 030	
01249	01-16 DO YOU PERFORM TASKS ON INPUT DEVICES	56	56	50	57	
01250	01-17 DO YOU PERFORM TASKS ON STORAGE DEVICES	44	44	50	42	
01251	01-18 DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	33	33	25	35	
01252	01-19 DO YOU PERFORM TASKS ON CONTROL SECTIONS	46	46	50	45	
01253	01-20 DO YOU PERFORM TASKS ON OUTPUT DEVICES	54	54	50	55	
01254	01-21 DO YOU PERFORM TASKS ON POWER SUPPLIES	67	67	75	65	
01255	02-01 DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	27	27	0	32	
01256	02-02 DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	15	15	0	17	DB AND POWER RATIOS
01257	02-03 DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	15	15	0	17	
01258	02-04 DUMMY TASK TO IDENTIFY INCUMBENTS WHO PERFORMED NO TASKS	0	0	0	0	

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DEFENSIVE SYSTEMS TRAINER SPECIALIST, AFSC 34152.(U)
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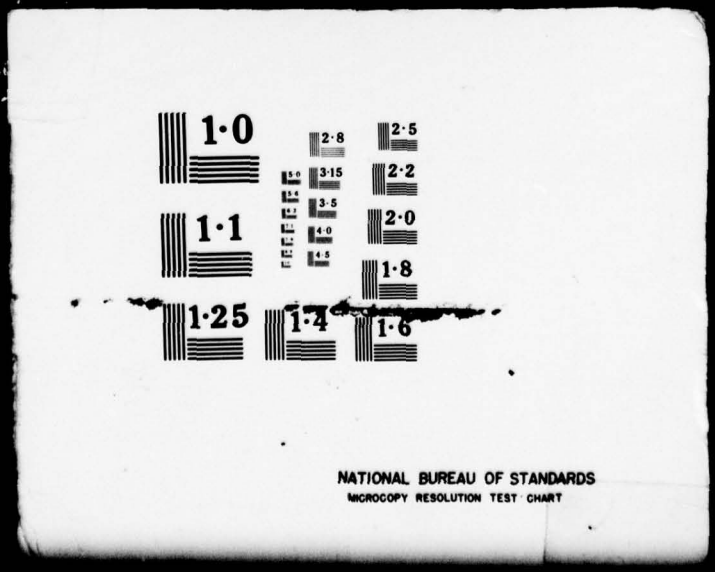

SUPPLEMENTARY

INFORMATION

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Avionics
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20. ABSTRACT (Continue on reverse side if necessary and identify by block number)

This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Defensive Systems Trainer Specialists (AFSC 34152). The report gives a detailed listing of the technical tasks and knowledge needed to perform the jobs within the specialty or career ladder.

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This specialty has the following functions:

Installs, maintains, repairs, inspects, operates, and modifies defensive system trainers; and maintains associated test equipment. Performs preventive maintenance on defensive system trainers. Installs, repairs, adjusts and modifies defensive system trainers. Operates defensive system trainers. Supervises defensive system trainer personnel.