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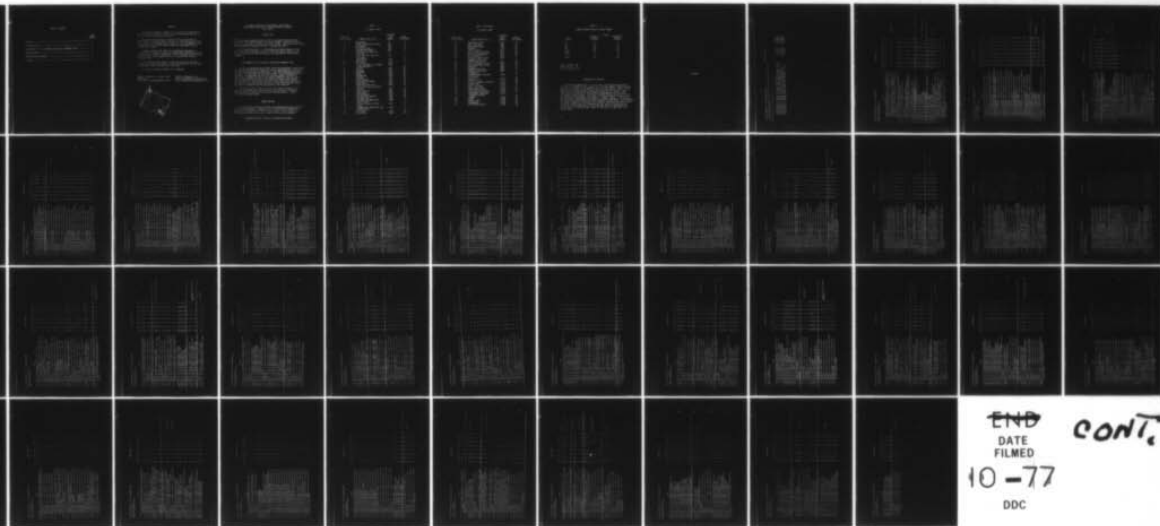
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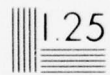
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9 OCCUPATIONAL SURVEY REPORT
ELECTRONIC PRINCIPLES

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6 ANALOG NAVIGATION/TACTICS
TRAINING DEVICES SPECIALIST
AFSC 34155

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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 Analog Navigation/Tactics Training Devices Specialist, AFSC 34155.

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

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

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

This report has been reviewed and is approved.

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

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

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ELECTRONIC PRINCIPLES OCCUPATIONAL SURVEY REPORT
ANALOG NAVIGATION/TACTICS TRAINING DEVICES SPECIALIST
AFSC 34155

INTRODUCTION

→ This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Analog Navigation/Tactics Training Devices Specialists (AFSC 34155). 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 34155 airmen worldwide. Responses from 78 individuals represented 81 percent of the total of all AFSC 34155 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

COMMAND	34155	
	PERCENT ASSIGNED	PERCENT OF SAMPLE
ADC	5	5
ATC	13	13
MAC	12	10
SAC	34	41
TAC	22	20
USAFE	6	3
PACAF	8	8
TOTAL	100	100

Total Assigned - 96
Total Sampled - 78
Percent Sampled - 81%

PRESENTATION OF RESULTS

Personnel responded "yes" or "no" to the 1,257 electronic principles questions as related to their present job. A Group Summary (GPSUM) computer printout is provided in the Appendix portion of this report. Page 1 of the GPSUM lists the eight selected groups identified for this report. Pages 2-41 show the percentage of the incumbents responding to the EPI items. The computer program results display the percent members answering "yes" to the subject area questions. The reader can locate a specific subject area by referring to the Appendix page number as listed in Table 1. For example, the Transformers area results are given on page 6 of the GPSUM. The percentage of survey respondents indicating use of specific electronic principles ranged from high in areas such as Alternating Current (p. 4) and Power Supplies (p. 19) to low in areas such as FM Systems (pp. 24-25). Additional AFSC 34155 data can be obtained upon request to the Chief, Occupational Survey Branch (OMY).

APPENDIX

PCT MEMS RESPONDING 'YES' BY SELECTED GRPS

TABULATION OF ELECTRONIC PRINCIPLES UTILIZATION DATA FOR SELECTED GROUPS
IN THE JN155 CAREER FIELD.

REPORTS ON THE FOLLOWING GROUPS WERE RECEIVED:

GROUP IDENTITY -	SPC101	ALL AIRMEN DAFSC JN155	CONTAINING	78 MEMBERS.
GROUP IDENTITY -	SPC102	ALL AIRMEN DAFSC JN155 STATIONED IN CONUS	CONTAINING	44 MEMBERS.
GROUP IDENTITY -	SPC103	ALL AIRMEN DAFSC JN155 STATIONED OVERSEAS	CONTAINING	11 MEMBERS.
GROUP IDENTITY -	SPC104	ALL AIRMEN DAFSC JN155 ASSIGNED TO TC	CONTAINING	10 MEMBERS.
GROUP IDENTITY -	SPC105	ALL AMN DAFSC JN155 ASSIGNED TO MAC	CONTAINING	8 MEMBERS.
GROUP IDENTITY -	SPC106	ALL AMN DAFSC JN155 ASSIGNED TO SAC	CONTAINING	32 MEMBERS.
GROUP IDENTITY -	SPC107	ALL AMN DAFSC JN155 ASSIGNED TO TAC	CONTAINING	16 MEMBERS.
GROUP IDENTITY -	SPC108	ALL AMN DAFSC JN155 ASSIGNED TO USAF	CONTAINING	4 MEMBERS.

PCT MBSR RESPONDING 'YES' BY SELECTED GRPS

GPSUMS PAGE 2

TASK GROUP SUMMARY PERCENT MEMBERS PERFORMING

UY-TSK

	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC	SPC
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TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

07-75K

	BY-TSK		SPC 101	SPC 102	SPC 103	SPC 104	SPC 105	SPC 106	SPC 107	SPC 108	
61	62-01	DO YOU USE OH REFER TO THE TERM EFFECTIVE VOLTAGE INMSI.	82	79	91	70	63	84	84	100	ALTERNATING CURRENT
62	62-02	DO YOU USE OH REFER TO THE TERM PEAK TO PEAK VOLTAGE.	96	96	100	90	88	97	100	100	
63	62-03	DO YOU USE OH REFER TO THE TERM AVERAGE VOLTAGE (DC).	71	71	64	70	34	73	81	100	
64	62-04	DO YOU USE OH REFER TO THE TERM WAVE LENGTH.	69	72	64	70	25	78	81	100	
65	62-05	DO YOU USE OH REFER TO THE TERM FREQUENCY.	95	96	91	70	84	100	94	100	
66	62-06	DO YOU USE OH REFER TO THE TERM INSTANTANEOUS VALUE.	40	40	27	60	25	34	26	50	
67	63-01	DO YOU WORK WITH INDUCTORS OR CIRCUITS CONTAINING INDUCTORS, CHOKES, OR CHOKE COILS IN YOUR PRESENT JOB.	79	78	82	70	75	41	81	50	
68	63-02	DO YOU INSPECT INDUCTORS.	72	69	82	80	63	72	63	50	
69	63-03	DO YOU CLEAN INDUCTORS.	44	47	18	60	25	50	44	50	INDUCTORS AND
70	63-04	DO YOU ADJUST INDUCTORS.	54	51	64	50	13	66	50	50	
71	63-05	DO YOU REMOVE OR REPLACE INDUCTORS.	77	75	82	70	63	81	72	50	
72	63-06	DO YOU USE OH REFER TO INDUCTANCE.	62	59	73	70	26	66	58	50	
73	63-07	DO YOU USE OH REFER TO HENRIES.	50	47	55	40	50	50	50	50	INDUCTIVE REACTANCE
74	63-08	DO YOU USE OH REFER TO INDUCTIVE REACTANCE.	43	46	45	50	13	53	50	50	
75	63-09	DO YOU USE OH REFER TO COPPER LOSS IN INDUCTORS.	14	15	9	20	0	16	19	0	
76	63-10	DO YOU USE OH REFER TO HYSTERESIS LOSS IN INDUCTORS.	23	22	18	20	0	25	34	0	
77	63-11	DO YOU USE OH REFER TO EDGY CURRENT LOSS IN INDUCTORS.	19	18	18	20	0	19	31	0	
78	63-12	DO YOU USE OH REFER TO THE GENERAL RULE THAT INDUCTANCE IS PROPORTIONAL TO THE SQUARE OF THE NUMBER OF TURNS OF THE COIL.	16	19	9	30	0	19	25	0	
79	63-13	DO YOU USE OH REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE CROSS SECTIONAL AREA OF THE CORE.	15	16	9	20	0	16	25	0	
80	63-14	DO YOU USE OH REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS INVERSELY PROPORTIONAL TO ITS LENGTH.	16	19	9	30	0	16	31	0	
81	63-15	DO YOU USE OH REFER TO THE GENERAL RULE THAT THE INDUCTANCE OF A COIL IS DIRECTLY PROPORTIONAL TO THE PERMEABILITY OF THE CORE MATERIAL.	16	19	9	20	0	22	25	0	
82	63-16	DO YOU CALCULATE INDUCTANCE FOR PARTICULAR INDUCTORS USING FORMULAS.	14	15	9	10	0	16	25	0	
83	63-17	DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTANCE IN SERIES.	22	24	18	20	0	22	34	0	
84	63-18	DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN PARALLEL.	23	22	18	20	0	22	44	0	
85	63-19	DO YOU CALCULATE THE TOTAL INDUCTANCE FOR INDUCTORS IN SERIES-PARALLEL CIRCUITS.	23	24	18	20	0	22	44	0	
86	63-20	DO YOU USE OH REFER TO THE GENERAL RULE THAT CURRENT L-65 VOLTAGE IN AC INDUCTOR CIRCUITS.	41	40	36	40	13	47	50	50	
87	63-21	DO YOU CALCULATE INDUCTIVE REACTANCE.	27	26	47	20	0	31	34	0	
88	63-22	DO YOU USE OH REFER TO THE GENERAL RULE THAT INDUCTIVE REACTANCE IS DIRECTLY PROPORTIONAL TO FREQUENCY.	29	26	27	30	0	31	44	50	
89	63-23	DO YOU WORK WITH POWER INDUCTORS.	44	49	36	40	36	50	63	50	
90	63-24	DO YOU WORK WITH AUDIO FREQUENCY INDUCTORS.	39	29	55	20	25	34	31	50	
91	63-25	DO YOU WORK WITH RADIO FREQUENCY INDUCTORS.	36	35	27	20	38	36	44	0	

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UY-15K

C 92 C1-01 DO YOU WORK WITH CAPACITORS OR CIRCUITS CONTAINING CAPACITORS IN YOUR PRESENT JOB.

C 93 C1-02 DO YOU INSPECT CAPACITORS.

C 94 C1-03 DO YOU CLEAN CAPACITORS.

C 95 C1-04 DO YOU ADJUST CAPACITORS.

C 96 C1-05 DO YOU TEST CAPACITORS.

C 97 C1-06 DO YOU DISCHARGE CAPACITORS.

C 98 C1-07 DO YOU REMOVE OR REPLACE CAPACITORS.

C 99 C1-08 DO YOU USE OR REFER TO DISTRIBUTED CAPACITANCE.

C 100 C1-09 DO YOU USE OR REFER TO ORBITAL STRESS OF ELECTRONS IN A DIELECTRIC.

C 101 C1-10 DO YOU USE OR REFER TO FARADS, MICROFARADS, OR PICOFARADS.

C 102 C1-11 DO YOU USE OR REFER TO CAPACITANCE.

C 103 C1-12 DO YOU USE OR REFER TO DIELECTRIC CONSTANT

C 104 C1-13 DO YOU USE OR REFER TO WORKING VOLTAGE RATING OF CAPACITORS.

C 105 C1-14 DO YOU USE OR REFER TO CAPACITIVE REACTANCE

C 106 C1-15 DO YOU USE OR REFER TO CAPACITOR COLOR CODES

C 107 C1-16 DO YOU WORK WITH CAPACITORS IN DC CIRCUITS

C 108 C1-17 DO YOU WORK WITH CAPACITORS IN AC CIRCUITS

C 109 C1-18 DO YOU WORK WITH CAPACITORS IN CIRCUITS WITH BOTH DC AND AC

C 110 C1-19 DO YOU WORK WITH CAPACITORS IN DON'T REMEMBER WHICH CIRCUITS

C 111 C1-20 DO YOU CALCULATE CAPACITANCE FOR PARTICULAR CAPACITORS USING FORMULAS

C 112 C1-21 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS DIRECTLY PROPORTIONAL TO THE DIELECTRIC CONSTANT

C 113 C1-22 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITANCE OF A CAPACITOR IS INVERSELY PROPORTIONAL TO THE DIELECTRIC THICKNESS

C 114 C1-23 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES

C 115 C1-24 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN PARALLEL

C 116 C1-25 DO YOU CALCULATE THE TOTAL CAPACITANCE OF CAPACITORS IN SERIES-PARALLEL CIRCUITS

C 117 C1-26 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT DOES NOT FLOW THROUGH CAPACITORS, IT ONLY APPEARS TO DO SO

C 118 C1-27 DO YOU USE OR REFER TO THE GENERAL RULE THAT CURRENT LEADS VOLTAGE IN AC CAPACITOR CIRCUITS

C 119 C1-28 DO YOU USE OR REFER TO THE GENERAL RULE THAT CAPACITIVE REACTANCE IS INVERSELY PROPORTIONAL TO FREQUENCY

C 120 C1-29 DO YOU CALCULATE CAPACITIVE REACTANCE

CAPACITORS AND

CAPACITIVE REACTANCE

6.120 C1-24 DO YOU CALCULATE CAPACITIVE REACTANCE
FREQUENCY

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK

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

101	102	103	104	105	106	107	108
77	76	82	70	63	84	69	100
74	74	92	60	38	40	69	100
83	84	82	70	50	94	88	100
54	57	18	30	63	60	63	0
67	68	45	50	50	81	69	0
73	74	73	40	50	84	81	100
58	56	64	30	38	60	63	100
36	35	27	20	13	47	44	0
38	40	18	30	13	38	69	0
58	57	45	40	13	69	75	100
33	35	9	30	13	31	63	0
21	22	9	20	13	25	45	0
44	43	36	30	13	56	44	100
35	34	36	20	13	47	45	100
27	28	18	20	13	34	25	50
22	22	27	20	13	25	13	100
32	32	27	30	13	44	19	100
38	38	36	30	13	56	19	100
8	7	9	20	13	6	0	50
40	43	18	30	25	41	69	0
38	41	18	20	25	38	69	0
18	18	9	10	13	10	34	0
15	15	9	10	13	9	25	0
17	16	9	20	13	9	34	0
22	22	9	20	13	19	44	0
26	26	9	20	13	28	44	0
9	10	0	10	13	6	19	0

MAGNETISM

PCT MEMS RESPONDING 'YES' BY SELECTED GRPS

GPSUMS PAGE 8

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TSK

	SPC 101	SPC 102	SPC 103	SPC 104	SPC 105	SPC 106	SPC 107	SPC 108
C 179 C3-09 DO YOU USE OR REFER TO DOMAIN THEORY OF MAGNETISM	9	10	0	10	13	6	19	0
C 180 C3-10 DO YOU USE OR REFER TO MAGNETIC INDUCTION	23	24	9	10	13	28	34	0
C 181 C3-11 DO YOU USE OR REFER TO FLUX DENSITY	21	21	9	10	13	22	34	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	50	51	27	30	50	59	63	0
C 183 C3-13 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE DIRECTION OF MAGNETIC FIELDS ABOUT STRAIGHT WIRES	20	26	27	20	13	31	34	0
C 184 C3-14 DO YOU USE THE LEFT HAND THUMB RULE TO FIND THE NORTH POLE OF A CURRENT CARRYING COIL	20	25	18	20	13	25	44	0
D 185 D1-01 DO YOU WORK WITH RCL, LRL, RCL CIRCUITS IN YOUR PRESENT JOB	82	82	82	90	63	84	81	100
D 186 D1-02 DO YOU USE OR REFER TO VECTORS WHEN WORKING WITH RCL CIRCUITS	35	38	27	50	25	34	50	0
D 187 D1-03 DO YOU USE OR REFER TO PYTHAGOREAN THEOREM WHEN WORKING WITH RCL CIRCUITS	35	34	27	70	25	20	34	0
D 188 D1-04 DO YOU USE OR REFER TO SINE WHEN WORKING WITH RCL CIRCUITS	60	56	91	70	50	47	63	100
D 189 D1-05 DO YOU USE OR REFER TO COSINE WHEN WORKING WITH RCL CIRCUITS	62	57	91	80	50	47	63	100
D 190 D1-06 DO YOU USE OR REFER TO TANGENT WHEN WORKING WITH RCL CIRCUITS	53	53	45	60	50	47	50	0
D 191 D1-07 DO YOU USE OR REFER TO WATTS WHEN WORKING WITH RCL CIRCUITS	50	51	36	80	34	53	44	0
D 192 D1-08 DO YOU USE OR REFER TO TRUE POWER (PT) WHEN WORKING WITH RCL CIRCUITS	26	25	27	20	13	28	31	0
D 193 D1-09 DO YOU USE OR REFER TO MAXIMUM POWER (PM) WHEN WORKING WITH RCL CIRCUITS	28	26	36	20	13	34	24	0
D 194 D1-10 DO YOU USE OR REFER TO AVERAGE POWER (PAVE) WHEN WORKING WITH RCL CIRCUITS	22	22	16	40	13	22	19	0
D 195 D1-11 DO YOU USE OR REFER TO APPARENT POWER (PA) WHEN WORKING WITH RCL CIRCUITS	17	16	9	20	13	16	25	0
D 196 D1-12 DO YOU USE OR REFER TO POWER FACTOR (PF) WHEN WORKING WITH RCL CIRCUITS	23	24	16	20	13	28	25	0
D 197 D1-13 DO YOU USE OR REFER TO RESONANT CIRCUITS WHEN WORKING WITH RCL CIRCUITS	42	41	36	30	13	50	55	0
D 198 D1-14 DO YOU USE OR REFER TO BANDWIDTH WHEN WORKING WITH RCL CIRCUITS	36	34	36	50	13	25	63	0
D 199 D1-15 DO YOU USE OR REFER TO SELECTIVITY WHEN WORKING WITH RCL CIRCUITS	33	32	27	50	13	25	56	0
D 200 D1-16 DO YOU USE OR REFER TO RESONANT FREQUENCY WHEN WORKING WITH RCL CIRCUITS	36	34	36	30	13	31	63	0
D 201 D1-17 DO YOU USE OR REFER TO HALF POWER POINTS WHEN WORKING WITH RCL CIRCUITS	15	15	16	20	13	9	25	0
D 202 D1-18 DO YOU USE OR REFER TO BANDPASS REGION WHEN WORKING WITH RCL CIRCUITS	23	21	27	10	13	16	50	0
D 203 D1-19 DO YOU USE OR REFER TO CIRCUIT Q WHEN WORKING WITH RCL CIRCUITS	15	16	0	20	13	19	19	0

RCL CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

2Y-YSK

[illegible]

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

WY-15A

[illegible]

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK

101	102	103	104	105	106	107	108
F 327 F2-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS DEALING WITH SPEAKERS							
53	51	55	40	63	47	63	100
F 328 F2-02 DO YOU INSPECT SPEAKERS							
49	49	45	40	50	47	56	100
F 329 F2-03 DO YOU CLEAN SPEAKERS							
40	36	45	20	38	34	56	100
F 330 F2-04 DO YOU OPERATE SPEAKERS							
50	49	55	40	50	47	56	100
F 331 F2-05 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS BUT DO NOT TROUBLESHOOT DOWN TO COMPONENT PARTS OF SPEAKERS							
45	44	45	40	63	44	44	50
F 332 F2-06 DO YOU TROUBLESHOOT DOWN TO SPEAKER PARTS							
13	12	18	30	25	6	0	50
F 333 F2-07 DO YOU REMOVE OR REPLACE COMPLETE SPEAKERS							
49	47	55	40	63	47	44	100
F 334 F2-08 DO YOU REMOVE OR REPLACE SPEAKER PARTS							
14	13	18	30	13	9	6	50
F 335 F2-09 DO YOU PERFORM ANY TASKS ON SPEAKER CONES							
5	3	18	0	13	3	0	50
F 336 F2-10 DO YOU PERFORM ANY TASKS ON SPEAKER SPIDERS							
1	1	0	0	13	0	0	0
F 337 F2-11 DO YOU PERFORM ANY TASKS ON SPEAKER FIELD COILS							
5	4	9	0	25	3	0	0
F 338 F2-12 DO YOU PERFORM ANY TASKS ON SPEAKER VOICE COILS							
5	4	9	10	25	0	0	0
F 339 F2-13 DO YOU PERFORM ANY TASKS ON SPEAKER PERMANENT MAGNETS							
4	3	9	0	25	0	0	0
F 340 F2-14 DO YOU PERFORM ANY TASKS ON SPEAKER ELECTROMAGNETS							
4	3	9	0	25	0	0	0
F 341 F2-15 DO YOU PERFORM ANY TASKS ON SPEAKER SOFT IRON COMES							
4	3	9	0	25	0	0	0
F 342 F3-01 DO YOU USE OSCILLOSCOPES IN YOUR PRESENT JOB							
99	93	100	100	100	94	91	100
F 343 F3-02 DO YOU USE OSCILLOSCOPES TO PERFORM OPERATIONAL CHECKS							
99	94	100	100	100	97	100	100
F 344 F3-03 DO YOU USE OSCILLOSCOPES TO PERFORM ALIGNMENTS OR ADJUSTMENTS							
96	96	100	100	88	94	100	100
F 345 F3-04 DO YOU USE OSCILLOSCOPES TO TROUBLESHOOT ELECTRONIC CIRCUITS							
95	96	91	100	75	97	100	100
F 346 F3-05 DO YOU USE OSCILLOSCOPES TO MEASURE FREQUENCY							
91	93	73	100	88	94	94	100
F 347 F3-06 DO YOU USE OSCILLOSCOPES TO MEASURE TIME							
96	96	100	100	75	97	100	100
F 348 F3-07 DO YOU USE OSCILLOSCOPES TO OBSERVE LISSAJOUS PATTERNS							
51	54	27	60	25	56	63	50
F 349 F3-08 DO YOU USE OSCILLOSCOPES TO OBSERVE SIGNALS WHILE UTILIZING ATTENUATOR PROBES							
88	90	82	100	63	91	94	100
F 350 F3-09 DO YOU USE OSCILLOSCOPES TO MAKE FREQUENCY OR TIME MEASUREMENTS USING DELAY TIME MULTIPLIERS							
92	93	91	100	75	91	100	100
F 351 F3-10 DO YOU USE OSCILLOSCOPES TO MEASURE AC VOLTAGE							
96	96	91	100	100	94	100	100
F 352 F3-11 DO YOU USE OSCILLOSCOPES TO MEASURE OR OBSERVE SIGNALS AFTER FIRST ADJUSTING THE GAIN AND DC BAL CONTROLS							
85	85	82	100	63	86	81	100
F 353 F3-12 DO YOU USE OSCILLOSCOPES TO MEASURE DC VOLTAGE							
99	99	100	100	100	97	100	100
G 354 G1-01 DO YOU WORK WITH SEMICONDUCTOR DIODES IN YOUR PRESENT JOB							
45	44	100	90	88	94	100	100
G 355 G1-02 DO YOU INSPECT DIODES							
91	90	100	80	63	94	100	100
G 356 G1-03 DO YOU REMOVE OR REPLACE DIODES							
92	91	100	70	75	97	100	100
G 357 G1-04 DO YOU CHECK DIODES USING AN INSTRUMENT							
94	93	100	70	88	97	100	100
G 358 G1-05 DO YOU USE ENERGY LEVEL DIAGRAMS IN YOUR WORK WITH DIODES							
10	12	0	10	13	9	19	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 BIAS RESISTANCE							
21	19	18	50	13	13	25	0
G 360 G1-07 DO YOU COMPUTE FORWARD OR REVERSE BIAS RESISTANCE FOR DIODES							
31	31	36	60	13	26	25	0

SPEAKERS

OSCILLOSCOPES

SEMICONDUCTOR DIODES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

0Y-TSK

	SPC 101	SPC 102	SPC 103	SPC 104	SPC 105	SPC 106	SPC 107	SPC 108
361	67	66	73	40	63	72	69	50
362	46	85	91	70	88	86	88	50
363	14	15	9	30	13	13	13	0
364	63	54	82	40	63	66	63	100
365	44	43	45	40	38	41	50	50
366	6	6	9	10	0	6	6	0
367	6	7	9	10	13	6	6	0
368	82	82	82	50	75	68	94	50
369	6	7	9	10	13	6	6	0
370	9	9	9	10	13	6	13	0
371	68	65	91	50	63	72	63	50
372	6	6	9	10	0	6	6	0
373	6	7	9	10	13	6	6	0
374	6	6	9	10	0	6	6	0
375	9	9	9	10	13	6	13	0
376	6	7	9	10	0	6	13	0
377	86	47	100	50	88	94	94	100
378	31	26	36	10	13	41	31	0
379	36	34	45	30	13	31	50	50
380	21	19	27	20	13	16	24	0
381	71	45	82	40	88	66	81	100
382	8	7	9	10	13	6	6	0

PCT MEMBERS RESPONDING YES BY SELECTED GRPS

GPSUMS PAGE 15

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

0Y-TSK

	cor	cor	cor	cor	cor	cor	cor	cor	cor
383 01-30 DO YOU USE OR REFER TO FORBIDDEN BAND IN SEMICONDUCTOR MATERIALS	8	7	9	10	13	6	6	6	0
384 01-31 DO YOU USE OR REFER TO CONDUCTION BAND IN SEMICONDUCTOR MATERIALS	8	7	9	10	13	6	6	6	0
385 01-32 DO YOU USE OR REFER TO COVALENT BONDING IN SEMICONDUCTOR MATERIALS	9	9	9	10	13	6	13	0	0
386 01-33 DO YOU USE OR REFER TO ELECTRON-HOLE PAIR CREATED IN SEMICONDUCTORS	10	10	9	10	13	9	13	0	0
387 01-34 DO YOU USE OR REFER TO ELECTRON FLOW OR HOLE FLOW IN SEMICONDUCTORS	18	19	9	20	13	19	25	0	0
388 01-35 DO YOU USE OR REFER TO DONOR IMPURITY IN SEMICONDUCTORS	10	10	9	10	13	9	13	0	0
389 01-36 DO YOU USE OR REFER TO ACCEPTOR IMPURITY IN SEMICONDUCTORS	9	9	9	10	0	9	13	0	0
390 01-37 DO YOU USE OR REFER TO P-TYPE SEMICONDUCTOR MATERIAL	37	35	36	30	25	34	50	0	0
391 01-38 DO YOU USE OR REFER TO N-TYPE SEMICONDUCTOR MATERIAL	37	35	36	30	25	34	50	0	0
392 01-39 DO YOU USE OR REFER TO MAJORITY CARRIERS IN SEMICONDUCTORS	17	16	18	20	13	19	13	0	0
393 01-40 DO YOU USE OR REFER TO MINORITY CARRIERS IN SEMICONDUCTORS	17	16	18	20	13	19	13	0	0
394 01-41 DO YOU USE OR REFER TO JUNCTION RECOMBINATION IN SEMICONDUCTORS	10	10	9	10	13	9	13	0	0
395 01-42 DO YOU USE OR REFER TO DEPLETION REGION IN SEMICONDUCTORS	10	10	9	10	13	6	19	0	0
396 01-43 DO YOU USE OR REFER TO RELATIONSHIP BETWEEN BARRIER WIDTH AND DIFFERENCE OF POTENTIAL	12	10	18	10	13	9	13	0	0
397 01-44 DO YOU USE OR REFER TO THE 10:1 BACK TO FRONT RESISTANCE RATIO FOR DIODES	33	34	36	30	13	44	19	50	0
398 01-45 DO YOU USE OR REFER TO BARRIER HEIGHT IN SEMICONDUCTORS	8	7	9	10	13	6	6	0	0
399 01-46 DO YOU USE OR REFER TO DIODE SUBSTITUTION INFORMATION	71	71	73	60	50	75	75	50	0
400 01-47 DO YOU USE OR REFER TO MAXIMUM AVERAGE FORWARD CURRENT DIODE RATINGS	28	29	9	10	25	41	31	0	0
401 01-48 DO YOU USE OR REFER TO PEAK RECURRENT FORWARD CURRENT DIODE RATINGS	23	24	9	10	25	26	31	0	0
402 01-49 DO YOU USE OR REFER TO MAXIMUM SURGE CURRENT DIODE RATINGS	27	28	18	10	25	34	31	0	0
403 01-50 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE DIODE RATINGS	36	34	45	10	38	44	31	0	0
404 02-01 DO YOU WORK WITH TRANSISTORS IN YOUR PRESENT JOB.	94	94	91	100	88	94	94	50	50
405 02-02 DO YOU INSPECT TRANSISTORS	91	91	91	90	83	94	100	50	50
406 02-03 DO YOU REMOVE OR REPLACE TRANSISTORS	91	91	91	80	88	91	100	50	50
407 02-04 DO YOU CHECK TRANSISTORS USING AN INSTRUMENT	91	91	91	70	88	94	100	50	50
408 02-05 DO YOU USE OR REFER TO EMITTER - BASE (EB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	87	87	91	70	48	91	88	50	50
409 02-06 DO YOU USE OR REFER TO COLLECTOR - BASE (CB) FORWARD AND REVERSE RESISTANCE MEASUREMENTS	87	87	91	70	88	91	88	50	50

TRANSISTORS

GET THIS RESPONDING YES BY SELECTED GAPS

TASK GROUP SUMMARY

UY-TSK

6-437 6-3-10 DO YOU USE OR REFER TO COMMON Emitter THE CHANGE IN
COLLECTOR VOLTAGE WHICH RESULTS FROM A CHANGE IN BASE
CURRENT

9. WHAT DO YOU USE OR REFER TO (COMMON EITHER) THE CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN COLLECTION VOLTAGE WHICH RESULTS FROM A SPECIFIC CHANGE IN BASE CURRENT

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5 9309 DO YOU WANT TO USE OR REFER TO ICOMMON (ENTER) THE CHANGE IN
9 9310 BASE CURRENT WHICH RESULTS FROM AN INPUT SIGNAL
9 9311 DO YOU WANT TO USE OR REFER TO ICOMMON (ENTER) THE
9 9312 CALCULATIONS NECESSARY TO MEASURE THE SPECIFIC CHANGE IN
9 9313 BASE CURRENT WHICH RESULTS FROM A SPECIFIC INPUT SIGNAL
9 9314 DO YOU WANT TO USE THE LOAD-LINE METHOD OF ANALYSIS IN YOUR
9 9315 CIRCUIT ANALYSIS (ENTER) METHOD REQUIRED YOU TO PLOT A

```

CIRCUIT ANALYSIS USING THE TRANSISTOR CHARACTERISTIC CURVE

6. W2 G3-15 DO YOU USE OR REFER TO THE OPERATING POINT OR LOAD-LINE ON A TRANSISTOR CHARACTERISTICS CURVE?

Q.3-14 DO YOU CALCULATE THE SPECIFIC QUIESCENT POINT F

UJ-18 00 100 CALCOLINE LINE SPECIFIC POLYESTER
PARTICULAR TRANSITION

PARTICULAR TRANSISTOR

9-446 G3-17 DO YOU MEASURE VOLTAGE GAIN USED IN THE COMMON
EMITTER CONFIGURATION?

9-445 G3-18 DO YOU MEASURE CURRENT GAIN USED IN THE COMMON
EMITTER CONFIGURATION?

9-446 G3-19 DO YOU MEASURE POWER GAIN USED IN THE COMMON
EMITTER CONFIGURATION?

9-447 G3-20 DO YOU CALCULATE THE VOLTAGE GAIN FOR SPECIFIC TRANSISTORS USING A FORMULA THAT IS? DO YOU DIVIDE THE CHANGE IN BASE-EMITTER VOLTAGE INTO THE CHANGE THE BASE COLLECTION VOLTAGE TO DETERMINE THE VOLTAGE GAIN?

VOLTAGE TO DETERMINE THE VOLTAGE GAIN
VOLTAGE TO CALCULATE THE CURRENT GAIN FOR SPECIFIC

THE
I
IS.
DO
YOU
DIVIDE
THE

TRANSITIONS USING A FORMULA THAT IS, DO YOU DIVIDE
CHANGE IN α BY CHANGE IN α INTO THE CHANGE IN COLLECTOR

CHANGE IN BASE CURRENT INITIAL CHANGE

CURRENT TO DETERMINE THE CURRENT GAIN FOR A SPECIFIC

6 449 G3-22 DO YOU CALCULATE THE POWER GAIN FOR A SPECIFIC

TRANSISTOR USING A FORMULA THAT IS, DO YOU MULTIPLY

CUBELITE 9A

POWER GAIN

G 457 G3-23 DO YOU NEED TO KNOW THAT MORE COLLECTOR CURRENT

GENERATED WITH LESS COLLECTOR VOLTAGE AS TEMPERATURE

INCREASES THIS

THE TRANSISTOR

6 451 63-24 DO YOU COMPUTE THE STATIC OPERAT

TRANSISTOR AT DIFFERENT TEMPERATURES

4-452 64-25 DO YOU IDENTIFY ON SCHEMATIC DIAGRAMS AND RELA

THE ACTUAL CIRCUITRY THE COMPONENTS ASSOCIATED WITH

THE LOCAL CIRCULARITY THE COMPONENTS RESISTOR STABILIZATION

ENTERED BY THE RESISTANCE OF THE UNITED STATES AND RELATE TO

ALM301 004 06 97-60 654 6

PC1 MBS RESPONDING YES: BY SELECTED GRPS

GPSUMS PAGE 19

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSK									
G 476 63-44 DO YOU TROUBLESHOOT OR REPAIR CASCADE-CONNECTED AMPLIFIERS									
101	102	103	104	105	106	107	108	109	110
55	57	47	60	50	63	56	50		
H 477 H1-01 DO YOU USE OR REFER TO VARIATORS									
23	19	36	20	13	25	13	50		
H 478 H1-02 DO YOU USE OR REFER TO TUNNEL DIODES									
37	37	27	40	13	50	31	50		
H 479 H1-03 DO YOU USE OR REFER TO FIELD EFFECT TRANSISTORS (FET)									
55	57	36	50	75	56	53	50		
H 480 H1-04 DO YOU USE OR REFER TO UNIJUNCTION TRANSISTORS									
35	35	18	20	13	50	36	50		
H 481 H1-05 DO YOU USE OR REFER TO ZENER DIODES									
94	96	82	100	88	97	94	50		
H 482 H1-06 DO YOU USE OR REFER TO INTEGRATED CIRCUITS									
85	88	64	80	68	97	75	50		
H 483 H2-01 IN YOUR PRESENT JOB, DO YOU WORK WITH POWER SUPPLIES									
92	93	91	90	75	97	94	50		
H 484 H2-02 DO YOU INSPECT POWER SUPPLIES									
90	90	91	90	63	97	85	50		
H 485 H2-03 DO YOU CLEAN POWER SUPPLIES									
83	85	73	80	50	97	61	50		
H 486 H2-04 DO YOU ALIGN OR ADJUST POWER SUPPLIES									
90	90	91	90	75	97	61	50		
H 487 H2-05 DO YOU TROUBLESHOOT TO POWER SUPPLY CIRCUIT LEVEL									
87	87	91	80	75	97	75	50		
H 488 H2-06 DO YOU TROUBLESHOOT TO POWER SUPPLY COMPONENTS									
81	82	73	70	50	91	84	50		
H 489 H2-07 DO YOU REMOVE OR REPLACE COMPLETE POWER SUPPLIES									
90	90	91	60	88	94	88	50		
H 490 H2-08 DO YOU REMOVE OR REPLACE POWER SUPPLY COMPONENTS									
79	81	73	70	50	91	81	50		
H 491 H2-09 DO YOU WORK WITH HALF-WAVE RECTIFIERS									
78	78	73	90	50	81	81	50		
H 492 H2-10 DO YOU WORK WITH FULL-WAVE RECTIFIERS OTHER THAN BRIDGE RECTIFIERS									
85	84	91	90	50	88	88	50		
H 493 H2-11 DO YOU WORK WITH BRIDGE RECTIFIERS									
87	87	91	100	50	94	91	50		
H 494 H2-12 DO YOU WORK WITH THREE-PHASE RECTIFIERS									
59	60	45	60	34	66	63	50		
H 495 H2-13 DO YOU USE OR REFER TO INPUT VOLTAGE									
87	88	82	100	63	91	64	50		
H 496 H2-14 DO YOU USE OR REFER TO INPUT FREQUENCY									
63	66	45	60	38	72	69	50		
H 497 H2-15 DO YOU USE OR REFER TO PEAK OUTPUT VOLTAGE									
68	68	73	70	38	72	75	50		
H 498 H2-16 DO YOU USE OR REFER TO AVERAGE OUTPUT VOLTAGE									
62	62	55	90	25	72	44	50		
H 499 H2-17 DO YOU USE OR REFER TO RIPPLE FREQUENCY									
67	66	64	60	25	78	63	50		
H 500 H2-18 DO YOU USE OR REFER TO RIPPLE VOLTAGE									
51	53	36	50	13	66	50	50		
H 501 H2-19 DO YOU USE OR REFER TO PEAK REVERSE (INVERSE) VOLTAGE									
42	41	45	60	13	47	38	50		
H 502 H2-20 DO YOU USE OR REFER TO SHAPE OF OUTPUT WAVEFORMS									
72	72	73	80	50	78	63	50		
H 503 H2-21 DO YOU USE OR REFER TO EFFECTIVE OUTPUT VOLTAGE									
72	74	55	90	50	84	63	50		
H 504 H2-22 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE FILTERS									
68	69	64	60	34	78	64	50		
H 505 H2-23 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE FILTERS									
60	60	55	60	13	69	67	50		
H 506 H2-24 DO YOU WORK WITH CIRCUITS WHICH EMPLOY CAPACITIVE INPUT L-TYPE FILTERS									
56	57	45	70	25	69	50	50		
H 507 H2-25 DO YOU WORK WITH CIRCUITS WHICH EMPLOY INDUCTIVE INPUT L-TYPE FILTERS									
53	53	45	70	25	59	50	50		
H 508 H2-26 DO YOU WORK WITH CIRCUITS WHICH EMPLOY LC PI-TYPE FILTERS									
56	57	45	60	25	69	56	50		
H 509 H2-27 DO YOU WORK WITH CIRCUITS WHICH EMPLOY AC PI-TYPE FILTERS									
55	57	36	60	25	69	56	50		
H 510 H2-28 DO YOU WORK WITH CIRCUITS WHICH EMPLOY DONT MEMEBER WHICH TYPE OF FILTER									
31	32	27	40	50	25	25	50		
H 511 H2-29 DO YOU HAVE THE OPTION OF REPLACING ONE TYPE OF FILTER WITH A DIFFERENT TYPE FILTER									
8	6	18	0	13	6	6	50		
H 512 H3-01 DO YOU WORK WITH OSCILLATORS IN YOUR PRESENT JOB									
60	59	64	30	50	63	75	50		

OSCILLATORS

SOLID-STATE SPECIAL

PURPOSE DEVICES

POWER SUPPLIES

THE
COUNCIL
OF
THE
CITY
OF
NEW
YORK

WY-TSK

[illegible]

PCT MEMS RESPONDING 'YES' BY SELECTED GMPs

GPSUMS PAGE 22

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UY-TSK

	SPC 101	SPC 102	SPC 103	SPC 104	SPC 105	SPC 106	SPC 107	SPC 108
1 586 13-22 DO YOU CALCULATE ACTUAL VALUES OF TRIODE AMPLIFICATION FACTORS	8	9	0	20	0	6	13	0
1 587 13-23 DO YOU USE OR REFER TO MULTIMETER (TETRODE, PENTODE, ETC) APPLICATION FACTORS	19	19	18	20	0	19	31	0
1 588 13-24 DO YOU USE OR REFER TO ELECTRON TUBE TRANSCONDUCTANCE (U, WHICH IS MEASURED IN MHOS)	5	6	0	10	0	3	13	0
1 589 13-25 DO YOU CALCULATE ACTUAL VALUES OF ELECTRON TUBE TRANSCONDUCTANCES	5	6	0	10	0	3	13	0
1 590 13-26 DO YOU USE OR REFER TO THE ELECTRON TUBE PARAMETER CALLED AC PLATE RESISTANCE	12	10	18	10	0	6	25	0
1 591 13-27 DO YOU CALCULATE ACTUAL VALUES OF AC PLATE RESISTANCE	8	7	9	10	0	6	13	0
1 592 13-28 DO YOU USE OR REFER TO ELECTRON TUBE INTERELECTRODE CAPACITANCE	13	13	9	10	0	9	31	0
1 593 13-29 DO YOU USE OR REFER TO CHARACTERISTIC CURVES IN YOUR WORK WITH ELECTRON TUBES	12	12	9	10	13	9	19	0
1 594 13-30 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE VOLTAGE FOR A SPECIFIED BIAS	12	10	18	20	0	9	13	0
1 595 13-31 DO YOU USE CHARACTERISTIC CURVES TO SELECT PLATE CURRENT FOR A SPECIFIED BIAS	10	9	18	20	0	6	13	0
1 596 13-32 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR CUTOFF	14	10	18	20	0	9	13	0
1 597 13-33 DO YOU USE CHARACTERISTIC CURVES TO SELECT BIAS REQUIRED FOR SATURATION	12	10	18	20	0	9	13	0
1 598 13-34 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER GAIN	53	50	73	40	13	47	75	50
1 599 13-35 DO YOU USE OR REFER TO ELECTRON TUBE AMPLIFIER EFFICIENCY	36	35	27	40	13	31	63	0
1 600 13-36 DO YOU USE TEST TUBE CHECKERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	53	51	64	30	13	53	75	50
1 601 13-37 DO YOU USE MULTIMETERS TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	31	28	55	10	0	26	50	50
1 602 13-38 DO YOU USE OSCILLOSCOPES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	46	46	55	20	13	53	54	50
1 603 13-39 DO YOU USE CHARACTERISTIC CURVES TO DETERMINE ELECTRON TUBE AMPLIFIER GAIN	15	15	18	20	13	9	25	0
1 604 13-40 DO YOU CALCULATE ANY ELECTRON TUBE CAPACITANCES SUCH AS INPUT CAPACITANCE	5	4	9	10	0	3	6	0
1 605 13-41 DO YOU USE OR REFER TO TUBE SOCKET NOTATION	72	69	91	70	0	78	86	50
1 606 13-42 DO YOU USE OR REFER TO PIN NUMBERING SYSTEMS	77	75	91	50	0	91	94	50
1 607 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	12	12	4	20	13	3	25	0
1 608 13-44 DO YOU USE OR REFER TO TUBE SUBSTITUTION MATERIAL SUCH AS MANUALS OR CHARTS	68	66	82	70	13	72	75	50
1 609 13-51 DO YOU WORK WITH ELECTRON TUBE AMPLIFIERS OR CIRCUITS IN YOUR PRESENT JOB	83	82	91	90	38	84	94	50
1 610 13-52 DO YOU DETERMINE THE CLASS OF OPERATION FOR ELECTRON TUBE AMPLIFIERS IN ORDER TO TROUBLESHOOT AMPLIFIER CIRCUITS	36	36	27	30	13	50	44	0

ELECTRON TUBE AMPLIFIERS
AND CIRCUITS

YASK GROUP SUMMARY
PERCENT MEMBERS REPORTING

U-Y-TSK

[illegible]

PCT MBRS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY TASK									
TASK	NO	YES	GR	SP	SP	SP	SP	SP	SP
101	102	103	104	105	106	107	108		
K 676 K2-11 DO YOU PERFORM TASKS ON DRIVERS (INTERMEDIATE AMPLIFIERS)	4	4	0	0	0	0	0	0	0
K 677 K2-12 DO YOU PERFORM TASKS ON POWER AMPLIFIERS	4	4	0	0	0	0	0	0	0
K 678 K2-13 DO YOU PERFORM TASKS ON RF AMPLIFIERS	4	4	0	0	0	0	0	0	0
K 679 K2-14 DO YOU PERFORM TASKS ON FREQUENCY CONVERTERS	4	4	0	0	0	0	0	0	0
K 680 K2-15 DO YOU PERFORM TASKS ON IF AMPLIFIERS	4	4	0	0	0	0	0	0	0
K 681 K2-16 DO YOU PERFORM TASKS ON LIMITERS	4	4	0	0	0	0	0	0	0
K 682 K2-17 DO YOU PERFORM TASKS ON FREQUENCY DISCRIMINATIONS	4	4	0	0	0	0	0	0	0
K 683 K2-18 DO YOU TRACE SIGNALS ON CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM TRANSMITTERS	3	3	0	0	0	0	0	0	0
K 684 K2-19 DO YOU TRACE SIGNALS ON CURRENT PATHS THROUGH SCHEMATIC DIAGRAMS OF FM RECEIVERS	3	3	0	0	0	0	0	0	0
K 685 K3-01 DO YOU CONVERT DECIMAL (BASE 10) NUMBERS TO OCTAL	24	24	27	10	63	22	19	0	0
K 686 K3-02 DO YOU CONVERT DECIMAL NUMBERS TO BINARY (BASE 2) NUMBERS	33	34	27	10	75	30	25	0	0
K 687 K3-03 DO YOU CONVERT OCTAL NUMBERS TO DECIMAL NUMBERS	26	25	27	20	63	22	19	0	0
K 688 K3-04 DO YOU CONVERT OCTAL NUMBERS TO BINARY NUMBERS	27	26	27	20	75	22	19	0	0
K 689 K3-05 DO YOU CONVERT BINARY NUMBERS TO DECIMAL NUMBERS	31	31	27	20	63	34	19	0	0
K 690 K3-06 DO YOU CONVERT BINARY NUMBERS TO OCTAL NUMBERS	27	26	27	20	75	22	19	0	0
K 691 K3-07 DO YOU ADD BINARY NUMBERS TO GET A SUM	20	20	27	20	50	31	19	0	0
K 692 K3-08 DO YOU SUBTRACT BINARY NUMBERS USING THE LND-AROUND-CARRY METHOD	23	22	27	20	25	28	13	0	0
K 693 K3-09 DO YOU SUBTRACT BINARY NUMBERS USING THE DIRECT SUBTRACTION METHOD	26	25	27	20	50	25	19	0	0
K 694 K3-10 DO YOU ADD OCTAL NUMBERS TO GET A SUM	24	24	27	20	50	22	19	0	0
L 695 L1-01 IN YOUR PRESENT JOB, DO YOU PERFORM ANY TASKS RELATING TO LOGIC FUNCTIONS	46	47	36	20	86	53	31	0	0
L 696 L1-02 DO YOU CONSTRUCT TRUTH TABLES FOR AND LOGIC SYMBOLS	29	29	27	10	38	44	13	0	0
L 697 L1-03 DO YOU CO-STRUCT TRUTH TABLES FOR OR LOGIC SYMBOLS	29	29	27	10	38	44	13	0	0
L 698 L1-04 DO YOU CONSTRUCT TRUTH TABLES FOR AND OR LOGIC SYMBOLS WITH STATE INDICATORS	28	28	27	10	38	41	13	0	0
L 699 L1-05 DO YOU CONSTRUCT TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS OR GATES	28	28	27	10	34	41	13	0	0
L 700 L1-06 DO YOU USE OR REFER TO TRUTH TABLES FOR AND LOGIC SYMBOLS OR GATES	37	38	27	10	63	53	19	0	0
L 701 L1-07 DO YOU USE OR REFER TO TRUTH TABLES FOR OR LOGIC SYMBOLS OR GATES	38	38	26	10	63	53	19	0	0
L 702 L1-08 DO YOU USE OR REFER TO TRUTH TABLES FOR AND OR OR LOGIC SYMBOLS WITH STATE INDICATORS	32	32	27	10	34	50	13	0	0
L 703 L1-09 DO YOU USE OR REFER TO TRUTH TABLES FOR EXCLUSIVE OR LOGIC SYMBOLS	37	35	27	10	63	53	19	0	0
L 704 L1-10 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR AND GATES	44	44	36	20	86	53	25	0	0
L 705 L1-11 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR OR GATES	44	44	36	20	86	53	25	0	0
L 706 L1-12 DO YOU USE OR REFER TO LOGIC SYMBOLS FOR NAND OR NOR GATES	38	40	27	10	86	50	19	0	0

NUMBERING SYSTEMS

LOGIC FUNCTIONS

TASK GROUP SUMMARY

PERCENT MEMBERS PERFORMING

PY-7SK

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

[illegible]

TIMING CIRCUITS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

07-75x

[illegible]

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

DY-TSA										
	101	102	103	104	105	106	107	108	109	110
M 784 M3-16 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OF THE FORCE OR TORQUE CREATED BY A MOTOR	13	12	9	20	13	13	13	0		
M 785 M3-17 DO YOU DETERMINE OR MEASURE THE DIRECTION OF THE MECHANICAL FORCE OR TORQUE CREATED BY A MOTOR	19	19	9	20	13	22	25	0		
M 786 M3-18 DO YOU DETERMINE OR MEASURE THE MAGNITUDE OR DIRECTION OF THE INDUCED VOLTAGE IN MOTORS	21	21	16	10	13	22	31	0		
M 787 M3-19 DO YOU WORK WITH SYNCHRONOUS MOTORS	67	65	73	50	38	72	75	50		
M 788 M3-20 DO YOU WORK WITH INDUCTION MOTORS	59	59	45	50	50	66	63	50		
M 789 M3-21 DO YOU WORK WITH SPLIT-PHASE MOTORS	44	46	27	50	25	41	63	0		
M 800 M3-22 DO YOU WORK WITH SOME COMBINATION OF THE ABOVE MOTORS	71	71	73	40	63	78	75	50		
M 801 M3-23 DO YOU INSPECT GENERATORS	72	71	82	30	36	91	69	50		
M 802 M3-24 DO YOU CLEAN OR LUBRICATE GENERATORS	67	65	82	30	25	84	63	50		
M 803 M3-25 DO YOU OPERATE GENERATORS	69	69	64	50	38	91	56	50		
M 804 M3-26 DO YOU REMOVE OR REPLACE COMPLETE GENERATORS	69	68	82	40	50	78	69	50		
M 805 M3-27 DO YOU REMOVE OR REPLACE GENERATOR PARTS	45	47	27	20	13	72	38	0		
M 806 M3-28 DO YOU TROUBLESHOOT AS FAR AS CHECKING WIRE CONNECTIONS OF GENERATORS	73	72	82	40	50	88	69	50		
M 807 M3-29 DO YOU TROUBLESHOOT DOWN TO COMPONENT PARTS OF GENERATORS	36	37	27	10	13	46	31	0		
M 808 N1-01 DO YOU WORK WITH METERS IN YOUR PRESENT JOB	81	81	82	90	84	81	64	50		
M 809 N1-02 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF PERMANENT MAGNETS	22	22	9	10	13	28	25	0		
M 810 N1-03 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF MOVING COILS	23	24	9	20	13	25	31	0		METER MOVEMENTS
M 811 N1-04 DO YOU CONCEPTUALIZE OR CONSIDER THE FUNCTIONS OF SPINAL SPRINGS	19	19	9	10	13	25	19	0		
M 812 N1-05 DO YOU READ METEN SCALES	85	85	82	90	84	84	81	50		
M 813 N1-06 DO YOU EXTEND THE RANGE OF AMMETERS	32	32	18	40	38	22	54	50		
M 814 N1-07 DO YOU ZERO OHMMETERS	83	84	82	90	88	81	81	50		
M 815 N1-08 DO YOU ZERO OHMMETERS	42	44	47	40	50	41	56	50		
M 816 N1-09 DO YOU EXTEND THE RANGE OF VOLTMETERS	49	47	55	40	38	44	69	0		
M 817 N1-10 DO YOU USE OR REFER TO VOLTMETER SENSITIVITY LEAPRESSED IN UNITS OF OHMS PER VOLT	55	51	73	60	13	63	44	50		
M 818 N2-01 DO YOU WORK WITH SATURABLE REACTORS OR MAGNETIC AMPLIFIERS IN YOUR PRESENT JOB	29	25	55	30	13	22	31	50		
M 819 N2-02 DO YOU INSPECT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	28	24	55	30	13	22	25	50		SATURABLE REACTORS AND MAGNETIC AMPLIFIERS
M 820 N2-03 DO YOU CLEAN MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	26	22	45	20	13	22	25	50		
M 821 N2-04 DO YOU ADJUST MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	24	21	45	20	13	16	31	50		
M 822 N2-05 DO YOU TROUBLESHOOT MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	26	21	55	20	13	19	25	50		
M 823 N2-06 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIERS OR SATURABLE REACTORS	27	22	55	20	13	22	25	50		
M 824 N2-07 DO YOU REMOVE OR REPLACE MAGNETIC AMPLIFIER OR SATURABLE REACTOR COMPONENTS	15	12	27	0	13	19	13	0		

TASK GROUP SUMMARY
PERCENT MEMBERS PLANNING

RECENT MEMBERS PERFORMING

WY-75K

[illegible]

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TASK

	SPC 101	SPC 102	SPC 103	SPC 104	SPC 105	SPC 106	SPC 107	SPC 108
0 853 01-09 DO YOU PERFORM TASKS ON SSB AUDIO AMPLIFIERS	1	1	0	10	0	0	0	0
0 854 01-10 DO YOU PERFORM TASKS ON SSB BALANCED MODULATORS	1	1	0	10	0	0	0	0
0 855 01-11 DO YOU PERFORM TASKS ON SSB CARRIER OSCILLATORS	1	1	0	10	0	0	0	0
0 856 01-12 DO YOU PERFORM TASKS ON SSB LC FILTERS	1	1	0	10	0	0	0	0
0 857 01-13 DO YOU PERFORM TASKS ON SSB CRYSTAL FILTERS	1	1	0	10	0	0	0	0
0 858 01-14 DO YOU PERFORM TASKS ON SSB MECHANICAL FILTERS	1	1	0	10	0	0	0	0
0 859 01-15 DO YOU PERFORM TASKS ON SSB OSCILLATORS	1	1	0	10	0	0	0	0
0 860 01-16 DO YOU PERFORM TASKS ON SSB MIXERS	1	1	0	10	0	0	0	0
0 861 01-17 DO YOU PERFORM TASKS ON SSB UNIVERS	1	1	0	10	0	0	0	0
0 862 01-18 DO YOU PERFORM TASKS ON SSB POWER AMPLIFIERS	1	1	0	10	0	0	0	0
0 863 01-19 DO YOU PERFORM TASKS ON SSB RF AMPLIFIERS	1	1	0	10	0	0	0	0
0 864 01-20 DO YOU PERFORM TASKS ON SSB FREQUENCY CONVERTERS	1	1	0	10	0	0	0	0
0 865 01-21 DO YOU PERFORM TASKS ON SSB IF AMPLIFIERS	1	1	0	10	0	0	0	0
0 866 01-22 DO YOU PERFORM TASKS ON SSB DEMODULATORS	1	1	0	10	0	0	0	0
0 867 01-23 DO YOU PERFORM TASKS ON SSB DON'T REMEMBER WHICH SSB	1	1	0	10	0	0	0	0
0 868 01-24 DO YOU USE ON REFER TO SELECTIVE FADING	1	1	0	10	0	0	0	0
0 869 01-25 DO YOU USE ON REFER TO PEAK POWER	1	1	0	10	0	0	0	0
0 870 01-26 DO YOU USE ON REFER TO FREQUENCY STABILITY	1	1	0	10	0	0	0	0
0 871 01-27 DO YOU USE ON REFER TO RESPONSE CURVES FOR	1	1	0	10	0	0	0	0
0 872 01-28 DO YOU CALCULATE PEAK POWER OR EFFECTIVE POWER OF SSB	1	1	0	10	0	0	0	0
0 873 01-29 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH SSB	1	1	0	10	0	0	0	0
0 874 01-30 DO YOU TRACE SIGNALS OF CURRENT PATHS THROUGH SSB	1	1	0	10	0	0	0	0
0 875 02-01 DO YOU WORK ON PULSE MODULATION SYSTEMS IN YOUR	9	7	18	10	13	6	6	0
0 876 02-02 DO YOU INSPECT PULSE MODULATION SYSTEMS	8	6	18	10	13	3	6	0
0 877 02-03 DO YOU CLEAN PULSE MODULATION SYSTEMS	8	6	18	10	13	3	6	0
0 878 02-04 DO YOU ALIGN PULSE MODULATION SYSTEMS	8	6	18	10	13	3	6	0
0 879 02-05 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEMS	8	6	18	10	13	3	6	0
0 880 02-06 DO YOU TROUBLESHOOT TO PULSE MODULATION SYSTEM	8	6	18	10	13	3	6	0
0 881 02-07 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEMS	8	6	18	10	13	3	6	0
0 882 02-08 DO YOU REMOVE OR REPLACE PULSE MODULATION SYSTEM	8	6	18	10	13	3	6	0
0 883 02-09 DO YOU WORK ON PULSE-AMPLITUDE MODULATION (PAM)	6	4	18	10	13	3	6	0
0 884 02-10 DO YOU WORK ON PULSE-DURATION MODULATION (PDM)	6	4	18	10	13	3	6	0
0 885 02-11 DO YOU WORK ON PULSE-POSITION MODULATION (PPM)	6	4	18	10	13	3	6	0
0 886 02-12 DO YOU WORK ON PULSE-CODE MODULATION (PCM) SYSTEMS	4	4	0	10	13	3	6	0
0 887 02-13 DO YOU WORK ON LINE PULSING MODULATION SYSTEMS	3	3	0	10	13	0	0	0
0 888 02-14 DO YOU WORK ON DON'T REMEMBER WHICH TYPE OF	4	3	9	0	13	0	6	0

PULSE MODULATION SYSTEMS

PCT MBMS RESPONDING 'YES' BY SELECTED GRPS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

UT-TSK

UT-TSK	SPC 101	SPC 102	SPC 103	SPC 104	SPC 105	SPC 106	SPC 107	SPC 108
U 889 02-15 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER SUPPLIES	9	7	18	10	13	6	6	0
U 890 02-16 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM CHARGING CHOKES AND CHANGING DIODES	5	4	9	10	13	0	6	0
U 891 02-17 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE FORMING NETWORKS	8	6	18	10	13	3	6	0
U 892 02-18 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TIMERS	9	7	18	10	13	6	6	0
U 893 02-19 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM SWITCHES SUCH AS GAS THYRATRON	5	4	9	10	13	3	0	0
U 894 02-20 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM PULSE TRANSFORMERS	6	6	9	10	13	3	6	0
U 895 02-21 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM TRANSMITTER TUBES	6	6	18	10	13	3	6	0
U 896 02-22 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM RF AMPLIFIERS	9	7	18	10	13	6	6	0
U 897 02-23 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM FREQUENCY CONVERTERS	9	7	18	10	13	6	6	0
U 898 02-24 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM IF AMPLIFIERS	9	7	18	10	13	6	6	0
U 899 02-25 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DETECTORS	9	7	18	10	13	6	6	0
U 900 02-26 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM VIDEO AMPLIFIERS	9	7	18	10	13	6	6	0
U 901 02-27 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM POWER VIDEO AMPLIFIERS	9	7	18	10	13	6	6	0
U 902 02-28 DO YOU PERFORM TASKS ON PULSE MODULATION SYSTEM DON'T REMEMBER WHICH PULSE MODULATION SYSTEM STAGES	1	1	0	0	13	0	0	0
U 903 02-29 DO YOU USE OR REFER TO PULSE RECURRENCE FREQUENCY (PRF)	8	6	18	10	0	6	6	0
U 904 02-30 DO YOU USE OR REFER TO PULSE RECURRENCE TIME (PRT)	9	7	18	10	13	6	6	0
U 905 02-31 DO YOU USE OR REFER TO PULSE WIDTH (PW)	9	7	18	10	13	6	6	0
U 906 02-32 DO YOU USE OR REFER TO PULSE SHAPE	9	7	18	10	13	6	6	0
U 907 02-33 DO YOU USE OR REFER TO PEAK POWER	6	4	18	10	13	0	6	0
U 908 02-34 DO YOU USE OR REFER TO AVERAGE POWER	5	4	9	0	13	3	6	0
U 909 02-35 DO YOU CALCULATE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	9	7	18	10	13	6	6	0
U 910 02-36 DO YOU MEASURE PULSE RECURRENCE TIME (PRT) OR PULSE RECURRENCE FREQUENCY (PRF)	9	7	18	10	13	6	6	0
U 911 02-37 DO YOU USE FORMULAS TO CALCULATE AVERAGE POWER OR PEAK POWER OF PULSE MODULATION TRANSMIT SYSTEMS	4	4	0	10	13	3	0	0
U 912 02-38 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION TRANSMITTER SCHEMATIC DIAGRAMS	6	6	18	10	13	3	6	0
U 913 02-39 DO YOU TRACE SIGNALS OR CURRENT PATHS THROUGH PULSE MODULATION RECEIVER SCHEMATIC DIAGRAMS	6	4	18	0	13	3	6	0
U 914 03-01 DO YOU WORK WITH ANTENNAS IN YOUR PRESENT JOB	3	3	0	0	13	3	0	0
U 915 03-02 DO YOU INSPECT ANTENNAS	4	3	9	0	13	3	0	0

ANTENNAS

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

BY-TASK

	SPC 101	SPC 102	SPC 103	SPC 104	SPC 105	SPC 106	SPC 107	SPC 108
0 945 03-32 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS	1	1	0	0	13	0	0	0
0 946 03-33 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS LIMELECTORS	1	1	0	0	13	0	0	0
0 947 03-34 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN PARASITIC ELEMENTS SERVING AS REFLECTORS	1	1	0	0	13	0	0	0
0 948 03-35 DO THE ANTENNA ARRAYS YOU WORK WITH CONTAIN DUNIT	3	3	0	0	13	3	0	0
0 949 03-36 DO YOU WORK ON UNIDIRECTIONAL ANTENNAS	1	1	0	0	13	0	0	0
0 950 03-37 DO YOU WORK ON BIDIRECTIONAL ANTENNAS	1	1	0	0	13	0	0	0
0 951 03-38 DO YOU WORK ON DON'T REMEMBER THE DIRECTIONALITY	3	3	0	0	13	3	0	0
0 952 03-39 DO YOU WORK WITH ROTAR ANTENNA ARRAYS	3	3	0	0	13	3	0	0
0 953 03-40 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)	7	7	0	0	13	0	0	0
0 954 03-41 DO YOU REFER TO OR USE COPPER LOSS OR I2R LOSS IN TRANSMISSION LINES	1	1	0	0	13	0	0	0
0 955 03-42 DO YOU REFER TO OR USE SKIN EFFECTS OF HIGH FREQUENCY CURRENTS IN TRANSMISSION LINES	1	1	0	0	13	0	0	0
0 956 03-43 DO YOU REFER TO OR USE RADIATION LOSS IN TRANSMISSION LINES	1	1	0	0	13	0	0	0
0 957 03-44 DO YOU USE OR REFER TO DIELECTRIC LOSS IN TRANSMISSION LINES	1	1	0	0	13	0	0	0
0 958 03-45 DO YOU USE OR REFER TO LEAKAGE LOSSES IN TRANSMISSION LINES	3	3	0	0	13	3	0	0
0 959 03-46 DO YOU WORK WITH TWISTED PAIR TRANSMISSION LINES	3	3	0	0	13	0	0	0
0 960 03-47 DO YOU WORK WITH TWIN LEAD TRANSMISSION LINES	3	3	0	0	13	0	0	0
0 961 03-48 DO YOU WORK WITH OPEN TWO-WIRE TRANSMISSION LINES	1	1	0	0	13	0	0	0
0 962 03-49 DO YOU WORK WITH FLEXIBLE COAXIAL CABLE TRANSMISSION LINES	5	4	0	0	13	3	0	0
0 963 03-50 DO YOU WORK WITH RIGID COAXIAL CABLE TRANSMISSION LINES	4	3	0	0	13	3	0	0
0 964 03-51 DO YOU TROUBLESHOOT TRANSMISSION LINES	6	6	0	0	13	0	0	0
0 965 03-52 DO YOU ANALYZE VOLTAGE OR CURRENT WAVEFORMS IN TRANSMISSION LINES TO DETERMINE THE TYPE OF TERMINATION (OPEN, SHORTED, CAPACITIVE, INDUCTIVE)	1	1	0	0	13	0	0	0
0 966 03-53 DO YOU SELECT APPROPRIATE TRANSMISSION LINES TERMINATIONS TO ACHIEVE DESIRED WAVEFORMS	5	4	0	0	13	3	0	0
0 967 03-54 DO YOU USE OR REFER TO SCHEMATIC SYMBOLS FOR LINE TERMINATIONS IN TERMS OF CIRCUIT TERMINATIONS	1	1	0	0	13	0	0	0
0 968 03-55 DO YOU MEASURE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	1	1	0	0	13	0	0	0
0 969 03-56 DO YOU CALCULATE STANDING WAVE RATIOS (SWR) OF TRANSMISSION LINES	1	1	0	0	13	0	0	0
0 970 03-57 DO YOU PERFORM THE CALCULATIONS NECESSARY TO DETERMINE THE IMPEDANCE AND LENGTH OF QUARTER - WAVELENGTH MATCHING TRANSFORMERS TO MATCH TRANSMISSION LINES TO LOADS	1	1	0	0	13	0	0	0

TRANSMISSION LINES

TASK GROUP SUMMARY
PERCENT MEMBERS PLANNING

17-75K

LINE	NO	DESCRIPTION	UNIT	QTY	PRICE	TOTAL	TAX	NET	GST	GRAND TOTAL
P 971	P1-19	DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING MATCHING TRANSFORMERS		1	1	0	0	13	0	0
P 972	P1-20	DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING DELTA MATCHING		1	1	0	0	13	0	0
P 973	P1-21	DO YOU SELECT THE TYPE OF TRANSMISSION LINE NEEDED FOR PARTICULAR JOBS WITHOUT REFERRING TO TECHNICAL DATA		1	1	0	0	13	0	0
P 974	P1-22	DO YOU USE OR REFER TO THE TERM CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES		1	1	0	0	13	0	0
P 975	P1-23	DO YOU CALCULATE THE CHARACTERISTIC IMPEDANCE (Z0) OF TRANSMISSION LINES		1	1	0	0	13	0	0
P 976	P1-24	DO YOU USE OR REFER TO THE TERM CUTOFF FREQUENCY OF TRANSMISSION LINES		1	1	0	0	13	0	0
P 977	P1-25	DO YOU USE OR REFER TO THE TERM VELOCITY FACTOR (N) OF TRANSMISSION LINES		1	1	0	0	13	0	0
P 978	P1-26	DO YOU COMPUTE THE ELECTRICAL LENGTH OF TRANSMISSION LINES FOR PARTICULAR FREQUENCIES		1	1	0	0	13	0	0
P 979	P1-27	DO YOU CONSTRUCT TRANSMISSION LINES OF PARTICULAR ELECTRICAL LENGTH FOR GIVEN FREQUENCIES		1	1	0	0	13	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		1	1	0	0	13	0	0
P 981	P1-29	DO YOU WORK WITH NONRESONANT (FLAT) TRANSMISSION LINES		1	1	0	0	13	0	0
P 982	P1-30	DO YOU WORK WITH RESONANT TRANSMISSION LINES		1	1	0	0	13	0	0
P 983	P1-31	DO YOU WORK WITH TRANSMISSION LINES WHICH ARE MATCHED TO LOADS USING STAR MATCHING		3	3	0	0	13	0	0
P 984	P2-01	DO YOU WORK WITH WAVEGUIDES OR CAVITY RESONATORS IN YOUR PRESENT JOB		3	1	0	0	13	0	0
P 985	P2-02	DO YOU INSPECT WAVEGUIDES OR CAVITY RESONATORS		1	1	0	0	13	0	0
P 986	P2-03	DO YOU CLEAN WAVEGUIDES OR CAVITY RESONATORS		1	1	0	0	13	0	0
P 987	P2-04	DO YOU BEND WAVEGUIDES OR CAVITY RESONATORS		1	1	0	0	13	0	0
P 988	P2-05	DO YOU TWIST WAVEGUIDES OR CAVITY RESONATORS		1	1	0	0	13	0	0
P 989	P2-06	DO YOU PRESSURIZE WAVEGUIDES OR CAVITY RESONATORS		1	1	0	0	13	0	0
P 990	P2-07	DO YOU PULSE WAVEGUIDES OR CAVITY RESONATORS		1	1	0	0	13	0	0
P 991	P2-08	DO YOU TROUBLESHOOT WAVEGUIDES OR CAVITY RESONATORS		1	1	0	0	13	0	0
P 992	P2-09	DO YOU REMOVE OR INSTALL COMPLETE WAVEGUIDES		1	1	0	0	13	0	0
P 993	P2-10	DO YOU REMOVE OR INSTALL WAVEGUIDE SECTIONS		1	1	0	0	13	0	0
P 994	P2-11	DO YOU REMOVE OR INSTALL DUMMY LOADS		1	1	0	0	13	0	0
P 995	P2-12	DO YOU REMOVE OR INSTALL E BENDS		1	1	0	0	13	0	0
P 996	P2-13	DO YOU REMOVE OR INSTALL H BENDS		1	1	0	0	13	0	0
P 997	P2-14	DO YOU REMOVE OR INSTALL OTHER BENDS		1	1	0	0	13	0	0
P 998	P2-15	DO YOU REMOVE OR INSTALL COKE JOINTS		1	1	0	0	13	0	0
P 999	P2-16	DO YOU REMOVE OR INSTALL ROTATING JOINTS		1	1	0	0	13	0	0
P1000	P2-17	DO YOU REMOVE OR INSTALL DIRECTIONAL COUPLERS		1	1	0	0	13	0	0
P1001	P2-18	DO YOU REMOVE OR INSTALL REDIRECTIONAL COUPLERS		1	1	0	0	13	0	0
P1002	P2-19	DO YOU USE OR REFER TO A WALL OF WAVEGUIDES		1	1	0	0	13	0	0

TASK GROUP SUMMARY
PERCENT MEMBERS RECOMMENDING

07-15K

[illegible]

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

QY-15K

[illegible]

PCT MEMS RESPONDING 'YES' BY SELECTED GRPS

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TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

01-TSA

01116 01-07 DO YOU DETERMINE THE STATE OF EACH FLIP-FLOP OF A
SHIFT REGISTER AFTER A SPECIFIED NUMBER OF SHIFT PULSES
HAVE PASSED

SPC SPC SPC SPC SPC SPC SPC
101 102 103 104 105 106 107 108

24 29 27 0 50 41 19 0

01117 02-01 DO YOU WORK WITH DIGITAL COUNTERS, REGISTERS, OR
STORAGE DEVICES IN YOUR PRESENT JOB

40 41 18 20 75 56 19 0

01118 02-02 DO YOU USE OR REFER TO DELAY LINES

49 28 27 0 50 34 25 0

01119 02-03 DO YOU USE OR REFER TO MAGNETIC CORES

31 31 27 0 75 38 19 0

01120 02-04 DO YOU USE OR REFER TO MAGNETIC DRUMS

12 9 18 10 13 6 19 0

01121 02-05 DO YOU USE OR REFER TO MAGNETIC TAPES

17 15 18 0 75 6 19 0

01122 02-06 DO YOU USE OR REFER TO ACCESS TIME OR SPEED OR
MEMORY SYSTEMS

32 32 27 20 63 38 19 0

01123 02-07 DO YOU USE OR REFER TO WORD CAPACITY OF MEMORY
SYSTEMS

34 32 27 10 75 34 19 0

01124 02-08 DO YOU USE OR REFER TO VOLATILITY OF MEMORY SYSTEMS

13 12 9 0 20 10 13 0

01125 02-09 DO YOU USE OR REFER TO LOGIC SYMBOL OF DELAY LINES

26 25 27 0 50 34 13 0

01126 03-01 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

49 50 36 20 88 66 25 0

01127 03-02 DO YOU COMPUTE OUTPUT VOLTAGES FOR ELECTROMECHANICAL
DIGITAL-TO-ANALOG (D/A) CONVERTERS FOR GIVEN INPUT
VOLTAGES

22 21 27 0 25 31 13 0

01128 03-03 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

10 7 18 0 13 6 19 0

01129 03-04 DO YOU COMPUTE ANALOG VOLTAGES FOR GIVEN BINARY
COUNTS IN ELECTRONIC DIGITAL-TO-ANALOG (D/A) CONVERTERS

19 18 27 0 50 19 13 0

01130 03-05 DO YOU PERFORM SAMPLE FUNCTION TASKS ON VARIABLE TIME
ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

12 10 9 0 63 3 13 0

01131 03-06 DO YOU PERFORM HOLD FUNCTION TASKS ON VARIABLE TIME
ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

14 13 9 10 63 6 13 0

01132 03-07 DO YOU PERFORM COMPARE FUNCTION TASKS ON VARIABLE
TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

10 9 9 0 38 6 13 0

01133 03-08 DO YOU PERFORM DIGITIZE FUNCTION TASKS ON VARIABLE
TIME ANALOG-TO-DIGITAL (A/D) CONVERTER CIRCUITS

10 9 9 0 34 6 13 0

01134 03-09 DO YOU PERFORM DON'T REMEMBER WHICH FUNCTION TASKS
ON VARIABLE TIME ANALOG-TO-DIGITAL (A/D) CONVERTER
CIRCUITS

17 15 27 0 25 22 6 0

01135 03-10 DO YOU USE OR REFER TO SAMPLE FUNCTION OF A/D
CONVERTERS

17 15 18 0 63 13 13 0

01136 03-11 DO YOU USE OR REFER TO HOLD FUNCTION OF A/D
CONVERTERS

19 18 27 10 63 13 13 0

01137 03-12 DO YOU USE OR REFER TO COMPARE FUNCTION OF A/D
CONVERTERS

15 13 27 0 34 13 13 0

01138 03-13 DO YOU USE OR REFER TO DIGITAL FUNCTION OF A/D
CONVERTERS

21 19 27 20 38 19 13 0

01139 03-14 DO YOU PERFORM ANY TASKS ON MECHANICAL ANALOG-TO-
DIGITAL (A/D) CONVERTERS

21 21 18 20 25 31 0 0

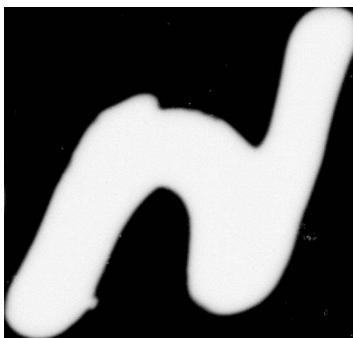
DIGITAL TO ANALOG CONVERTERS

STORAGE DEVICES

TASK GROUP SUMMARY
PERCENT MEMBERS PERFORMING

LY-TSA

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AD-A044 122

AIR FORCE OCCUPATIONAL MEASUREMENT CENTER LACKLAND A--ETC F/G 5/9
ANALOG NAVIGATION/TACTICS TRAINING DEVICES SPECIALIST, AFSC 341--ETC(U)
AUG 77 T J O'CONNOR, F B BOWERS

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INFORMATION



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NATIONAL BUREAU OF STANDARDS
MICROCOPY RESOLUTION TEST CHART

SUPPLEMENTARY

INFORMATION

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Corrected

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) This report summarizes the results of the administration of the Electronic Principles Inventory to airmen assigned as Analog Navigation/Tactics Training Devices Specialist (AFSC 34155). The report gives a detailed listing of the technical tasks and knowledge needed to perform the jobs within the specialty or career ladder. <i>2 over</i> CONTINUED		

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This specialty has the following functions:

Inspects, installs, operates, maintains, repairs and modifies analog navigation/tactics/visual training devices and associated electronic equipment. Performs preventive maintenance on analog navigation/tactics training devices. Installs, modifies and repairs analog navigation tactics training devices. Operates analog navigation/tactical training devices. Supervises analog navigation/tactics training devices personnel.

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