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MISSILE PNEUDRAULIC REPAIRMAN CAREER LADDER AFSC 44250.(U)  
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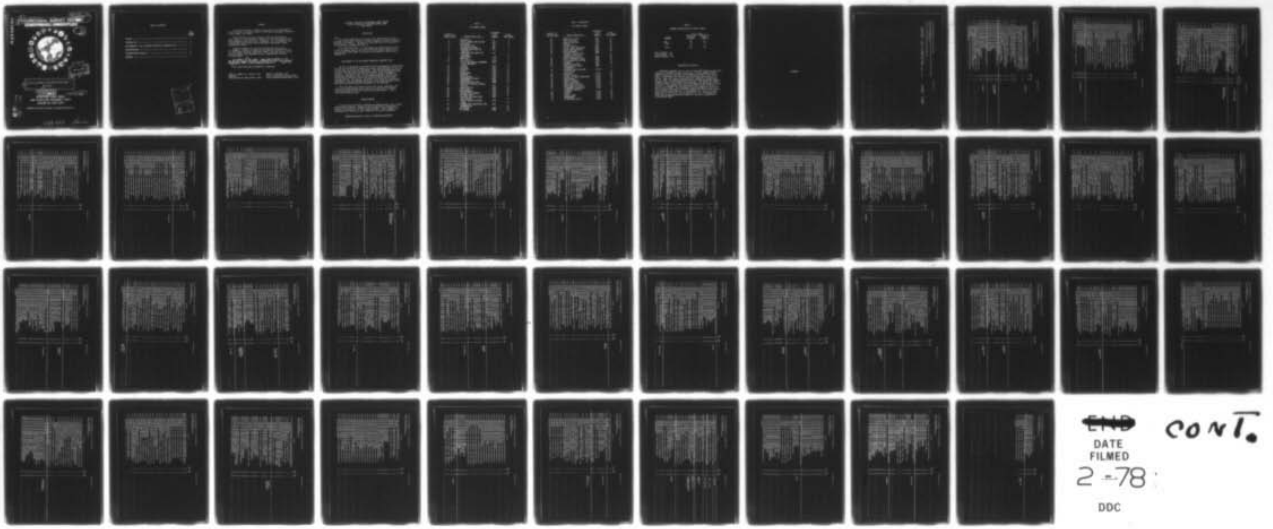
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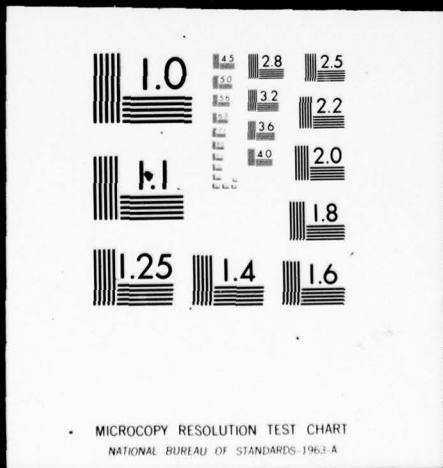
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# OCCUPATIONAL SURVEY REPORT ELECTRONIC PRINCIPLES

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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 Missile Pneudraulic Repairman Career Ladder, AFSC 44250.

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

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

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

This report has been reviewed and is approved.

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

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Chief, Occupational Survey Branch  
USAF Occupational Measurement Center

ELECTRONIC PRINCIPLES OCCUPATIONAL SURVEY REPORT  
MISSILE PNEUDRAULIC REPAIRMAN CAREER LADDER  
AFSC 44250

INTRODUCTION

↘ This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Missile Pneudraulic Repairman (AFSC 44250). 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 44250 airmen worldwide. Responses from 33 individuals represented 70 percent of the total of all AFSC 44250 personnel. Table 2 shows the percentage distribution by major command of the survey incumbents.

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TABLE 1  
EPI SUBJECT AREAS

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

TABLE 1 (CONTINUED)

## EPI SUBJECT AREAS

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



TABLE 2

## COMMAND REPRESENTATION OF SURVEY SAMPLE

<u>COMMAND</u>	AFSC 44250	
	<u>PERCENT OF ASSIGNED</u>	<u>PERCENT OF SAMPLE</u>
SAC	96	100
OTHER	<u>4</u>	<u>0</u>
TOTAL	100	100

Total Assigned - 47  
 Total Sampled - 33  
 Percent Sampled - 70%

## PRESENTATION OF RESULTS

Personnel responded "yes" or "no" to the 1,257 electronic principles questions as related to their present job. A Group Summary (GPSUM) computer printout is provided in the Appendix portion of this report. Page 1 of the GPSUM lists the two selected groups identified for this report. Pages 2-44 show the percentage of 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 Direct Current and Voltage (p. 2) and Antennas (pp. 32-33) to low in areas such as Filters (p. 10) and Coupling (p. 11). Additional AFSC 442X0 data can be obtained upon request to the Chief, Occupational Survey Branch (OMY).

APPENDIX

PCT MBRS RESPONDING \*YES\* BY SELECTED GRPS

GPSUM4 PAGE 1

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS  
IN THE 44250 CAREER FIELD.  
REPORTS ON THE FOLLOWING GROUPS WERE REQUESTED

GROUP IDENTITY = SPC076 ALL AIRMEN DAFSC 44250  
GROUP IDENTITY = SPC077 ALL AIRMEN DAFSC 44250 ASSIGNED TO SAC

CONTAINING 33 MEMBERS.  
CONTAINING 33 MEMBERS.

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

0Y-TSK

SPC SPC  
076 077

Task ID	Description	SPC	SPC	Category
1	AI-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.	27	27	MATHEMATICS
2	AI-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.	27	27	
3	AI-03 DO YOU REARRANGE AND SOLVE FORMULAS OR EQUATIONS.	36	36	
4	AI-04 DO YOU CALCULATE THE SQUARE ROOT OF A QUANTITY.	3	3	
5	AI-05 DO YOU SOLVE FOR UNKNOWN QUANTITIES.	15	15	
6	AI-06 DO YOU CONVERT NUMBERS TO LOGARITHMS.	0	0	
7	AI-07 DO YOU USE LOGARITHM TABLES IN ANY TYPE OF CALCULATIONS.	0	0	
8	AI-08 DO YOU SOLVE QUADRATIC EQUATIONS.	3	3	
9	AI-09 DO YOU USE THE NATURAL SYSTEM OF LOGARITHMS.	0	0	
10	AI-10 DO YOU PERFORM CALCULATIONS ON VECTOR QUANTITIES.	0	0	
11	AI-11 DO YOU WORK WITH TRIGONOMETRIC FUNCTIONS SUCH AS SINE, COSINE, OR TANGENT.	0	0	
12	AI-12 DO YOU DETERMINE AREAS OF PLANE FIGURES.	3	3	
13	AI-13 DO YOU SOLVE OR USE SIMULTANEOUS EQUATIONS.	0	0	
14	AI-14 DO YOU SOLVE OR USE PROPORTIONS.	0	0	
15	A2-01 DO YOU USE THE TERM VOLTAGE OR VOLT (V).	91	91	DIRECT CURRENT AND VOLTAGE
16	A2-02 DO YOU USE THE TERM ELECTROMOTIVE FORCE (EMF).	0	0	
17	A2-03 DO YOU USE THE TERM OHM.	91	91	
18	A2-04 DO YOU USE THE TERM ION.	0	0	
19	A2-05 DO YOU USE THE TERM DYNE.	0	0	
20	A2-06 DO YOU USE THE TERM AMPERE.	39	39	
21	A2-07 DO YOU USE THE TERM NEUTRON.	0	0	
22	A2-08 DO YOU USE THE TERM COULOMB.	0	0	
23	A2-09 DO YOU USE THE TERM PROTON.	0	0	
24	A3-01 DO YOU WORK WITH RESISTORS IN YOUR PRESENT JOB.	6	6	RESISTANCE
25	A3-02 DO YOU INSPECT RESISTORS.	0	0	
26	A3-03 DO YOU CLEAN RESISTORS.	0	0	
27	A3-04 DO YOU ADJUST RESISTORS.	0	0	
28	A3-05 DO YOU CHECK OHMIC VALUE OR RESISTORS.	3	3	
29	A3-06 DO YOU REMOVE OR REPLACE RESISTORS.	0	0	
30	A3-07 DO YOU USE OR REFER TO TEMPERATURE COEFFICIENTS FOR RESISTORS ON ANY TASKS YOU PERFORM.	0	0	
31	A3-08 DO YOU USE OR REFER TO RESISTOR SYMBOLS SUCH AS FIXED RESISTOR SYMBOLS OR TAPPED RESISTOR SYMBOLS.	0	0	
32	A3-09 DO YOU IDENTIFY OR CLASSIFY THE RESISTORS YOU WORK WITH AS CARBON, FIXED WIRE, SLIDE TAP, RHEOSTAT, OR POTENTIOMETER.	0	0	
33	A3-10 DO YOU USE RESISTOR COLOR CODES WHICH INDICATE OHMIC VALUE OF RESISTANCE.	3	3	

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

GPSUM4 PAGE 3

DY-TSM

SPC SPC  
 076 077

A	34	A3-11	DO YOU USE RESISTOR COLOR CODES WHICH INDICATE TOLERANCE.	3	3	3
A	35	A3-12	DO YOU USE RESISTOR COLOR CODES WHICH INDICATE FAILURE RATE.	0	0	0
A	36	A3-13	DO YOU MAKE DECISIONS IN WHICH YOU MUST DETERMINE HOW TWO OR MORE BATTERIES MUST BE CONNECTED TOGETHER TO ACHIEVE A SPECIFIC VOLTAGE.	0	0	0
A	37	A3-14	DO YOU USE OR REFER TO THE SCHEMATIC SYMBOLS WHICH REPRESENT BATTERIES, FUSES, CONDUCTORS, LAMPS, OR SWITCHES	9	9	9
A	38	A3-15	DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES RESISTIVE CIRCUITS.	3	3	3
A	39	A3-16	DO YOU CALCULATE TOTAL CURRENT FOR SERIES RESISTIVE CIRCUITS.	3	3	3
A	40	A3-17	DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES RESISTIVE CIRCUITS.	0	0	0
A	41	A3-18	DO YOU CALCULATE POWER DISSIPATION FOR SERIES RESISTIVE CIRCUITS.	0	0	0
A	42	A3-19	DO YOU CALCULATE TOTAL RESISTANCE FOR SERIES PARALLEL RESISTIVE CIRCUITS.	3	3	3
A	43	A3-20	DO YOU CALCULATE TOTAL CURRENT FOR SERIES PARALLEL RESISTIVE CIRCUITS.	3	3	3
A	44	A3-21	DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	0	0	0
A	45	A3-22	DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR SERIES PARALLEL RESISTIVE CIRCUITS.	0	0	0
A	46	A3-23	DO YOU CALCULATE POWER DISSIPATION FOR SERIES PARALLEL RESISTIVE CIRCUITS.	0	0	0
A	47	A3-24	DO YOU CALCULATE TOTAL RESISTANCE FOR PARALLEL RESISTIVE CIRCUITS.	3	3	3
A	48	A3-25	DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RESISTIVE CIRCUITS.	3	3	3
A	49	A3-26	DO YOU CALCULATE INDIVIDUAL VOLTAGE DROPS FOR PARALLEL RESISTIVE CIRCUITS.	0	0	0
A	50	A3-27	DO YOU CALCULATE INDIVIDUAL BRANCH CURRENTS FOR PARALLEL RESISTIVE CIRCUITS.	0	0	0
A	51	A3-28	DO YOU CALCULATE POWER DISSIPATION FOR PARALLEL RESISTIVE CIRCUITS.	0	0	0
B	52	B1-01	DO YOU MEASURE RESISTANCE.	64	64	64
B	53	B1-02	DO YOU REPAIR OHMMETERS.	0	0	0
B	54	B1-03	DO YOU MEASURE VOLTAGE.	76	76	76
B	55	B1-04	DO YOU REPAIR VOLTMETERS.	0	0	0
B	56	B1-05	DO YOU REPAIR AMMETERS.	0	0	0
B	57	B1-06	DO YOU MEASURE CURRENT.	27	27	27
B	58	B1-07	DO YOU USE MULTIMETERS.	76	76	76
B	59	B1-08	DO YOU DIRECTLY USE A QUANTITY OF CHARGE CALLED A COULOMB.	0	0	0
B	60	B1-09	DO YOU READ SCHEMATICS.	82	82	82

MULTIMETER USES

DY-TSK

SPC SPC  
 076 077

Task ID	Description	SPC 076	SPC 077	Category
B 61	B2-01 DO YOU USE OR REFER TO THE TERM EFFECTIVE VOLTAGE (RMS).	3	3	ALTERNATING CURRENT
B 62	B2-02 DO YOU USE OR REFER TO THE TERM PEAK TO PEAK VOLTAGE.	3	3	ALTERNATING CURRENT
B 63	B2-03 DO YOU USE OR REFER TO THE TERM AVERAGE VOLTAGE (DC).	15	15	INDUCTIVE REACTANCE
B 64	B2-04 DO YOU USE OR REFER TO THE TERM WAVE LENGTH.	0	0	
B 65	B2-05 DO YOU USE OR REFER TO THE TERM FREQUENCY.	0	0	
B 66	B2-06 DO YOU USE OR REFER TO THE TERM INSTANTANEOUS VALUE.	0	0	
B 67	B3-01 DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.	0	0	
B 68	B3-02 DO YOU INSPECT INDUCTORS.	0	0	INDUCTORS AND INDUCTIVE REACTANCE
B 69	B3-03 DO YOU CLEAN INDUCTORS.	0	0	
B 70	B3-04 DO YOU ADJUST INDUCTORS.	0	0	
B 71	B3-05 DO YOU REMOVE OR REPLACE INDUCTORS.	0	0	
B 72	B3-06 DO YOU USE OR REFER TO INDUCTANCE.	0	0	
B 73	B3-07 DO YOU USE OR REFER TO HENRIES.	0	0	
B 74	B3-08 DO YOU USE OR REFER TO INDUCTIVE REACTANCE.	0	0	
B 75	B3-09 DO YOU USE OR REFER TO COPPER LOSS IN INDUCTORS.	0	0	
B 76	B3-10 DO YOU USE OR REFER TO HYSTERESIS LOSS IN INDUCTORS.	0	0	
B 77	B3-11 DO YOU USE OR REFER TO EDDY CURRENT LOSS IN INDUCTORS.	0	0	
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.	0	0	
B 79	B3-13 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS SECTIONAL AREA OF THE CORE.	0	0	
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.	0	0	
B 81	B3-15 DO YOU USE OR REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE PERMEABILITY OF THE CORE MATERIAL.	0	0	
B 82	B3-16 DO YOU CALCULATE INDUCTANCE FOR PARTICULAR INDUCTORS USING FORMULAS.	0	0	
B 83	B3-17 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTANCE IN SERIES.	0	0	
B 84	B3-18 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	0	0	
B 85	B3-19 DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	0	0	
B 86	B3-20 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LAGS VOLTAGE IN AC INDUCTOR CIRCUITS.	0	0	
B 87	B3-21 DO YOU CALCULATE INDUCTIVE REACTANCE.	0	0	
B 88	B3-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.	0	0	
B 89	B3-23 DO YOU WORK WITH POWER INDUCTORS.	0	0	
B 90	B3-24 DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	0	0	
B 91	B3-25 DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	0	0	

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-15K

SPC SPC  
076 077

Code	Description	SPC 076	SPC 077	Category
C 92	CI-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS IN YOUR PRESENT JOB.	0	0	CAPACITORS AND CAPACITIVE REACTANCE
C 93	CI-02 DO YOU INSPECT CAPACITORS.	0	0	
C 94	CI-03 DO YOU CLEAN CAPACITORS.	0	0	
C 95	CI-04 DO YOU ADJUST CAPACITORS.	0	0	
C 96	CI-05 DO YOU TEST CAPACITORS.	0	0	
C 97	CI-06 DO YOU DISCHARGE CAPACITORS.	0	0	
C 98	CI-07 DO YOU REMOVE OR REPLACE CAPACITORS.	0	0	
C 99	CI-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.	0	0	
C 100	CI-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.	0	0	
C 101	CI-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.	0	0	
C 102	CI-11 DO YOU USE OR REFER TO CAPACITANCE.	0	0	
C 103	CI-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT	0	0	
C 104	CI-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS	0	0	
C 105	CI-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE	0	0	
C 106	CI-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES	0	0	
C 107	CI-16 DO YOU WORK WITH CAPACITORS IN DC CIRCUITS	0	0	
C 108	CI-17 DO YOU WORK WITH CAPACITORS IN AC CIRCUITS	0	0	
C 109	CI-18 DO YOU WORK WITH CAPACITORS IN CIRCUITS WITH BOTH DC AND AC	0	0	
C 110	CI-19 DO YOU WORK WITH CAPACITORS IN DON'T REMEMBER WHICH CIRCUITS	0	0	
C 111	CI-20 DO YOU CALCULATE CAPACITANCE FOR PARTICULAR CAPACITORS USING FORMULAS	0	0	
C 112	CI-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT	0	0	
C 113	CI-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS	0	0	
C 114	CI-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES	0	0	
C 115	CI-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL	0	0	
C 116	CI-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS	0	0	
C 117	CI-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO	0	0	
C 118	CI-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS	0	0	
C 119	CI-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY	0	0	
C 120	CI-29 DO YOU CALCULATE CAPACITIVE REACTANCE	0	0	

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

Task ID	Description	SPC 076	SPC 077
C 121	C1-3L DO YOU WORK WITH ROTOR-STATOR (VARIABLE) CAPACITORS	0	0
C 122	C1-3I DO YOU WORK WITH COMPRESSION (TRIMMER) CAPACITORS	0	0
C 123	C1-32 DO YOU WORK WITH ELECTROLYTIC (FIXED) CAPACITORS	0	0
C 124	C1-33 DO YOU WORK WITH PAPER (FIXED) CAPACITORS	0	0
C 125	C1-34 DO YOU WORK WITH MICA (FIXED) CAPACITORS	0	0
C 126	C1-35 DO YOU WORK WITH CERAMIC (FIXED) CAPACITORS	0	0
C 127	C1-36 DO YOU WORK WITH DON'T REMEMBER WHICH TYPE OF CAPACITORS	0	0
C 128	C2-01 DO YOU WORK WITH TRANSFORMERS IN YOUR PRESENT JOB	0	0
C 129	C2-02 DO YOU INSPECT TRANSFORMERS	0	0
C 130	C2-03 DO YOU CLEAN TRANSFORMERS	0	0
C 131	C2-04 DO YOU ADJUST TRANSFORMERS	0	0
C 132	C2-05 DO YOU TROUBLESHOOT TRANSFORMERS	0	0
C 133	C2-06 DO YOU REMOVE OR REPLACE COMPLETE TRANSFORMERS	0	0
C 134	C2-07 DO YOU REMOVE OR REPLACE TRANSFORMER PARTS, SUCH AS THE PRIMARY WINDING	0	0
C 135	C2-08 DO YOU MAKE A DISTINCTION BETWEEN MUTUAL INDUCTANCE AND MUTUAL INDUCTANCE (M)	0	0
C 136	C2-09 DO YOU USE THE SYMBOL FOR MUTUAL INDUCTANCE, M	0	0
C 137	C2-10 DO YOU REFER TO OR USE THE COEFFICIENT OF COUPLING WHEN WORKING WITH TRANSFORMERS	0	0
C 138	C2-11 DO YOU CALCULATE TURNS RATIOS FOR TRANSFORMERS USING CURRENT OR VOLTAGE RATIOS	0	0
C 139	C2-12 DO YOU REFER TO REFLECTED IMPEDANCE WHEN WORKING WITH TRANSFORMERS	0	0
C 140	C2-13 DO YOU CALCULATE IMPEDANCE INTERACTIONS FOR TRANSFORMERS	0	0
C 141	C2-14 DO YOU WORK WITH AUTOTRANSFORMERS	0	0
C 142	C2-15 DO YOU WORK WITH POWER TRANSFORMERS	0	0
C 143	C2-16 DO YOU WORK WITH AUDIO TRANSFORMERS	0	0
C 144	C2-17 DO YOU WORK WITH RADIO FREQUENCY TRANSFORMERS	0	0
C 145	C2-18 DO YOU WORK WITH DON'T REMEMBER WHAT TYPE OF TRANSFORMERS	0	0
C 146	C2-19 DO YOU CHECK TRANSFORMERS FOR OPEN WINDINGS BY MEASURING RESISTANCE	0	0
C 147	C2-20 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING RESISTANCE	0	0
C 148	C2-21 DO YOU CHECK TRANSFORMERS FOR SHORTED WINDINGS BY MEASURING OUTPUT VOLTAGES	0	0
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	0	0
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	0	0
C 151	C2-24 DO YOU REFER TO BASIC TRANSFORMER SCHEMATIC SYMBOLS FOR TRANSFORMERS	0	0

TRANSFORMERS



TASK GROUP SUMMARY  
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- C 152 C2-25 DO YOU REFER TO MULTIPLE SECONDARY-WINDINGS SCHEMATIC SYMBOLS FOR TRANSFORMERS 0 0 0
- C 153 C2-26 DO YOU REFER TO MULTIPLE TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS 0 0 0
- C 154 C2-27 DO YOU REFER TO CENTER TAP SCHEMATIC SYMBOLS FOR TRANSFORMERS 0 0 0
- C 155 C2-28 DO YOU REFER TO AIR CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS 0 0 0
- C 156 C2-29 DO YOU REFER TO IRON CORE SCHEMATIC SYMBOLS FOR TRANSFORMERS 0 0 0
- C 157 C2-30 DO YOU REFER TO COMBINATIONS OF THE ABOVE SCHEMATIC SYMBOLS FOR TRANSFORMERS 0 0 0
- C 158 C2-31 DO YOU DETERMINE PHASE RELATIONSHIPS BETWEEN SECONDARY AND PRIMARY VOLTAGES OF TRANSFORMERS USING SCHEMATIC SYMBOLS 0 0 0
- C 159 C2-32 DO YOU DETERMINE OR REFER TO THE TYPE OF CORE IN TRANSFORMERS YOU WORK WITH 0 0 0
- C 160 C2-33 DO YOU REFER TO OR USE THE GENERAL RULE THAT THE TURNS RATIO OF A TRANSFORMER IS EQUAL TO THE VOLTAGE RATIO FOR TRANSFORMERS 0 0 0
- C 161 C2-34 DO YOU USE OR REFER TO STEP-UP OR STEP-DOWN RATIOS USING TURNS RATIOS 0 0 0
- C 162 C2-35 DO YOU CALCULATE VOLTAGE RATIOS FOR TRANSFORMERS USING TURNS RATIOS 0 0 0
- C 163 C2-36 DO YOU CALCULATE CURRENT RATIOS FOR TRANSFORMERS USING TURNS RATIOS 0 0 0
- C 164 C2-37 DOES YOUR JOB INVOLVE ANY TASKS DEALING WITH THREE PHASE TRANSFORMERS 0 0 0
- C 165 C2-38 DO YOU INSPECT THREE PHASE TRANSFORMERS 0 0 0
- C 166 C2-39 DO YOU CLEAN OR LUBRICATE THREE PHASE TRANSFORMERS 0 0 0
- C 167 C2-40 DO YOU ADJUST THREE PHASE TRANSFORMERS 0 0 0
- C 168 C2-41 DO YOU TROUBLESHOOT THREE PHASE TRANSFORMERS 0 0 0
- C 169 C2-42 DO YOU REMOVE OR REPLACE COMPLETE THREE PHASE TRANSFORMERS 0 0 0
- C 170 C2-43 DO YOU REMOVE OR REPLACE THREE PHASE TRANSFORMER PARTS SUCH AS WINDINGS 0 0 0
- C 171 C3-01 DO YOU USE OR REFER TO PERMANENT MAGNETS 3 3 3
- C 172 C3-02 DO YOU USE OR REFER TO TEMPORARY MAGNETS 0 0 0
- C 173 C3-03 DO YOU USE OR REFER TO RETENTIVITY OF MAGNETIC MATERIALS 0 0 0
- C 174 C3-04 DO YOU USE OR REFER TO RELUCTANCE OF MAGNETIC MATERIALS 0 0 0
- C 175 C3-05 DO YOU USE OR REFER TO PERMEABILITY OF MAGNETIC MATERIALS 0 0 0
- C 176 C3-06 DO YOU USE OR REFER TO RESIDUAL MAGNETISM 0 0 0
- C 177 C3-07 DO YOU USE OR REFER TO MAGNETIC LINES OF FORCE OR FLUX 0 0 0
- C 178 C3-08 DO YOU USE OR REFER TO WEBER'S THEORY OF MAGNETISM 0 0 0

MAGNETISM

PCT MGRS RESPONDING \*YES\* BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY  
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0 204 D1-2C DO YOU USE OR REFER TO TANK CIRCUITS WHEN WORKING WITH RCL CIRCUITS 0 0 0  
 0 205 D1-21 DO YOU DETERMINE VALUES OF TRIGONOMETRIC FUNCTIONS USING FORMULAS 0 0 0  
 0 206 D1-22 DO YOU DRAW VOLTAGE, CURRENT, OR IMPEDANCE VECTOR DIAGRAMS FOR CIRCUITS 0 0 0  
 0 207 D1-23 DO YOU CALCULATE TOTAL IMPEDANCE FOR CAPACITIVE CIRCUITS 0 0 0  
 0 208 D1-24 DO YOU CALCULATE PHASE ANGLES BETWEEN IMPEDANCE AND RESISTANCE IN CAPACITIVE CIRCUITS 0 0 0  
 0 209 D1-25 DO YOU CALCULATE TOTAL IMPEDANCE FOR SERIES RCL CIRCUITS 0 0 0  
 0 210 D1-26 DO YOU CALCULATE IMPEDANCE ANGLES FOR SERIES RCL CIRCUITS 0 0 0  
 0 211 D1-27 DO YOU CALCULATE APPARENT POWER (PA) FOR SERIES RCL CIRCUITS 0 0 0  
 0 212 D1-28 DO YOU CALCULATE TRUE POWER (PT) FOR SERIES RCL CIRCUITS 0 0 0  
 0 213 D1-29 DO YOU CALCULATE POWER FACTORS (PF) FOR SERIES RCL CIRCUITS 0 0 0  
 0 214 D1-33 DO YOU CALCULATE TOTAL CURRENT FOR PARALLEL RCL CIRCUITS 0 0 0  
 0 215 D1-31 DO YOU CALCULATE IMPEDANCE ANGLES FOR PARALLEL RCL CIRCUITS 0 0 0  
 0 216 D1-32 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING THE ASSUMED VOLTAGE METHOD 0 0 0  
 0 217 D1-33 DO YOU CALCULATE TOTAL IMPEDANCE FOR PARALLEL RCL CIRCUITS USING OHM'S LAW 0 0 0  
 0 218 D1-34 DO YOU CHECK CAPACITORS USING OHMMETERS 0 0 0  
 0 219 D1-35 DO YOU CHECK CAPACITORS USING SUBSTITUTION 0 0 0  
 0 220 D1-36 DO YOU CHECK INDUCTORS USING OHMMETERS 0 0 0  
 0 221 D1-37 DO YOU CHECK INDUCTORS USING SUBSTITUTION 0 0 0  
 0 222 D1-38 DO YOU USE OR REFER TO THE GENERAL RULE THAT THETA =  $\theta$ , PF = 1, AND PA = PT FOR RESONANT CIRCUITS 0 0 0  
 0 223 D1-39 DO YOU CALCULATE RESONANT FREQUENCIES FOR RCL CIRCUITS 0 0 0  
 0 224 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 0 0 0  
 0 225 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 0 0 0  
 0 226 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 0 0 0  
 0 227 D1-43 DO YOU USE OR REFER TO THE GENERAL RULE THAT BANDWIDTH IS INVERSELY PROPORTIONAL TO Q 0 0 0  
 0 228 D1-44 DO YOU DETERMINE HOW CHANGES IN FREQUENCY, RESISTANCE, CAPACITANCE, OR INDUCTANCE WILL AFFECT CURRENT OR PHASE ANGLES FOR RCL CIRCUITS 0 0 0

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSM

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Task ID	Description	SPC 076	SPC 077	Series and Parallel Resonance (Time Constants)
0 229	D2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH, USE, OR REFER TO SERIES OR PARALLEL RESONANT CIRCUITS OR TIME CONSTANTS	0	0	
0 230	D2-02 DO YOU WORK WITH, USE, OR REFER TO TIME CONSTANTS	0	0	
0 231	D2-03 DO YOU WORK WITH, USE, OR REFER TO AVAILABLE VOLTAGE INTERVALS	0	0	
0 233	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)	0	0	
0 234	D2-06 DO YOU USE OR REFER TO UNIVERSAL TIME CONSTANT CHARTS	0	0	
0 235	D2-07 DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CIRCUIT CURRENT OR COMPONENT VOLTAGES AFTER A SPECIFIC TIME FOR RC OR LR CIRCUITS	0	0	
0 236	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	0	0	
0 237	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	0	0	
0 238	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	0	0	
0 239	D3-01 DO YOU WORK WITH CIRCUITS USED AS FILTERS IN YOUR PRESENT JOB	0	0	
0 240	D3-02 DO YOU INSPECT FILTER CIRCUITS	0	0	FILTERS
0 241	D3-03 DO YOU CLEAN FILTER CIRCUITS	0	0	
0 242	D3-04 DO YOU ALIGN OR ADJUST FILTER CIRCUITS	0	0	
0 243	D3-05 DO YOU TROUBLESHOOT TO THE FILTER CIRCUIT LEVEL	0	0	
0 244	D3-06 DO YOU TROUBLESHOOT TO COMPONENT PARTS	0	0	
0 245	D3-07 DO YOU REMOVE OR REPLACE THE COMPLETE FILTER CIRCUIT	0	0	
0 246	D3-08 DO YOU REMOVE OR REPLACE FILTER CIRCUIT COMPONENT PARTS	0	0	
0 247	D3-09 DO YOU WORK WITH LOW PASS FILTERS	0	0	
0 248	D3-10 DO YOU WORK WITH HIGH PASS FILTERS	0	0	
0 249	D3-11 DO YOU WORK WITH BANDPASS FILTERS	0	0	
0 250	D3-12 DO YOU WORK WITH BAND-REJECT FILTERS	0	0	
0 251	D3-13 DO YOU REMEMBER WHICH TYPE OF FILTER YOU WORK WITH	0	0	
0 252	D3-14 DO YOU WORK WITH T-SECTION FILTER CONFIGURATION	0	0	
0 253	D3-15 DO YOU WORK WITH T-SECTION FILTER CONFIGURATION	0	0	
0 254	D3-16 DO YOU WORK WITH PI-SECTION FILTER CONFIGURATION	0	0	
0 255	D3-17 DO YOU REMEMBER WHICH TYPE FILTER CONFIGURATION	0	0	
0 256	D3-18 DO THE FILTERS YOU WORK WITH USE PARALLEL RESONANT CIRCUITS	0	0	
0 257	D3-19 DO THE FILTERS YOU WORK WITH USE SERIES-PARALLEL CIRCUITS	0	0	
0 258	D3-20 DO THE FILTERS YOU WORK WITH USE SERIES RESONANT CIRCUITS	0	0	

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

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E 259	D3-21	DO YOU REMEMBER WHICH TYPE OF BASIC CIRCUIT CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC FILTERS	0	0	0
E 260	D3-22	DO YOU USE EQUATIONS OR FORMULAS TO DETERMINE CAPACITANCE OR INDUCTANCE VALUES REQUIRED FOR SPECIFIC FILTERS	0	0	0
E 261	E1-01	DO YOU WORK WITH COUPLING DEVICES IN YOUR PRESENT JOB	0	0	0
E 262	E1-02	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH RC COUPLING	0	0	0
E 263	E1-03	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH IMPEDANCE COUPLING	0	0	0
E 264	E1-04	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH TRANSFORMER COUPLING	0	0	0
E 265	E1-05	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM RC COUPLING	0	0	0
E 266	E1-06	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM IMPEDANCE COUPLING	0	0	0
E 267	E1-07	DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM TRANSFORMER COUPLING	0	0	0
E 268	E1-08	DO YOU WORK WITH DIRECTLY COUPLED CIRCUITS	0	0	0
E 269	E1-09	DO YOU WORK WITH CAPACITIVE-RESISTIVE COUPLED CIRCUITS	0	0	0
E 270	E1-10	DO YOU WORK WITH CAPACITIVE-INDUCTIVE COUPLED CIRCUITS	0	0	0
E 271	E1-11	DO YOU WORK WITH TRANSFORMER COUPLED CIRCUITS	0	0	0
E 272	E1-12	DO YOU REMEMBER WHICH TYPE OF COUPLING CIRCUITS	0	0	0
E 273	E2-01	IN YOUR PRESENT JOB, DO YOU PERFORM SOLDERING TECHNIQUES OR INSPECT OR EVALUATE SOLDERED CONNECTIONS	3	3	3
E 274	E2-02	DO YOU SELECT TYPE OF SOLDER TO USE	0	0	0
E 275	E2-03	DO YOU ADD FLUX TO CONNECTIONS	0	3	3
E 276	E2-04	DO YOU CLEAN CONNECTIONS USING SOLVENTS	0	0	0
E 277	E2-05	DO YOU STRIP INSULATION FROM WIRES	0	0	0
E 278	E2-06	DO YOU CONNECT OR DISCONNECT HEAT SINKS	3	3	3
E 279	E2-07	DO YOU BEND OR SHAPE WIRES OR LEADS	0	0	0
E 280	E2-08	DO YOU CUT WIRES	0	0	0
E 281	E2-09	DO YOU FILE OR SHAPE SOLDERING IRON TIPS	0	0	0
E 282	E2-10	DO YOU TIN SOLDERING IRON TIPS	0	0	0
E 283	E2-11	DO YOU CLEAN SOLDERING IRON TIPS	0	0	0
E 284	E2-12	DO YOU CLEAN ELECTRICAL SURFACES USING ERASERS	0	0	0
E 285	E2-13	DO YOU TIN OR PRE-TIN CONDUCTORS	0	0	0
E 286	E2-14	DO YOU INSPECT SOLDERED CONNECTIONS	0	0	0
E 287	E2-15	DO YOU DESOLDER CONNECTIONS BY WICKING	3	3	3
E 288	E2-16	DO YOU DESOLDER CONNECTIONS USING VACUUM DESOLDERING TOOLS	3	3	3
E 289	E2-17	DO YOU CUT COMPONENT LEADS TO REMOVE COMPONENTS	0	0	0
E 290	E2-18	DO YOU CRUSH COMPONENTS FOR REMOVAL	3	3	3

SOLDERING

COUPLING

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

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E 291	E2-19	DO YOU MAKE HARDWIRE CONNECTIONS	0	0	0
E 292	E2-20	DO YOU MAKE PRINTED CIRCUIT BOARD CONNECTIONS	0	0	0
E 293	E2-21	DO YOU SOLDER PASSIVE COMPONENTS SUCH AS RESISTORS OR CAPACITORS ON PRINTED CIRCUIT BOARDS	0	0	0
E 294	E2-22	DO YOU SOLDER ACTIVE COMPONENTS SUCH AS SOLID-STATE DIODES OR TRANSISTORS ON PRINTED CIRCUIT BOARDS	0	0	0
E 295	E3-01	DO YOU WORK WITH RELAYS ON YOUR PRESENT JOB	6	6	6
E 296	E3-02	DO YOU ADJUST RELAYS	0	0	0
E 297	E3-03	DO YOU CLEAN RELAYS	0	0	0
E 298	E3-04	DO YOU INSPECT RELAYS	3	3	3
E 299	E3-05	DO YOU REMOVE OR REPLACE COMPLETE RELAYS	6	6	6
E 300	E3-06	DO YOU REMOVE OR REPLACE PARTS OR RELAYS	3	3	3
E 301	E3-07	DO YOU TROUBLESHOOT RELAYS	3	3	3
E 302	E3-08	DO YOU STRAIGHTEN RELAY CONTACTS	3	3	3
E 303	E3-09	DO YOU PERFORM TASKS ON RELAY CONTACTS	3	3	3
E 304	E3-10	DO YOU PERFORM TASKS ON RELAY CORES	0	0	0
E 305	E3-11	DO YOU PERFORM TASKS ON RELAY COILS	3	3	3
E 306	E3-12	DO YOU PERFORM TASKS ON RELAY ARMATURES	0	0	0
E 307	E3-13	DO YOU PERFORM TASKS ON RELAY SPRINGS	0	0	0
E 308	E3-14	DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY OPER (NO) SCHEMATIC SYMBOLS FOR RELAYS	3	3	3
E 309	E3-15	DO YOU USE OR REFER TO SINGLE POLE, SINGLE THROW (SPST), NORMALLY CLOSED (NC) SCHEMATIC SYMBOLS FOR RELAYS	3	3	3
E 310	E3-16	DO YOU USE OR REFER TO SINGLE POLE, DOUBLE THROW (SPDT) SCHEMATIC SYMBOLS FOR RELAYS	3	3	3
E 311	E3-17	DO YOU USE OR REFER TO DOUBLE POLE, DOUBLE THROW (DPDT) SCHEMATIC SYMBOLS FOR RELAYS	3	3	3
E 312	E3-18	DO YOU USE OR REFER TO OTHER RELAY SYMBOLS SCHEMATIC SYMBOLS FOR RELAYS	3	3	3
E 313	E3-19	DO YOU CHECK ELECTRICAL CONTINUITY OF COILS BY MEASURING RESISTANCE	3	3	3
F 314	F1-01	IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH MICROPHONES	6	6	6
F 315	F1-02	DO YOU INSPECT MICROPHONES	9	9	9
F 316	F1-03	DO YOU CLEAN MICROPHONES	9	9	9
F 317	F1-04	DO YOU OPERATE MICROPHONES	9	9	9
F 318	F1-05	DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OR MICROPHONES	9	9	9
F 319	F1-06	DO YOU TROUBLESHOOT DOWN TO MICROPHONE PARTS	0	0	0
F 320	F1-07	DO YOU REMOVE OR REPLACE COMPLETE MICROPHONES	0	0	0
F 321	F1-08	DO YOU REMOVE OR REPLACE MICROPHONE PARTS	0	0	0
F 322	F1-09	DO YOU PERFORM TASKS ON CARBON MICROPHONES	0	0	0
F 323	F1-10	DO YOU PERFORM TASKS ON CAPACITOR MICROPHONES	0	0	0
F 324	F1-11	DO YOU PERFORM TASKS ON CRYSTAL MICROPHONES	9	9	9
F 325	F1-12	DO YOU PERFORM TASKS ON DYNAMIC MICROPHONES	0	0	0
F 326	F1-13	DO YOU PERFORM TASKS ON VELOCITY RIBBON MICROPHONES	0	0	0

MICROPHONES

RELAYS

PCT MRRS RESPONDING \*YES\* BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

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6 361	61-08	DO YOU USE OR REFER TO THE GENERAL RULE THAT TEMPERATURE CAN AFFECT THE OPERATION OF DIODES	0	0
6 362	61-09	DO YOU IDENTIFY SEMICONDUCTOR DIODES AS OPPOSED TO OTHER ELECTRONIC COMPONENTS, SUCH AS RESISTORS, BASED ON THEIR PHYSICAL APPEARANCE	0	0
6 363	61-10	DO YOU REFER TO OR DO YOU DETERMINE THE GENERAL EFFECTS OF DOPING ON CURRENT FLOW	0	0
6 364	61-11	DO YOU USE OR REFER TO MEASUREMENTS OF FORWARD BIAS RESISTANCE	0	0
6 365	61-12	DO YOU USE OR REFER TO DIODE COLOR CODING	0	0
6 366	61-13	DO YOU USE OR REFER TO CENTRIFUGAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	0	0
6 367	61-14	DO YOU USE OR REFER TO CENTRIPETAL FORCE OF AN ELECTRON IN ORBIT AROUND A NUCLEUS	0	0
6 368	61-15	DO YOU USE OR REFER TO DIODE NUMBERING SYSTEM, SUCH AS IN 538	0	0
6 369	61-16	DO YOU USE OR REFER TO KINETIC ENERGY OF AN ELECTRON MOVING IN ORBIT	0	0
6 370	61-17	DO YOU USE OR REFER TO POTENTIAL ENERGY OF AN ELECTRON MOVING IN ORBIT	0	0
6 371	61-18	DO YOU USE OR REFER TO MEASUREMENTS OF REVERSE BIAS RESISTANCE	0	0
6 372	61-19	DO YOU USE OR REFER TO NUMBER OF ELECTRONS IN A PARTICULAR SHELL OR ORBIT	0	0
6 373	61-20	DO YOU USE OR REFER TO PERMISSIBLE ENERGY LEVELS OF AN ORBITING ELECTRON	0	0
6 374	61-21	DO YOU USE OR REFER TO FORBIDDEN ENERGY LEVELS OF AN ORBITING ELECTRON	0	0
6 375	61-22	DO YOU USE OR REFER TO VALENCE ELECTRONS (THOSE IN THE OUTERMOST SHELL)	0	0
6 376	61-23	DO YOU USE OR REFER TO ATOMIC NUMBER (TOTAL NUMBER OF ELECTRONS IN ATOM)	0	0
6 377	61-24	DO YOU USE OR REFER TO SYMBOLS ON THE DIODE WHICH INDICATE THE CATHODE END	0	0
6 378	61-25	DO YOU NEED TO KNOW WHICH MATERIALS ARE USED IN THE CONSTRUCTION OF DIODES SUCH AS GERMANIUM OR SILICON	0	0
6 379	61-26	DO YOU NEED TO KNOW THAT SEMICONDUCTORS HAVE NEGATIVE TEMPERATURE COEFFICIENTS OF RESISTANCE (AS TEMPERATURE INCREASES RESISTANCE DECREASES)	0	0
6 380	61-27	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)	0	0
6 381	61-28	DO YOU DETERMINE WHETHER PN JUNCTION DIODES ARE FORWARD BIASED OR REVERSE BIASED WHEN YOU READ OR INTERPRET CIRCUIT DIAGRAMS	0	0
6 382	61-29	DO YOU USE OR REFER TO VALENCE BAND IN SEMICONDUCTOR MATERIALS	0	0



PCT MEMS RESPONDING 'YES' BY SELECTED GPPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSM

SPC SPC  
076 077

G 383	61-3C DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	0	0	0
G 384	61-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	0	0	0
G 385	61-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	0	0	0
G 386	61-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	0	0	0
G 387	61-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	0	0	0
G 388	61-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	0	0	0
G 389	61-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	0	0	0
G 390	61-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	0	0	0
G 391	61-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	0	0	0
G 392	61-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	0	0	0
G 393	61-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	0	0	0
G 394	61-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	0	0	0
G 395	61-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	0	0	0
G 396	61-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	0	0	0
G 397	61-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	0	0	0
G 398	61-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	0	0	0
G 399	61-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	0	0	0
G 400	61-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	0	0	0
G 401	61-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	0	0	0
G 402	61-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	0	0	0
G 403	61-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	0	0	0
G 404	62-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	0	0	0
G 405	62-02 DO YOU INSPECT TRANSISTORS	0	0	0
G 406	62-03 DO YOU REMOVE OR REPLACE TRANSISTORS	0	0	0
G 407	62-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	0	0	0
G 408	62-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	0	0	0
G 409	62-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	0	0	0

TRANSISTORS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-1SK

SPC SPC  
076 077

6 410	62-07	DO YOU USE OR REFER TO EMITTER - COLLECTOR (EC)	0	0	0
6 411	62-08	DO YOU USE OR REFER TO HOW BIASING AFFECTS THE RESISTANCE MEASUREMENTS	0	0	0
6 412	62-09	DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE EMITTER - BASE JUNCTION	0	0	0
6 413	62-10	DO YOU USE OR REFER TO HOW BIASING AFFECTS THE PHYSICAL BARRIER WIDTH OF THE COLLECTOR - BASE JUNCTION	0	0	0
6 414	62-11	DO YOU USE OR REFER TO THE PHYSICAL SIZE OF THE TRANSISTOR STRUCTURE (COLLECTOR, BASE AND EMITTER)	0	0	0
6 415	62-12	DO YOU USE OR REFER TO LEAKAGE CURRENT (ICB0) IN A TRANSISTOR	0	0	0
6 416	62-13	DO YOU USE OR REFER TO TRANSISTOR SCHEMATIC SYMBOLS OR REFER TO TRANSISTOR NOTATION SUCH AS Q1, Q2, Q3, FTC	0	0	0
6 417	62-14	DO YOU USE OR REFER TO TRANSISTOR SUBSTITUTION INFORMATION	0	0	0
6 418	62-15	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)	0	0	0
6 419	62-16	DO YOU USE THE INFORMATION THAT THE EFFECT OF EMITTER BASE VOLTAGE ON BASE CURRENT IS THE CONTROLLING FACTOR FOR TRANSISTORS	0	0	0
6 420	62-17	DO YOU USE THE GENERAL RULE THAT LEAKAGE CURRENT (ICB0) IN A TRANSISTOR INCREASES AS TEMPERATURE INCREASES	0	0	0
6 421	62-18	DO YOU USE OR REFER TO TRANSISTOR CHARACTERISTIC CURVES	0	0	0
6 422	62-19	DO YOU USE OR REFER TO BETA TRANSISTOR GAINS	3	3	3
6 423	62-20	DO YOU USE OR REFER TO ALPHA TRANSISTOR GAINS	0	0	0
6 424	62-21	DO YOU USE OR REFER TO GAMMA TRANSISTOR GAINS	0	0	0
6 425	62-22	DO YOU CALCULATE BETA TRANSISTOR GAINS	0	0	0
6 426	62-23	DO YOU CALCULATE ALPHA TRANSISTOR GAINS	0	0	0
6 427	62-24	DO YOU CALCULATE GAMMA TRANSISTOR GAINS	0	0	0
6 428	63-01	DO YOU WORK WITH TRANSISTOR AMPLIFIERS IN YOUR PRESENT JOB	0	0	0
6 429	63-02	DO YOU INSPECT TRANSISTOR AMPLIFIERS	0	0	0
6 430	63-03	DO YOU ALIGN OR ADJUST TRANSISTOR AMPLIFIERS	0	0	0
6 431	63-04	DO YOU TROUBLESHOOT TO THE AMPLIFIER CIRCUIT LEVEL	0	0	0
6 432	63-05	DO YOU TROUBLESHOOT TO AMPLIFIER COMPONENTS	0	0	0
6 433	63-06	DO YOU REMOVE OR REPLACE THE COMPLETE AMPLIFIER	0	0	0
6 434	63-07	DO YOU REMOVE OR REPLACE AMPLIFIER COMPONENTS	0	0	0
6 435	63-08	DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A CHANGE IN BASE CURRENT	0	0	0
6 436	63-09	DO YOU USE OR REFER TO (COMMON EMITTER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTOR CURRENT WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT	0	0	0

TRANSISTOR  
AMPLIFIERS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSM

SPC SPC  
076 077

6 437	63-10	DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE CURRENT	0	0	0
6 438	63-11	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	0	0	0
6 439	63-12	DO YOU USE OR REFER TO (COMMON EMITTER) THE CHANGE IN BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL	0	0	0
6 440	63-13	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	0	0	0
6 441	63-14	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)	0	0	0
6 442	63-15	DO YOU USE OR REFER TO THE OPERATING POINT Q (QUIESCENT POINT) FOR A TRANSISTOR	0	0	0
6 443	63-16	DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT FOR A PARTICULAR TRANSISTOR	0	0	0
6 444	63-17	DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON EMITTER CONFIGURATION	0	0	0
6 445	63-18	DO YOU MEASURE CURRENT GAIN USED IN THE COMMON EMITTER CONFIGURATION	0	0	0
6 446	63-19	DO YOU MEASURE POWER GAIN USED IN THE COMMON EMITTER CONFIGURATION	0	0	0
6 447	63-20	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	0	0	0
6 448	63-21	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	0	0	0
6 449	63-22	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	0	0	0
6 450	63-23	DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT IS GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE INCREASES (THIS AFFECTS THE STATIC OPERATING POINT EQJ OF THE TRANSISTOR)	0	0	0
6 451	63-24	DO YOU COMPUTE THE STATIC OPERATING POINT EQJ OF A TRANSISTOR AT DIFFERENT TEMPERATURES	0	0	0
6 452	63-25	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH EMITTER (SWAMPING) RESISTOR STABILIZATION	0	0	0
6 453	63-26	DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH SELF-BIAS STABILIZATION	0	0	0

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSK

SPC SPC  
076 077

G 454 G3-27 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH THERMISTOR STABILIZATION 0 0 0

G 455 G3-28 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH FORWARD BIAS DIODE STABILIZATION 0 0 0

G 456 G3-29 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH REVERSE BIAS DIODE STABILIZATION 0 0 0

G 457 G3-30 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELATE TO THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH DOUBLE DIODE STABILIZATION 0 0 0

G 458 G3-31 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM EMITTER (SWAMPING) RESISTOR STABILIZATION 0 0 0

G 459 G3-32 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM SELF-BIAS STABILIZATION 0 0 0

G 460 G3-33 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM THERMISTOR STABILIZATION 0 0 0

G 461 G3-34 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM FORWARD BIAS DIODE STABILIZATION 0 0 0

G 462 G3-35 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM REVERSE BIAS DIODE STABILIZATION 0 0 0

G 463 G3-36 DO YOU TROUBLESHOOT CIRCUITS WHICH HAVE COMPONENTS WHICH PERFORM DOUBLE DIODE STABILIZATION 0 0 0

G 464 G3-37 DO YOU IDENTIFY AMPLITUDE DISTORTION FOR TRANSISTOR CIRCUITS 0 0 0

G 465 G3-38 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF AMPLITUDE DISTORTION 0 0 0

G 466 G3-39 DO YOU IDENTIFY FREQUENCY DISTORTION FOR TRANSISTOR CIRCUITS 0 0 0

G 467 G3-40 DO YOU IDENTIFY PHASE DISTORTION FOR TRANSISTOR CIRCUITS 0 0 0

G 468 G3-41 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF PHASE DISTORTION 0 0 0

G 469 G3-42 DO YOU TROUBLESHOOT TRANSISTOR CIRCUITS TO FIND THE CAUSES OF FREQUENCY DISTORTION 0 0 0

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 0 0 0

G 471 G3-44 DO YOU DETERMINE THE CLASS OF OPERATION FOR AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS 0 0 0

G 472 G3-45 DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS 0 0 0

G 473 G3-46 DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS 0 0 0

G 474 G3-47 DO YOU TROUBLESHOOT OR REPAIR COMPLEMENTARY SYMMETRY CIRCUITS 0 0 0

G 475 G3-48 DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS 0 0 0

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSK

SPC SPC  
076 077

G 476	G3-49	DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	0	0	0
H 477	H1-01	DO YOU USE OR REFER TO VARACTORS	0	0	0
H 478	H1-02	DO YOU USE OR REFER TO TUNNEL DIODES	0	0	0
H 479	H1-03	DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)	0	0	0
H 480	H1-04	DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS	0	0	0
H 481	H1-05	DO YOU USE OR REFER TO ZENER DIODES	0	0	0
H 482	H1-06	DO YOU USE OR REFER TO INTEGRATED CIRCUITS	0	0	0
H 483	H2-01	IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES	6	6	6
H 484	H2-02	DO YOU INSPECT POWER SUPPLIES	0	0	0
H 485	H2-03	DO YOU CLEAN POWER SUPPLIES	0	0	0
H 486	H2-04	DO YOU ALIGN OR ADJUST POWER SUPPLIES	3	3	3
H 487	H2-05	DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL	3	3	3
H 488	H2-06	DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS	0	0	0
H 489	H2-07	DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES	0	0	0
H 490	H2-08	DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS	0	0	0
H 491	H2-09	DO YOU WORK WITH HALF-WAVE RECTIFIERS	0	0	0
H 492	H2-10	DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS	0	0	0
H 493	H2-11	DO YOU WORK WITH PRIDGE RECTIFIERS	0	0	0
H 494	H2-12	DO YOU WORK WITH THREE-PHASE RECTIFIERS	0	0	0
H 495	H2-13	DO YOU USE OR REFER TO INPUT VOLTAGE	0	0	0
H 496	H2-14	DO YOU USE OR REFER TO INPUT FREQUENCY	0	0	0
H 497	H2-15	DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE	0	0	0
H 498	H2-16	DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE	3	3	3
H 499	H2-17	DO YOU USE OR REFER TO RIPPLE AMPLITUDE	0	0	0
H 500	H2-18	DO YOU USE OR REFER TO RIPPLE FREQUENCY	0	0	0
H 501	H2-19	DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE	0	0	0
H 502	H2-20	DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVIFORMS	0	0	0
H 503	H2-21	DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE	0	0	0
H 504	H2-22	DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS	0	0	0
H 505	H2-23	DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS	0	0	0
H 506	H2-24	DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS	0	0	0
H 507	H2-25	DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS	0	0	0
H 508	H2-26	DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS	0	0	0
H 509	H2-27	DO YOU WORK WITH CIRCUITS WHICH EMPLOY RC PI-TYPE FILTERS	0	0	0
H 510	H2-28	DO YOU WORK WITH CIRCUITS WHICH EMPLOY DONT	3	3	3
H 511	H2-29	DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER	0	0	0
H 512	H3-01	DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB	0	0	0

OSCILLATORS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSM

SPC SPC  
076 077

H 513	H3-02	DO YOU INSPECT OSCILLATORS	0	0	0
H 514	H3-03	DO YOU ALIGN OR ADJUST OSCILLATORS	0	0	0
H 515	H3-04	DO YOU REMOVE OR REPLACE COMPLETE OSCILLATORS	0	0	0
H 516	H3-05	DO YOU REMOVE OR REPLACE OSCILLATOR COMPONENTS	0	0	0
H 517	H3-06	DO YOU TROUBLESHOOT TO OSCILLATOR CIRCUIT LEVEL	0	0	0
H 518	H3-07	DO YOU TROUBLESHOOT TO OSCILLATOR COMPONENTS	0	0	0
H 519	H3-08	DO YOU USE OR REFER TO FEEDBACK	0	0	0
H 520	H3-09	DO YOU USE OR REFER TO FREQUENCY DETERMINING DEVICES (FDD)	0	0	0
H 521	H3-10	DO YOU USE OR REFER TO AMPLITUDE STABILITY	0	0	0
H 522	H3-11	DO YOU USE OR REFER TO FREQUENCY STABILITY	0	0	0
H 523	H3-12	DO YOU USE OR REFER TO DAMPING	0	0	0
H 524	H3-13	DO YOU USE OR REFER TO REGENERATIVE FEEDBACK	0	0	0
H 525	H3-14	DO YOU USE OR REFER TO PIEZOELECTRIC EFFECT	0	0	0
H 526	H3-15	DO YOU USE OR REFER TO CRITICAL DAMPING	0	0	0
H 527	H3-16	DO YOU USE OR REFER TO UNDER DAMPING	0	0	0
H 528	H3-17	DO YOU USE OR REFER TO OVER DAMPING	0	0	0
H 529	H3-18	DO YOU WORK WITH OSCILLATORS WHICH USE LC TANK CIRCUITS AS FDD	0	0	0
H 530	H3-19	DO YOU WORK WITH OSCILLATORS WHICH USE RC NETWORKS AS FDD	0	0	0
H 531	H3-20	DO YOU WORK WITH OSCILLATORS WHICH USE CRYSTALS AS FDD	0	0	0
H 532	H3-21	DO YOU WORK WITH OSCILLATORS WHICH USE DOWN-T REMEMBER WHICH TYPE OF FDD	0	0	0
H 533	H3-22	DO YOU WORK WITH SERIES HARTLEY SINUSOIDAL OSCILLATORS	0	0	0
H 534	H3-23	DO YOU WORK WITH SHUNT HARTLEY SINUSOIDAL OSCILLATORS	0	0	0
H 535	H3-24	DO YOU WORK WITH COLPITTS SINUSOIDAL OSCILLATORS	0	0	0
H 536	H3-25	DO YOU WORK WITH CLAPP SINUSOIDAL OSCILLATORS	0	0	0
H 537	H3-26	DO YOU WORK WITH BUTLER SINUSOIDAL OSCILLATORS	0	0	0
H 538	H3-27	DO YOU WORK WITH DOWN-T REMEMBER WHICH TYPE OF OSCILLATORS	0	0	0
I 539	I1-01	DO YOU WORK WITH MULTIVIBRATORS IN YOUR PRESENT JOB	0	0	0
I 540	I1-02	DO YOU INSPECT HAVE GENERATING OR SHAPING CIRCUITS	0	0	0
I 541	I1-03	DO YOU ALIGN OR ADJUST HAVE GENERATING OR SHAPING CIRCUITS	0	0	0
I 542	I1-04	DO YOU CALIBRATE HAVE GENERATING OR SHAPING CIRCUITS	0	0	0
I 543	I1-05	DO YOU TROUBLESHOOT TO HAVE GENERATING OR SHAPING CIRCUITS	0	0	0
I 544	I1-06	DO YOU TROUBLESHOOT TO HAVE GENERATING OR SHAPING CIRCUIT COMPONENTS	0	0	0
I 545	I1-07	DO YOU REMOVE OR REPLACE COMPLETE HAVE GENERATING OR SHAPING CIRCUITS	0	0	0
I 546	I1-08	DO YOU REMOVE OR REPLACE HAVE GENERATING OR SHAPING COMPONENTS	0	0	0
I 547	I1-09	DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN LC TANK CIRCUITS	0	0	0

MULTIVIBRATORS

PCT MBRS RESPONDING \*YES\* BY SELECTED GPPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-15K

SPC SPC  
076 077

I 548	11-10	DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN RC NETWORKS	0	0	0	
I 549	11-11	DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN CRYSTALS	0	0	0	
I 550	11-12	DO YOU WORK WITH MULTIVIBRATORS WHICH CONTAIN DON'T REMEMBER WHICH TYPE OF FDD	0	0	0	
I 551	11-13	DO YOU WORK WITH ASTABLE MULTIVIBRATORS	0	0	0	
I 552	11-14	DO YOU WORK WITH MONOSTABLE MULTIVIBRATORS	0	0	0	
I 553	11-15	DO YOU WORK WITH BISTABLE MULTIVIBRATORS	0	0	0	
I 554	11-16	DO YOU WORK WITH DON'T REMEMBER WHICH TYPE MULTIVIBRATORS	0	0	0	
I 555	12-01	DO YOU WORK WITH LIMITERS OR CLAMPERS IN YOUR PRESENT JOB	0	0	0	
I 556	12-02	DO YOU WORK WITH SERIES DIODE LIMITERS	0	0	0	LIMITERS AND CLAMPERS
I 557	12-03	DO YOU WORK WITH SHUNT DIODE LIMITERS	0	0	0	
I 558	12-04	DO YOU WORK WITH LIMITERS WITH BIAS	0	0	0	
I 559	12-05	DO YOU WORK WITH ZENER DIODE LIMITERS	0	0	0	
I 560	12-06	DO YOU WORK WITH TRANSISTOR LIMITERS	0	0	0	
I 561	12-07	DO YOU WORK WITH DON'T KNOW WHICH TYPE OF LIMITERS	0	0	0	
I 562	12-08	DO YOU WORK WITH BASIC DIODE CLAMPING CIRCUITS	0	0	0	
I 563	12-09	DO YOU WORK WITH DIODE CLAMPING CIRCUITS WITH BIAS	0	0	0	
I 564	12-10	DO YOU WORK WITH DON'T KNOW WHICH TYPE OF CLAMPING CIRCUIT	0	0	0	
I 565	13-01	IN YOUR PRESENT JOB, DO YOU WORK ON EQUIPMENT WHICH CONTAINS ELECTRON TUBES	0	0	0	ELECTRON TUBES
I 566	13-02	DO YOU CHECK ELECTRON TUBES TO SEE IF THEY ARE GOOD	0	0	0	
I 567	13-03	DO YOU USE TUBE TESTERS TO CHECK ELECTRON TUBES	0	0	0	
I 568	13-04	DO YOU USE MULTIMETERS TO CHECK ELECTRON TUBES	0	0	0	
I 569	13-05	DO YOU USE SCOPES TO CHECK ELECTRON TUBES	0	0	0	
I 570	13-06	DO YOU USE SUBSTITUTION TO CHECK ELECTRON TUBES	0	0	0	
I 571	13-07	DO YOU USE OR REFER TO CUTOFF	0	0	0	
I 572	13-08	DO YOU USE OR REFER TO PEAK INVERSE VOLTAGE RATING	3	3	3	
I 573	13-09	DO YOU USE OR REFER TO PEAK CURRENT RATING	0	0	0	
I 574	13-10	DO YOU USE OR REFER TO TRANSIT TIME	0	0	0	
I 575	13-11	DO YOU USE OR REFER TO PLATE DISSIPATION RATING	0	0	0	
I 576	13-12	DO YOU USE OR REFER TO SATURATION	0	0	0	
I 577	13-13	DO YOU USE OR REFER TO DC PLATE RESISTANCE	0	0	0	
I 578	13-14	DO YOU COMPUTE ACTUAL VALUES OF THE DC PLATE RESISTANCE FOR ELECTRON TUBES	0	0	0	
I 579	13-15	DO YOU USE OR REFER TO PLATE VOLTAGE	0	0	0	
I 580	13-16	DO YOU USE OR REFER TO PLATE CURRENT	0	0	0	
I 581	13-17	DO YOU USE OR REFER TO GRID VOLTAGE	0	0	0	
I 582	13-18	DO YOU USE OR REFER TO GRID CURRENT	0	0	0	
I 583	13-19	DO YOU USE OR REFER TO CATHODE VOLTAGE	0	0	0	
I 584	13-20	DO YOU USE OR REFER TO CATHODE CURRENT	0	0	0	
I 585	13-21	DO YOU USE OR REFER TO THE TRIODE AMPLIFICATION FACTOR (THE AMPLIFICATION FACTOR FOR TRIODES IS DEFINED AS THE RATIO OF CHANGE IN PLATE VOLTAGE TO A CHANGE IN GRID VOLTAGE)	0	0	0	

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

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

ELECTRON TUBE  
AMPLIFIERS  
AND CIRCUITS



TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

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J 611	J1-03	DO YOU TROUBLESHOOT OR REPAIR PARAPHASE AMPLIFIERS	0	0	0	
J 612	J1-04	DO YOU TROUBLESHOOT OR REPAIR PUSH-PULL AMPLIFIERS	0	0	0	
J 613	J1-05	DO YOU TROUBLESHOOT OR REPAIR COMPOUND-CONNECTED AMPLIFIERS	0	0	0	
J 614	J1-06	DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS	0	0	0	
J 615	J1-07	DO YOU TROUBLESHOOT OR REPAIR DON'T KNOW WHICH TYPE OF AMPLIFIER	0	0	0	
J 616	J2-01	DO YOU WORK WITH GAS TUBES (HOT CATHODE OR COLD CATHODE)	0	0	0	SPECIAL PURPOSE ELECTRON TUBES
J 617	J2-02	DO YOU WORK WITH CATHODE-RAY TUBES	0	0	0	
J 618	J2-03	DO YOU USE OR REFER TO THE CHARACTERISTICS OF BEAM POWER TUBES	0	0	0	
J 619	J2-04	DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH BEAM POWER TUBES ARE USED	0	0	0	
J 620	J2-05	DO YOU USE OR REFER TO THE CHARACTERISTICS OF THYRATRONS	0	0	0	
J 621	J2-06	DO YOU TROUBLESHOOT OR REPAIR CIRCUITS IN WHICH THYRATRONS ARE USED	0	0	0	
J 622	J2-07	DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTRON GUNS OF CATHODE-RAY TUBES (CRT)	0	0	0	
J 623	J2-08	DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROMAGNETIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	0	0	0	
J 624	J2-09	DO YOU USE OR REFER TO THE PRINCIPLES OF OPERATION OF ELECTROSTATIC DEFLECTION SYSTEMS OF CATHODE-RAY TUBES (CRT)	0	0	0	
J 625	J2-10	DO YOU USE OR REFER TO PHOSPHOR SCREENS	0	0	0	
J 626	J2-11	DO YOU USE OR REFER TO AQUADAG COATINGS	0	0	0	
J 627	J2-12	DO YOU USE OR REFER TO ELECTRON OPTICS	0	0	0	
J 628	J2-13	DO YOU USE OR REFER TO PERSISTENCE	0	0	0	
J 629	J2-14	DO YOU USE OR REFER TO DECAY TIMES	0	0	0	
J 630	J2-15	DO YOU USE OR REFER TO FLUORESCENCE	0	0	0	
J 631	J2-16	DO YOU USE OR REFER TO PHOSPHORESCENCE	0	0	0	
J 632	J3-01	DO YOU WORK ON TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0	0	0	
J 633	J3-02	DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	0	0	0	HETERODYNING,
J 634	J3-03	DO YOU PERFORM TASKS ON FREQUENCY MIXERS	0	0	0	MODULATION, AND
J 635	J3-04	DO YOU USE OR REFER TO THE HETERODYNING OF SIGNALS IN YOUR WORK WITH TRANSMIT OR RECEIVE SYSTEMS	0	0	0	DEMODULATION
J 636	J3-05	DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	0	0	0	
J 637	J3-06	DO YOU PERFORM TASKS ON MODULATED OSCILLATORS	0	0	0	
K 638	K1-01	DO YOU WORK ON AM TRANSMIT OR RECEIVE SYSTEMS IN YOUR PRESENT JOB	0	0	0	
K 639	K1-02	DO YOU INSPECT AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	AM SYSTEMS
K 640	K1-03	DO YOU CLEAN AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	
K 641	K1-04	DO YOU ALIGN OR ADJUST AM TRANSMIT OR RECEIVE SYSTEMS	0	0	0	

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

0Y-TSK

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

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

Task ID	Description	SPC 076	SPC 077	NUMBERING SYSTEMS
K 676	K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	0	0	0
K 677	K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	0	0	0
K 678	K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	0	0	0
K 679	K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	0	0	0
K 680	K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	0	0	0
K 681	K2-16 DO YOU PERFORM TASKS ON LIMITERS	0	0	0
K 682	K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATORS	0	0	0
K 683	K2-18 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	0	0	0
K 684	K2-19 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	0	0	0
K 685	K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL (BASE 8) NUMBERS	0	0	0
K 686	K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	0	0	0
K 687	K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	0	0	0
K 688	K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	0	0	0
K 689	K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	0	0	0
K 690	K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	0	0	0
K 691	K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	0	0	0
K 692	K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE END-AROUND-CARRY METHOD	0	0	0
K 693	K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	0	0	0
K 694	K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	0	0	0
L 695	L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	0	0	0
L 696	L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	0	0	0
L 697	L1-03 DO YOU CONSTRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	0	0	0
L 698	L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR LOGIC SYMBOLS WITH STATE INDICATORS	0	0	0
L 699	L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	0	0	0
L 700	L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	0	0	0
L 701	L1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	0	0	0
L 702	L1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	0	0	0
L 703	L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	0	0	0
L 704	L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	0	0	0
L 705	L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	0	0	0
L 706	L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	0	0	0

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSM

SPC SPC  
076 077

Task Description	SPC 076	SPC 077	BOOLEAN EQUATIONS
L 707 L2-13 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR EXCLUSIVE OR GATES	0	0	0
L 708 L2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO BOOLEAN EQUATIONS, LOGIC DIAGRAMS, OR LOGIC CIRCUITS	0	0	0
L 709 L2-02 DO YOU DRAW LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUITS	0	0	0
L 710 L2-03 DO YOU CONSTRUCT TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	0	0	0
L 711 L2-04 DO YOU DRAW LOGIC DIAGRAMS FROM GIVEN BOOLEAN EQUATIONS	0	0	0
L 712 L2-05 DO YOU MEASURE INPUTS OR OUTPUTS OF LOGIC GATES	0	0	0
L 713 L2-06 DO YOU DEVELOP OR ANALYZE BOOLEAN EQUATIONS IN THE PROCESS OF TROUBLESHOOTING DIGITAL CIRCUITS	0	0	0
L 714 L2-07 DO YOU ANALYZE LOGIC CIRCUITS BY USING BOOLEAN ALGEBRA	0	0	0
L 715 L2-08 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR DIRECT COUPLED TRANSISTOR LOGIC (DCTL) CIRCUIT GATES	0	0	0
L 716 L2-09 DO YOU USE OR REFER TO TRUTH TABLES FOR CURRENT MODE LOGIC (CML) CIRCUITS	0	0	0
L 717 L2-10 DO YOU USE OR REFER TO LOGIC DIAGRAMS CONSISTING OF MORE THAN ONE GATE	0	0	0
L 718 L2-11 DO YOU COMPUTE SUM AND CARRY EXPRESSIONS FOR SERIAL HALF OR FULL ADDER LOGIC DIAGRAMS	0	0	0
L 719 L2-12 DO YOU TRACE DATA FLOW THROUGH PARALLEL FULL ADDER LOGIC DIAGRAMS	0	0	0
L 720 L2-13 DO YOU WORK WITH ASTABLE (FREE RUNNING) MULTIVIBRATORS	0	0	0
L 721 L2-14 DO YOU WORK WITH BISTABLE (FLIP-FLOP) MULTIVIBRATORS	0	0	0
L 722 L2-15 DO YOU WORK WITH MONOSTABLE TONE-SHOT MULTIVIBRATORS	0	0	0
L 723 L2-16 DO YOU USE OR REFER TO FLIP-FLOP MULTIVIBRATOR SYMBOLS	0	0	0
L 724 L2-17 DO YOU USE OR REFER TO SINGLE-SHOT MULTIVIBRATOR SYMBOLS	0	0	0
L 725 L2-18 DO YOU USE OR REFER TO FLIP-FLOP CIRCUIT DIAGRAMS	0	0	0
L 726 L2-19 DO YOU USE OR REFER TO FLIP-FLOP TRUTH TABLES	0	0	0
L 727 L2-20 DO YOU USE OR REFER TO COMPLEMENTED FLIP-FLOP LOGIC SYMBOLS	0	0	0
L 728 L2-21 DO YOU USE OR REFER TO COMPLEMENTING FLIP-FLOP LOGIC SYMBOLS	0	0	0
L 729 L2-22 DO YOU MEASURE OUTPUT WAVESHAPES OF LOGIC CIRCUITS	0	0	0
L 730 L2-23 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTED FLIP-FLOP SCHEMATIC DIAGRAMS	0	0	0
L 731 L2-24 DO YOU TRACE DATA FLOW THROUGH COMPLEMENTING FLIP-FLOP SCHEMATIC DIAGRAMS	0	0	0
L 732 L2-25 DO YOU CONSTRUCT TRUTH TABLES FOR J-K FLIP-FLOP LOGIC SYMBOLS	0	0	0

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

DY-TSK

SPC SPC  
 076 077

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

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

OY-TSK

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M 761	M1-05	DO YOU WORK WITH BLOCKING OSCILLATORS	0	0	0
M 762	M1-06	DO YOU USE OR REFER TO RISE TIME	0	0	0
M 763	M1-07	DO YOU USE OR REFER TO FALL OR FLYBACK TIME	0	0	0
M 764	M1-08	DO YOU USE OR REFER TO SWEEP TIME	0	0	0
M 765	M1-09	DO YOU USE OR REFER TO ELECTRICAL LENGTH OF SAWTOOTH WAVEFORMS	0	0	0
M 766	M1-10	DO YOU USE OR REFER TO PHYSICAL LENGTH OF SAWTOOTH WAVEFORMS	0	0	0
M 767	M1-11	DO YOU USE OR REFER TO LINEAR SLOPE OF SAWTOOTH WAVEFORMS	0	0	0
M 768	M1-12	DO YOU USE OR REFER TO GATE LENGTH OF SAWTOOTH WAVEFORMS	0	0	0
M 769	M2-01	DO YOU USE SIGNAL GENERATORS IN YOUR PRESENT JOB	0	0	0
M 770	M2-02	DO YOU PERFORM OPERATIONAL CHECKS WHILE USING SIGNAL GENERATORS	0	0	0
M 771	M2-03	DO YOU PERFORM PERIODIC MAINTENANCE SUCH AS ADJUSTING, ALIGNING, OR CALIBRATING WHILE USING SIGNAL GENERATORS	0	0	0
M 772	M2-04	DO YOU TROUBLESHOOT TO AN ASSEMBLY OR SUBASSEMBLY WHILE USING SIGNAL GENERATORS	0	0	0
M 773	M2-05	DO YOU TROUBLESHOOT TO THE SMALLEST REPLACEABLE COMPONENT WHILE USING SIGNAL GENERATORS	0	0	0
M 774	M2-06	DO YOU USE AUDIO SINE-WAVE GENERATORS	0	0	0
M 775	M2-07	DO YOU USE AUDIO NON-SINUSOIDAL WAVE GENERATORS SUCH AS SQUARE WAVE, TRIANGLE, PULSE, OR SPIKE	0	0	0
M 776	M2-08	DO YOU USE RF GENERATORS LESS THAN 1,000 MH	0	0	0
M 777	M2-09	DO YOU USE RF GENERATORS GREATER THAN 1,000 MH	0	0	0
M 778	M2-10	DO YOU USE OTHER SPECIAL PURPOSE OR MULTI-FUNCTION GENERATORS	0	0	0
M 779	M3-01	IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH ALTERNATING CURRENT OR DIRECT CURRENT MOTORS OR GENERATORS	33	33	MOTORS AND GENERATORS
M 780	M3-02	DO YOU INSPECT MOTORS	15	15	
M 781	M3-03	DO YOU CLEAN OR LUBRICATE MOTORS	24	24	
M 782	M3-04	DO YOU OPERATE MOTORS	15	15	
M 783	M3-05	DO YOU REMOVE OR REPLACE COMPLETE MOTORS	27	27	
M 784	M3-06	DO YOU REMOVE OR REPLACE MOTOR PARTS	0	0	
M 785	M3-07	DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF MOTORS	30	30	
M 786	M3-08	DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF MOTORS	0	0	
M 787	M3-09	DO YOU PERFORM ANY TASKS ON FIELD COILS	0	0	
M 788	M3-10	DO YOU PERFORM ANY TASKS ON ARMATURES	0	0	
M 789	M3-11	DO YOU PERFORM ANY TASKS ON ROTORS	0	0	
M 790	M3-12	DO YOU PERFORM ANY TASKS ON BRUSHES	0	0	
M 791	M3-13	DO YOU PERFORM ANY TASKS ON SLIP RINGS	0	0	
M 792	M3-14	DO YOU PERFORM ANY TASKS ON COMMUTATORS	0	0	
M 793	M3-15	DO YOU PERFORM ANY TASKS ON POLE PIECES	0	0	

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

DY-TSM

SPC SPC  
 076 077

M 794 M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	0	0	0
M 795 M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	3	3	
M 796 M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	0	0	
M 797 M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	0	0	
M 798 M3-20 DO YOU WORK WITH INDUCTION MOTORS	15	15	
M 799 M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	15	15	
M 800 M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	18	18	
M 801 M3-23 DO YOU INSPECT GENERATORS	0	0	
M 802 M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	0	0	
M 803 M3-25 DO YOU OPERATE GENERATORS	0	0	
M 804 M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	0	0	
M 805 M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	0	0	
M 806 M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	0	0	
M 807 M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	0	0	
N 808 N1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	24	24	
N 809 N1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	0	0	METER MOVEMENTS
N 810 N1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	0	0	
N 811 N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPIRAL SPRINGS	0	0	
N 812 N1-05 DO YOU READ METER SCALES	27	27	
N 813 N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	9	9	
N 814 N1-07 DO YOU ZERO OHMMETERS	27	27	
N 815 N1-08 DO YOU ZERO OHMMETERS	15	15	
N 816 N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	9	9	
N 817 N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY (EXPRESSED IN UNITS OF OHMS PER VOLT)	3	3	
N 818 N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	0	0	
N 819 N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
N 820 N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	
N 821 N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	
N 822 N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	
N 823 N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	0	0	
N 824 N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	0	0	

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-1SK

SPC SPC  
076 077

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

WAVESHAPING  
CIRCUITS

SINGLE SIDEBAND  
SYSTEMS



TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

Task ID	Description	SPC 076	SPC 077
0 853	01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	0	0
0 854	01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS	0	0
0 855	01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	0	0
0 856	01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS	0	0
0 857	01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	0	0
0 858	01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	0	0
0 859	01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS	0	0
0 860	01-16 DO YOU PERFORM TASKS ON SSB MIXERS	0	0
0 861	01-17 DO YOU PERFORM TASKS ON SSB DRIVERS	0	0
0 862	01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	0	0
0 863	01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS	0	0
0 864	01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	0	0
0 865	01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS	0	0
0 866	01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS	0	0
0 867	01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSR SYSTEM STAGES	0	0
0 868	01-24 DO YOU USE OR REFER TO SELECTIVE FADING	0	0
0 869	01-25 DO YOU USE OR REFER TO PEAK POWER	0	0
0 870	01-26 DO YOU USE OR REFER TO FREQUENCY STABILITY	0	0
0 871	01-27 DO YOU USE OR REFER TO RESPONSE CURVES FOR BANDWIDTH FILTERS	0	0
0 872	01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB TRANSMITTERS	0	0
0 873	01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB TRANSMITTER SCHEMATIC DIAGRAMS	0	0
0 874	01-30 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB RECEIVER SCHEMATIC DIAGRAMS	0	0
0 875	02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR PRESENT JOB	0	0
0 876	02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	0	0
0 877	02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	0	0
0 878	02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	0	0
0 879	02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	0	0
0 880	02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM COMPONENTS	0	0
0 881	02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS COMPONENTS	0	0
0 882	02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM COMPONENTS	0	0
0 883	02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM) SYSTEMS	0	0
0 884	02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM) SYSTEMS	0	0
0 885	02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM) SYSTEMS	0	0
0 886	02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	0	0
0 887	02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	0	0
0 888	02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF MODULATION SYSTEM	0	0

PCT HRRS RESPONDING \*YES\* BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

OV-TSM

SPC SPC  
076 077

0 889	02-15	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 890	02-16	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 891	02-17	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 892	02-18	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 893	02-19	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 894	02-20	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 895	02-21	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 896	02-22	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 897	02-23	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 898	02-24	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 899	02-25	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 900	02-26	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 901	02-27	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 902	02-28	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 903	02-29	DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM	0	0
0 904	02-30	DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	0	0
0 905	02-31	DO YOU USE OR REFER TO PULSE WIDTH (PW)	0	0
0 906	02-32	DO YOU USE OR REFER TO PULSE SHAPE	0	0
0 907	02-33	DO YOU USE OR REFER TO PEAK POWER	0	0
0 908	02-34	DO YOU USE OR REFER TO AVERAGE POWER	0	0
0 909	02-35	DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	0	0
0 910	02-36	DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	0	0
0 911	02-37	DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	0	0
0 912	02-38	DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	0	0
0 913	02-39	DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	0	0
0 914	03-01	DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	30	30
0 915	03-02	DO YOU INSPECT ANTENNAS	33	33

ANTENNAS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSK

SPC SPC  
076 077

0 916	03-03	DO YOU CLEAN ANTENNAS	27	27
0 917	03-04	DO YOU PHYSICALLY ALIGN ANTENNAS	3	3
0 918	03-05	DO YOU ELECTRICALLY ALIGN ANTENNAS	0	0
0 919	03-06	DO YOU TROUBLESHOOT TO ANTENNAS	15	15
0 920	03-07	DO YOU TROUBLESHOOT TO ANTENNA COMPONENTS	27	27
0 921	03-08	DO YOU REMOVE OR INSTALL ANTENNAS	15	15
0 922	03-09	DO YOU REMOVE OR REPLACE COMPONENTS OF ANTENNAS	30	30
0 923	03-10	DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF E OR ELECTRIC FIELD LINES	0	0
0 924	03-11	DO YOU USE OR REFER TO TECHNICAL DATA CONTAINING REPRESENTATIONS OF H OR MAGNETIC FIELD LINES	0	0
0 925	03-12	DO YOU DETERMINE THE DIRECTION OF THE MAGNETIC LINES IN RELATION TO THE ELECTRIC LINES OF FORCE FOR ANTENNAS	0	0
0 926	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
0 927	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
0 928	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
0 929	03-16	DO YOU WORK WITH HERTZ ANTENNAS	0	0
0 930	03-17	DO YOU WORK WITH MARCONI ANTENNAS	0	0
0 931	03-18	DO YOU WORK WITH BROADSIDE ARRAYS	0	0
0 932	03-19	DO YOU WORK WITH END-FIRE ARRAYS	0	0
0 933	03-20	DO YOU WORK WITH CAPTROID ARRAYS	0	0
0 934	03-21	DO YOU WORK WITH COLLINER ARRAYS	0	0
0 935	03-22	DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC INDUCTION FIELDS WHEN WORKING WITH ANTENNAS	0	0
0 936	03-23	DO YOU MEASURE ELECTROMAGNETIC INDUCTION FIELDS OF ANTENNAS	0	0
0 937	03-24	DO YOU USE OR REFER TO THE TERM ELECTROMAGNETIC RADIATION FIELDS WHEN WORKING WITH ANTENNAS	12	12
0 938	03-25	DO YOU MEASURE ELECTROMAGNETIC RADIATION FIELDS OF ANTENNAS	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
0 940	03-27	DO YOU USE OR REFER TO THE TIME PHASE OF ELECTRIC (E) AND MAGNETIC (H) COMPONENTS IN ANTENNA INDUCTION FIELD	0	0
0 941	03-28	ARE ANY OF THE ANTENNAS YOU WORK ON LINEARLY POLARIZED	0	0
0 942	03-29	ARE ANY OF THE ANTENNAS YOU WORK ON CIRCULARLY POLARIZED	0	0
0 943	03-30	DO YOU MEASURE OR DETERMINE THE POLARITY OF ANTENNAS YOU WORK ON	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

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

0Y-TSK

SPC SPC  
076 077

0 945	03-32	DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	0	0	0
0 946	03-33	DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS DIRECTORS	0	0	0
0 947	03-34	DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	0	0	0
0 948	03-35	DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DON'T REMEMBER WHAT KIND OF ELEMENTS	9	9	9
0 949	03-36	DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	0	0	0
0 950	03-37	DO YOU WORK ON BIDIRECTIONAL ANTENNAS	0	0	0
0 951	03-38	DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	12	12	12
0 952	03-39	DO YOU WORK WITH ROTAR ANTENNA ARRAYS	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)	0	0	0
P 954	P1-02	DO YOU REFER TO OR USE COPPER LOSS OR IZR LOSS IN TRANSMISSION LINES	0	0	0
P 955	P1-03	DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	0	0	0
P 956	P1-04	DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	0	0	0
P 957	P1-05	DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	0	0	0
P 958	P1-06	DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	0	0	0
P 959	P1-07	DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	0	0	0
P 960	P1-08	DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	0	0	0
P 961	P1-09	DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	0	0	0
P 962	P1-10	DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	0	0	0
P 963	P1-11	DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	0	0	0
P 964	P1-12	DO YOU TROUBLESHOOT TRANSMISSION LINES	0	0	0
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
P 966	P1-14	DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	0	0	0
P 967	P1-15	DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	0	0	0
P 968	P1-16	DO YOU MEASURE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	0	0	0
P 969	P1-17	DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	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

		SPC	SPC
		076	077
P 971	P1-19 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS	0	0
P 972	P1-20 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING	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
P 974	P1-22 DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES	0	0
P 975	P1-23 DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES	0	0
P 976	P1-24 DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES	0	0
P 977	P1-25 DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (K) OF TRANSMISSION LINES	0	0
P 978	P1-26 DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES	0	0
P 979	P1-27 DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES	0	0
P 980	P1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT AS THE FREQUENCY INCREASES AND THE PHYSICAL LENGTH OF TRANSMISSION LINES REMAIN CONSTANT, THE ELECTRICAL LENGTH INCREASES	0	0
P 981	P1-29 DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES	0	0
P 982	P1-30 DO YOU WORK WITH RESONANT TRANSMISSION LINES	0	0
P 983	P1-31 DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STUB MATCHING	0	0
P 984	<u>P2-01 DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB</u>	0	0
P 985	P2-02 DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS	0	0
P 986	P2-03 DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS	0	0
P 987	P2-04 DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS	0	0
P 988	P2-05 DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS	0	0
P 989	P2-06 DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS	0	0
P 990	P2-07 DO YOU PURGE WAVEGUIDES OR CAVITY RESONATORS	0	0
P 991	P2-08 DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS	0	0
P 992	P2-09 DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES	0	0
P 993	P2-10 DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS	0	0
P 994	P2-11 DO YOU REMOVE OR INSTALL DUMMY LOADS	0	0
P 995	P2-12 DO YOU REMOVE OR INSTALL E BENDS	0	0
P 996	P2-13 DO YOU REMOVE OR INSTALL H BENDS	0	0
P 997	P2-14 DO YOU REMOVE OR INSTALL OTHER BENDS	0	0
P 998	P2-15 DO YOU REMOVE OR INSTALL CHOKE JOINTS	0	0
P 999	P2-16 DO YOU REMOVE OR INSTALL ROTATING JOINTS	0	0
P1000	P2-17 DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS	0	0
P1001	P2-18 DO YOU REMOVE OR INSTALL BIDIRECTIONAL COUPLERS	0	0
P1002	P2-19 DO YOU USE OR REFER TO >A) WALL OF WAVEGUIDES	0	0

WAVEGUIDES AND  
 CAVITY RESONATORS

PCT MBRS RESPONDING \*YES\* BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSM

SPC SPC  
076 077

P1003 P2-20 DO YOU USE OR REFER TO >B> WALL OF WAVEGUIDES 0 0 0  
P1004 P2-21 DO YOU USE OR REFER TO CUTOFF FREQUENCY OF WAVEGUIDES 0 0 0  
P1005 P2-22 DO YOU USE OR REFER TO FREQUENCY-DETERMINING WALL OF WAVEGUIDES 0 0 0  
P1006 P2-23 DO YOU USE OR REFER TO POWER-DETERMINING WALL OF WAVEGUIDES 0 0 0  
P1007 P2-24 DO YOU USE OR REFER TO ELECTRIC FIELD BOUNDARY CONDITIONS 0 0 0  
P1008 P2-25 DO YOU USE OR REFER TO MAGNETIC FIELD BOUNDARY CONDITIONS 0 0 0  
P1009 P2-26 DO YOU USE OR REFER TO DUPLEXER FIELD BOUNDARY CONDITIONS 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  
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  
P1012 P2-29 ARE YOU CONCERNED WITH THE MATERIAL (SUCH AS BRASS) WHICH WAVEGUIDES ARE MADE OF 0 0 0  
P1013 P2-30 DO YOU COMPUTE THE LENGTH OF A WAVEGUIDE FOR SPECIFIC INSTALLATION 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  
P1015 P2-32 DO YOU USE OR REFER TO THE TIME PHASE OF PEAK >E> OR >H> LINES IN WAVEGUIDES 0 0 0  
P1016 P2-33 DO YOU MEASURE THE TIME PHASE OF >E> OR >H> LINES IN WAVEGUIDES 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  
P1018 P2-35 ARE HIGH POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH 0 0 0  
P1019 P2-36 ARE LOW POWER PROBES USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH 0 0 0  
P1020 P2-37 ARE LOOPS USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH 0 0 0  
P1021 P2-38 ARE APERTURES (WINDOWS OR IRISES) USED ON WAVEGUIDES OR CAVITY RESONATORS YOU WORK WITH 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  
P1023 P2-40 DO YOU DETERMINE WHERE PROBES SHOULD BE MOUNTED IN WAVEGUIDES OR CAVITY RESONATORS WITHOUT REFERRING TO TECHNICAL DATA 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

PCT MRRS RESPONDING \*YES\* BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

0Y-TSM

SPC SPC  
 076 077

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

MICROWAVE  
 AMPLIFIERS AND  
 OSCILLATORS

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

		SPC	SPC
		076	077
P1059	P3-26 DO YOU TUNE PARAMETRIC AMPLIFIERS	0	0
P1060	P3-27 DO YOU PERFORM OPERATIONAL CHECKS OF PARAMETRIC AMPLIFIERS	0	0
P1061	P3-28 DO YOU TROUBLESHOOT PARAMETRIC AMPLIFIERS	0	0
P1062	P3-29 DO YOU REMOVE OR REPLACE COMPLETE PARAMETRIC AMPLIFIER	0	0
P1063	P3-30 DO YOU REMOVE OR REPLACE PARAMETRIC AMPLIFIER COMPONENTS	0	0
P1064	P3-31 DO YOU INSPECT MAGNETRONS	0	0
P1065	P3-32 DO YOU CLEAN MAGNETRONS	0	0
P1066	P3-33 DO YOU ADJUST MAGNETRONS	0	0
P1067	P3-34 DO YOU TUNE MAGNETRONS	0	0
P1068	P3-35 DO YOU PERFORM OPERATIONAL CHECKS OF MAGNETRONS	0	0
P1069	P3-36 DO YOU TROUBLESHOOT MAGNETRONS	0	0
P1070	P3-37 DO YOU REMOVE OR REPLACE COMPLETE MAGNETRON	0	0
P1071	P3-38 DO YOU REMOVE OR REPLACE MAGNETRON COMPONENTS	0	0
P1072	P3-39 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS COLLECTOR PLATES	0	0
P1073	P3-40 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER CAVITIES	0	0
P1074	P3-41 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATCHER GRIDS	0	0
P1075	P3-42 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS FEEDBACK LOOPS	0	0
P1076	P3-43 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS DRIFT SPACES	0	0
P1077	P3-44 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER GRIDS	0	0
P1078	P3-45 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS BUNCHER CAVITIES	3	3
P1079	P3-46 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CONTROL GRIDS	0	0
P1080	P3-47 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TWO-CAVITY KLYSTRONS CATHODES	0	0
P1081	P3-48 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON REPELLER (REFLECTOR) PLATES	0	0
P1082	P3-49 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRIDS	0	0
P1083	P3-50 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON GRID CAVITY GAPS	0	0
P1084	P3-51 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON RESONANT CAVITIES	0	0
P1085	P3-52 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON MAGNETIC COUPLING LOOPS	0	0
P1086	P3-53 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON FILAMENTS	0	0
P1087	P3-54 DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON CATHODES	0	0



TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-1SK

SPC SPC  
076 077

P1088	P3-55	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF REFLEX KLYSTRON OUTPUT LEADS	0	0	0
P1089	P3-56	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES FILAMENTS	0	0	0
P1090	P3-57	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES CATHODES	0	0	0
P1091	P3-58	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MODULATOR GRIDS	0	0	0
P1092	P3-59	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ANODES	0	0	0
P1093	P3-60	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES HELIXES	0	0	0
P1094	P3-61	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES COLLECTORS	0	0	0
P1095	P3-62	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES MAGNETS	0	0	0
P1096	P3-63	DO YOU USE OR REFER TO THE OPERATING PRINCIPLES OF TRAVELING-WAVE TUBES ATTENUATORS	0	0	0
P1097	P3-64	DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE CIRCULATORS	0	0	0
P1098	P3-65	DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER SIGNAL CAVITIES	0	0	0
P1099	P3-66	DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER IDLER CAVITIES	0	0	0
P1100	P3-67	DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER VARACTOR DIODES	0	0	0
P1101	P3-68	DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER FERRITE ISOLATORS	0	0	0
P1102	P3-69	DO YOU PERFORM TASKS ON PARAMETRIC AMPLIFIER REVERSE-BIAS BATTERIES	0	0	0
P1103	P3-70	DO YOU PERFORM TASKS ON ANODES	0	0	0
P1104	P3-71	DO YOU PERFORM TASKS ON ANODE COOLING PINS	0	0	0
P1105	P3-72	DO YOU PERFORM TASKS ON COUPLING LOOPS	0	0	0
P1106	P3-73	DO YOU PERFORM TASKS ON HEATER LEADS	0	0	0
P1107	P3-74	DO YOU PERFORM TASKS ON RESONANT CAVITIES	0	0	0
P1108	P3-75	DO YOU PERFORM TASKS ON CATHODES	0	0	0
P1109	P3-76	DO YOU PERFORM TASKS ON MAGNETS	0	0	0
Q1110	Q1-01	DO YOU USE OR REFER TO STORAGE REGISTERS	0	0	0
Q1111	Q1-02	DO YOU USE OR REFER TO SHIFT REGISTERS	0	0	0
Q1112	Q1-03	DO YOU USE OR REFER TO LOGIC SYMBOLS OF SHIFT REGISTERS	0	0	0
Q1113	Q1-04	DO YOU USE OR REFER TO LOGIC SYMBOLS OF STORAGE REGISTERS	0	0	0
Q1114	Q1-05	DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF SHIFT REGISTERS	0	0	0
Q1115	Q1-06	DO YOU TRACE THE DATA FLOW THROUGH LOGIC DIAGRAMS OF OTHER TYPE OF REGISTERS	0	0	0

REGISTERS

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSM

SPC SPC  
076 077

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	0	0	0
Q1117	Q2-01	DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR STORAGE DEVICES IN YOUR PRESENT JOB	0	0	0
Q1118	Q2-02	DO YOU USE OR REFER TO DELAY LINES	0	0	0
Q1119	Q2-03	DO YOU USE OR REFER TO MAGNETIC CORES	0	0	0
Q1120	Q2-04	DO YOU USE OR REFER TO MAGNETIC DRUMS	0	0	0
Q1121	Q2-05	DO YOU USE OR REFER TO MAGNETIC TAPES	0	0	0
Q1122	Q2-06	DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR MEMORY SYSTEMS	0	0	0
Q1123	Q2-07	DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY SYSTEMS	0	0	0
Q1124	Q2-08	DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS	0	0	0
Q1125	Q2-09	DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES	0	0	0
Q1126	Q3-01	IN YOUR PRESENT JOB, DO YOU WORK WITH DIGITAL-TO-ANALOG (D/A) CONVERTERS, ANALOG-TO-DIGITAL (A/D) CONVERTERS, OR BINARY-TO-DECIMAL READOUT CONVERTERS	0	0	0
Q1127	Q3-02	DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT VOLTAGES	0	0	0
Q1128	Q3-03	DO YOU USE OR REFER TO THE GENERAL RULE THAT THE COUNT IN ELECTROMECHANICAL DIGITAL-TO-ANALOG (D/A) CONVERTERS IS DETERMINED BY ADDING THE DENOMINATORS OF THE RESISTORS	0	0	0
Q1129	Q3-04	DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS	0	0	0
Q1130	Q3-05	DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0
Q1131	Q3-06	DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0
Q1132	Q3-07	DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0
Q1133	Q3-08	DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0
Q1134	Q3-09	DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS	0	0	0
Q1135	Q3-10	DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D CONVERTERS	0	0	0
Q1136	Q3-11	DO YOU USE OR REFER TO HOLD FUNCTION OF A/D CONVERTERS	0	0	0
Q1137	Q3-12	DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D CONVERTERS	0	0	0
Q1138	Q3-13	DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D CONVERTERS	0	0	0
Q1139	Q3-14	DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-DIGITAL (A/D) CONVERTERS	0	0	0

DIGITAL TO  
ANALOG CONVERTERS

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS  
 TASK GROUP SUMMARY  
 PERCENT MEMBERS PERFORMING

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0Y-1SK

SPC SPC  
 016 077

11140	R1-01	DO YOU WORK WITH PHANTASTRON CIRCUITRY IN YOUR PRESENT JOB	0	0	0	PHANTASTRONS
11141	R2-01	IN YOUR PRESENT JOB DO YOU WORK WITH SCHMITT TRIGGER CIRCUITS	0	0	0	
11142	R2-02	DO YOU TRACE DATA FLOW THROUGH SCHMITT TRIGGER SCHEMATIC DIAGRAMS	0	0	0	SCHMITT TRIGGERS
11143	R2-03	DO YOU USE OR REFER TO SCHMITT TRIGGER LOGIC SYMBOLS	0	0	0	
11144	R3-01	IN YOUR PRESENT JOB DO YOU FABRICATE MULTICONDUCTOR CABLES	0	0	0	CABLE FABRICATION
11145	R3-02	DO YOU FABRICATE COAXIAL CABLES	0	0	0	
11146	S1-01	IN YOUR PRESENT JOB DO YOU PERFORM ANY TASKS ON VISUAL READOUT SYSTEMS	0	0	0	
11147	S1-02	DO YOU PERFORM ANY TASKS ON NIXIE LIGHTS OR NIXIE LIGHT DECODER SYSTEMS	0	0	0	INPUT/OUTPUT DEVICES
11148	S1-03	DO YOU ANALYZE NIXIE LIGHT DECODER SYSTEMS USING BOOLEAN ALGEBRA	0	0	0	
11149	S2-01	DO YOU WORK WITH PHOTO TUBES IN YOUR PRESENT JOB	0	0	0	PHOTO SENSITIVE DEVICES
11150	S3-01	IN YOUR PRESENT JOB DO YOU WORK WITH CHOPPER CIRCUITS	0	0	0	
11151	S3-02	DO YOU MEASURE EXCITATION FREQUENCIES	0	0	0	
11152	S3-03	DO YOU MEASURE VOLTAGE-CURRENT PHASE RELATIONSHIPS	0	0	0	
11153	S3-04	DO YOU USE OR REFER TO EXCITATION FREQUENCIES	0	0	0	SYNCHRONOUS VIBRATIONS (CHOPPER CIRCUITS)
11154	S3-05	DO YOU USE OR REFER TO VOLTAGE-CURRENT PHASE RELATIONSHIPS	0	0	0	
11155	S3-06	DO YOU USE SERVOS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	
11156	S3-07	DO YOU USE DETECTORS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	
11157	S3-08	DO YOU USE ERROR SIGNAL DEVICES IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	
11158	S3-09	DO YOU USE COMPARISON CIRCUITS IN CONJUNCTION WITH CHOPPER CIRCUIT OPERATION	0	0	0	
11159	T1-01	DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH INFRARED SYSTEMS	0	0	0	
11160	T1-02	DO YOU INSPECT INFRARED SYSTEMS	0	0	0	
11161	T1-03	DO YOU CLEAN INFRARED SYSTEMS	0	0	0	INFRARED
11162	T1-04	DO YOU ADJUST OR CALIBRATE INFRARED SYSTEMS	0	0	0	
11163	T1-05	DO YOU OPERATE INFRARED SYSTEMS	0	0	0	
11164	T1-06	DO YOU TROUBLESHOOT WIRE CONNECTIONS OF INFRARED SYSTEMS	0	0	0	
11165	T1-07	DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	0	
11166	T1-08	DO YOU TROUBLESHOOT DOWN TO INFRARED SYSTEM COMPONENT PARTS	0	0	0	
11167	T1-09	DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF INFRARED SYSTEMS	0	0	0	
11168	T1-10	DO YOU REMOVE OR REPLACE INFRARED SYSTEM COMPONENT PARTS	0	0	0	

PCT HBRS RESPONDING \*YES\* BY SELECTED GRPS

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TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

OY-TSM

SPC SPC  
076 077

11169	11-11	DO YOU USE OR REFER TO FAR REGION	0	0	0
11170	11-12	DO YOU USE OR REFER TO INTERMEDIATE REGION	0	0	0
11171	11-13	DO YOU USE OR REFER TO NEAR REGION	0	0	0
11172	11-14	DO YOU USE OR REFER TO MICRON	0	0	0
11173	11-15	DO YOU USE OR REFER TO GRAY BODIES	0	0	0
11174	11-16	DO YOU USE OR REFER TO BLACK BODIES	0	0	0
11175	11-17	DO YOU USE OR REFER TO ABSORPTION	0	0	0
11176	11-18	DO YOU USE OR REFER TO SCATTERING	0	0	0
11177	11-19	DO YOU USE OR REFER TO ABSOLUTE ZERO	0	0	0
11178	11-20	DO YOU PERFORM TASKS ON BLITZ	0	0	0
11179	11-21	DO YOU PERFORM TASKS ON TARGET BUTTONS	0	0	0
11180	11-22	DO YOU PERFORM TASKS ON ERECTOR LENSES	0	0	0
11181	11-23	DO YOU PERFORM TASKS ON OCULAR LENSES	0	0	0
11182	11-24	DO YOU PERFORM TASKS ON CORRECTION LENSES	0	0	0
11183	11-25	DO YOU PERFORM TASKS ON FILTERS	0	0	0
11184	11-26	DO YOU PERFORM TASKS ON SPHERICAL MIRRORS	0	0	0
11185	11-27	DO YOU PERFORM TASKS ON PLANE MIRRORS	0	0	0
11186	11-27	DOES YOUR PRESENT JOB INVOLVE ANY TASKS DEALING WITH LASERS	0	0	0
11187	12-02	DO YOU INSPECT LASER SYSTEMS	0	0	0
11188	12-03	DO YOU CLEAN LASER SYSTEMS	0	0	0
11189	12-04	DO YOU OPERATE LASER SYSTEMS	0	0	0
11190	12-05	DO YOU OPERATE LASER SYSTEMS	0	0	0
11191	12-06	DO YOU TROUBLESHOOT WIRE CONNECTIONS OF LASER SYSTEMS	0	0	0
11192	12-07	DO YOU TROUBLESHOOT MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0
11193	12-08	DO YOU TROUBLESHOOT TO COMPONENT PARTS OF LASER SYSTEMS	0	0	0
11194	12-09	DO YOU REMOVE OR REPLACE MAJOR ASSEMBLIES OF LASER SYSTEMS	0	0	0
11195	12-10	DO YOU REMOVE OR REPLACE COMPONENT PARTS OF LASER SYSTEMS	0	0	0
11196	12-11	DO YOU USE OR REFER TO ANGSTROMS (A)	0	0	0
11197	12-12	DO YOU USE OR REFER TO ELECTRON ENERGY LEVELS	0	0	0
11198	12-13	DO YOU USE OR REFER TO GROUND STATE	0	0	0
11199	12-14	DO YOU USE OR REFER TO EXCITED STATE	0	0	0
11200	12-15	DO YOU USE OR REFER TO PACKET OF RADIATION	0	0	0
11201	12-16	DO YOU USE OR REFER TO PHOTONS	0	0	0
11202	12-17	DO YOU USE OR REFER TO SPONTANEOUS EMISSION	3	3	3
11203	12-18	DO YOU USE OR REFER TO STIMULATED EMISSION	0	0	0
11204	12-19	DO YOU USE OR REFER TO COHERENCE OR INCOHERENCE	0	0	0
11205	12-20	DO YOU USE OR REFER TO INVERSION LEVEL	0	0	0
11206	12-21	DO YOU USE OR REFER TO MONOCHROMATIC	0	0	0
11207	12-22	DO YOU WORK WITH ACTIVE MATERIALS	0	0	0
11208	12-23	DO YOU WORK WITH PUMPING SOURCES	0	0	0
11209	12-24	DO YOU WORK WITH FULL SILVERED (100% REFLECTIVE) MIRRORS	0	0	0

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

Task ID	Description	SPC	SPC
		076	077
11210	12-25 DO YOU WORK WITH HALF SILVERED (92% REFLECTIVE) MIRRORS	0	0
11211	12-26 DO YOU WORK WITH HELICAL FLASHTUBES	0	0
11212	12-27 DO YOU WORK WITH RUBY	0	0
11213	12-28 DO YOU WORK WITH HELIUM-NEON	0	0
11214	12-29 DO YOU WORK WITH HELIUM-XENON	0	0
11215	12-30 DO YOU WORK WITH XENON	0	0
11216	12-31 DO YOU WORK WITH CESIUM-HELIUM	0	0
11217	12-32 DO YOU WORK WITH ARGON	0	0
11218	12-33 DO YOU WORK WITH NEODYMIUM IN GLASS	0	0
11219	12-34 DO YOU WORK WITH GALLIUM ARSENIDE	0	0
11220	13-01 IN YOUR PRESENT JOB DO YOU WORK WITH DISPLAY TUBES, SUCH AS DIRECT VIEW STORAGE (DVST) OR MULTIPLE MODE STORAGE TUBES (HMST)	0	0
11221	13-02 DO YOU INSPECT DVST OR HMST	0	0
11222	13-03 DO YOU CLEAN DVST OR HMST	0	0
11223	13-04 DO YOU ADJUST OR CALIBRATE DVST OR HMST	0	0
11224	13-05 DO YOU OPERATE SYSTEMS THAT CONTAIN DVST OR HMST	0	0
11225	13-06 DO YOU TROUBLESHOOT DVST OR HMST	0	0
11226	13-07 DO YOU REMOVE OR REPLACE DVST OR HMST TUBES FROM MAJOR ASSEMBLIES OR UNITS	0	0
11227	13-08 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF DVST	0	0
11228	13-09 DO YOU PERFORM TASKS THAT MAKE IT NECESSARY TO NAME THE VARIOUS ELEMENTS OF HMST	0	0
11229	13-10 DO YOU PERFORM TASKS ON FLOOD GUNS	0	0
11230	13-11 DO YOU PERFORM TASKS ON WHITE GUNS	0	0
11231	13-12 DO YOU PERFORM TASKS ON ATTACK GUNS	0	0
11232	13-13 DO YOU PERFORM TASKS ON ERASE GUNS	0	0
11233	13-14 DO YOU PERFORM TASKS ON STORAGE GRIDS	0	0
11234	13-15 DO YOU PERFORM ANY PROGRAMMING TASKS	0	0
11235	11-02 DO YOU USE OR REFER TO DECIMAL SYSTEMS	0	0
11236	11-03 DO YOU USE OR REFER TO PROGRAMS	0	0
11237	11-04 DO YOU USE OR REFER TO HEXIDECIMAL SYSTEMS	0	0
11238	11-05 DO YOU USE OR REFER TO 8-8-2-1 SYSTEMS	0	0
11239	11-06 DO YOU USE OR REFER TO FOUR SYSTEMS	0	0
11240	11-07 DO YOU USE OR REFER TO BINARY SYSTEMS	0	0
11241	11-08 DO YOU USE OR REFER TO TIME-SHARING	0	0
11242	11-09 DO YOU USE OR REFER TO DATA WORDS	0	0
11243	11-10 DO YOU USE OR REFER TO ADDRESS WORDS	0	0
11244	11-11 DO YOU USE OR REFER TO ADDRESS/SUBADDRESS	0	0
11245	11-12 DO YOU USE OR REFER TO STEERING/INFORMATION	0	0
11246	11-13 DO YOU USE OR REFER TO INFORMATION WORDS	0	0
11247	11-14 DO YOU PERFORM TASKS ON SINGLE LEVEL PROGRAMMING	0	0
11248	11-15 DO YOU PERFORM TASKS ON MULTI-LEVEL PROGRAMMING	0	0

PROGRAMMING

DISPLAY TUBES

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

GPSUN4 PAGE 44

TASK GROUP SUMMARY  
PERCENT MEMBERS PERFORMING

DY-TSK

SPC SPC  
076 077

U1249	U1-16	DO YOU PERFORM TASKS ON INPUT DEVICES	0	0	0
U1250	U1-17	DO YOU PERFORM TASKS ON STORAGE DEVICES	0	0	0
U1251	U1-18	DO YOU PERFORM TASKS ON ARITHMETIC SECTIONS	0	0	0
U1252	U1-19	DO YOU PERFORM TASKS ON CONTROL SECTIONS	0	0	0
U1253	U1-20	DO YOU PERFORM TASKS ON OUTPUT DEVICES	0	0	0
U1254	U1-21	DO YOU PERFORM TASKS ON POWER SUPPLIES	0	0	0
U1255	U2-01	DO YOU USE DECIBELS TO EXPRESS AMPLIFICATION AND ATTENUATION	0	0	0
U1256	U2-02	DO YOU USE LOGARITHMS TO COMPUTE OUTPUT POWER IN DECIBELS	0	0	0
U1257	U2-03	DO YOU USE LOGARITHMS TO COMPUTE ATTENUATION IN DECIBELS	0	0	0
U1258	U2-04	DUMMY TASK TO IDENTIFY INCUMBENTS WHO PERFORMED NO TASKS	3	3	0

DB AND POWER RATIOS

AD-A048 680

AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9  
MISSILE PNEUDRAULIC REPAIRMAN CAREER LADDER AFSC 44250.(U)  
OCT 77 T J O'CONNOR, W A TAMASHUNAS

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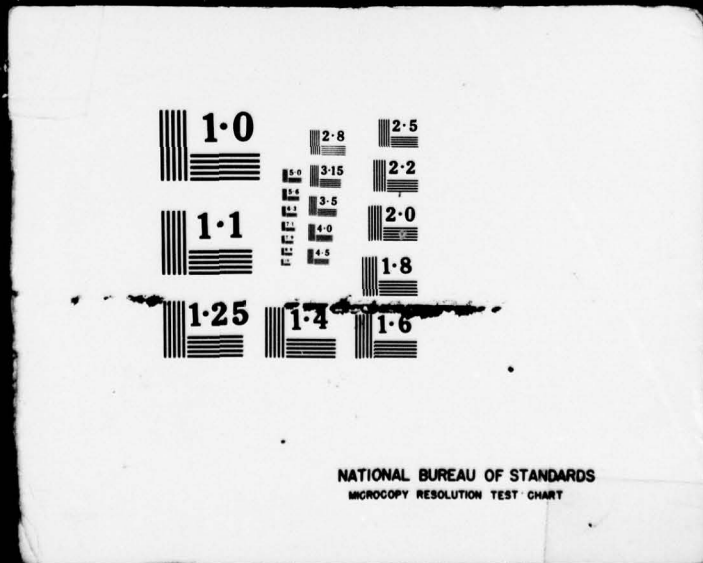
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NATIONAL BUREAU OF STANDARDS  
MICROCOPY RESOLUTION TEST CHART



**SUPPLEMENTARY**

**INFORMATION**

*Connected*

A048680

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Electronic technicians		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)		
This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Missile Pneudraulic Repairman (AFSC 44250). <div style="text-align: center;">                     (over) CONTINUED ↓                 </div>		

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↙ This specialty has the following functions:

Installs, repairs, overhauls, and modifies missile pneumatic/hydraulic systems and associated pneumatic/hydraulic aerospace ground equipment. Inspects pneumatic/hydraulic shop activities. Supervises missile pneudraulic repair personnel. ↗

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