

**PROPOSED SYLLABUS OF COMBINED BASIC GRADE-III COURSE**

**FIRST SEMESTER :**

**(A) RADIO THEORY :-**

**(TOTAL 200 PERIODS)**

S.NO	TOPIC	PERIODS
1	<b>BATTERIES</b> - PRIMARY AND SECONDARY BATTERIES, TYPES OF BATTERIES, SERIES AND PARALLEL COMBINATION OF BATTERIES, CHARGING AND DISCHARGING. FAULT AND REMEDY FOR THE LEAD ACID BATTERIES. EFFECT OF OVER CHARGING AND DISCHARGING, SULPHATION, NI-MH BATTERIES-THEIR CONSTRUCTION & MAINTENANCE. VRLA & TUBULAR BATTERIES.	20
2	<b>MODERN COMMUNICATION TECHNIQUES :-</b> 2.1 <b>POLNET</b> - CONCEPT OF POLNET, NETWORK SYSTEM STAR, MESH AND HYBRID CONFIGURATION. DISH ANTENNA, V-SAT, INDOOR OUTDOOR UNIT, OPERATIONAL BLOCK DIAGRAM OF EARTH STATION, AND ADVANTAGES OVER THE OTHER COMMUNICATION. MART-GENERAL IDEA OF MART.	10
	2.2 <b>DATA COMMUNICATION</b> – FEATURES & OPERATION OF IDT.	8
	2.3 <b>RADIO TRUNKING SYSTEM</b> - INTRODUCTION, OPERATION, WORKING, FUNCTION OF MAIN COMPONENTS, ADVANTAGES ETC.	6
	2.4 <b>DIAL 100</b> - INTRODUCTION AND OPERATION.	24
	2.5 <b>AUTOMATIC VEHICLE LOCATION SYSTEM (AVLS)</b> - INTRODUCTION AND OPERATION.	6
	2.6 <b>CCTV</b> - INTRODUCTION AND OPERATION.	16
	2.7 <b>VIDEO CONFERENCING</b>	6
	2.8 <b>BIO-METRIC ATTENDANCE SYSTEM</b>	6
	2.9 <b>U.A.V. DRONE</b>	12
	2.10 <b>SOLAR SYSTEM</b> - AUTO SWITCH/PCB/MPPT CHARGE CONTROLLER/ INTELLIGENT CHARGE CONTROLLER, BTY CHARGING SYSTEM.	10
3	<b>REPEATER-</b> SIMPLEX, SEMI-DUPLEX & DUPLEX WORKING REPEATERS.	24
4	<b>ORGANIZATION FUNCTIONALITY :-</b> 4.1 INTRODUCTION OF MP POLICE TELECOM ORGANIZATION STRUCTURE.	4
	4.2 IMPORTANT PARA OF POLICE REGULATION 1860	5
	4.3 ROLE, FUNCTIONS & DUTIES OF DIFFERENT SECTIONS I.E. COMMUNICATION, PURCHASE , PLANNING , M.T., PRC , WORKSHOP , ADMIN. ETC. AT PDS HQ, ZONAL HQ, RANGE HQ & DISTRICT LEVEL.	12
	4.4 <b>STORE WORK</b> - VOUCHER CREATION, STOCK ENTRY, MER CREATION, DEMAND LIST, RECOVERY PROCESS OF LOST EQUIPMENT, CONDEMNATION PROCESS.	6
	4.5 GEOGRAPHICAL INFORMATION OF DISTRICTS, POINT OF INTEREST.	25

**(B) WORKSHOP :-**

**(TOTAL 280 PERIODS)**

**(I) WORKSHOP PRACTICAL PART - I**

S.NO.	CASE STUDY	THEORY	PRACTICAL
1	<b>OPERATION OF DIFFERENT TYPES OF RADIO SETS AND RT TALK</b> - (HF/VHF RADIO SET ON/OFF, KNOB, BUTTON SPECIFICATION STUDY AND RT TALK PRACTICE)	4	13

2	<b>VHF RADIO SET INSTALLATION</b> - ( TESTING OF RADIO SET AND EQUIPMENTS, SELECTION OF PLACE, INSTALLATION OF AERIAL/ANTENNA, SWR MEASUREMENT, CONNECTION OF ALL ACCESSORY, CHECK COMMN., PRECAUTIONS )	10	20
3	<b>HF RADIO SET INSTALLATION-</b> (TESTING OF RADIO SET AND EQUIPMENTS, SELECTION OF PLACE, INSTALLATION OF AERIAL/ANTENNA, DESIGNING OF ANTENNA, CONNECTION OF ALL ACCESSORY, CHECK COMMN., PRECAUTION )	2	8
4	<b>TOWER CLIMBING-</b> ( REQUIRED TOOL AND ACCESSORIES AND PRECAUTION )	-	6
5	<b>AERIAL MAST INSTALLATION-</b> (REQUIREMENTS, SELECTION OF PLACE & DERRICK, MEASUREMENT OF HOLE, ERECTION OF MAST, TOOLS, SWR MEASUREMENT, PRECAUTIONS )	12	8
6	<b>PROGRAMMING OF DIFFERENT TYPES VHF HF RADIO SETS-</b> ( ALL TYPES HF AND VHF RADIO SET FREQUENCY AND PIN ACCESSORY )	-	20
7	<b>RADIO TRUNKING SET</b> - ( OPERATION RADIO SET ON/ OFF , KNOB, BUTTON STUDY AND RT TALK PRACTICE)	-	4
8	<b>RADIO TEST SET</b> - ( PARAMETER TESTING ) - RX & TX PARAMETER TESTING	4	12
9	<b>REPEATER FABRICATION &amp; INSTALLATION-</b> (VHF NETWORKING TYPES, FABRICATION, INSTALLATION AND MAINTENANCE )	10	20
10	<b>FABRICATION OF RECTIFIERS-</b> ( ALL TYPES OF RECTIFIER AND POWER SUPPLY )	16	16

## (II) WORKSHOP PRACTICAL PART – II

S.NO.	CASE STUDY	THEORY	PRACTICAL
1	<b>COMPONENT TESTING &amp; ELECTRIC FITTING-</b> (ALL TYPES OF ELECTRONIC AND ELECTRIC COMPONENTS, ELECTRIC BOARD WIRING AND FITTING, FAN, TUBE LIGHT ETC. )	6	16
2	<b>BATTERY CHARGER</b> - ( CIRCUIT ANALYSIS AND FAULT DIAGNOSIS OF DIFFERENT SECTIONS & REMEDY )	2	8
3	<b>BATTERY CHARGING AND DISCHARGING</b> - ( TYPES OF CHARGING, LOAD TESTING, CHARGING PROCEDURE, CALCULATION OF CHARGE RATE, BTY. COMBINATION FOR CHARGING AND DISCHARGING )	4	3
4	<b>SOLAR POWER PACK/BANK-</b> (REQUIREMENTS, CALCULATION OF CONSUMPTION POWER, INVERTER, BATTERY BACKUP, SOLAR PANEL WIRE, MCB, MPPT CHARGER/SOLAR AUTO-CUT SWITCH, MAINS AUTO SWITCH AND BATTERY BANK)	4	4
5	<b>GPS</b> - ( REQUIREMENTS, WAY POINT, ROUTE, TRACK, MAP, WAY POINT PROJECTION, CAMPOS AND NAVIGATION, LATITUDE LONGITUDE)	2	4

6	<b>IDT</b> - ( INSTALLATION, DESIRED SOFTWARE, CONFIGURATION , CONNECTION AND COMMUNICATION )	2	8
7	<b>RMS</b> - ( REQUIREMENT, MAP PROPERTIES, UNIT PROPERTIES, NETWORK PROPERTIES, SYSTEM RADIO LINK, VISUAL COVERAGE )	1	5
8	<b>DIAL-100</b> - ( MDT AND NET-VIEWER )	--	15
9	<b>CCTV</b> - (CONNECTION, BACKUP, CONTROL AND SURVEILLANCE)	--	4
10	<b>RADIO SET / EQUIPMENT DISTRIBUTION</b>	5	--
11	<b>BIO-METRIC SYSTEM</b>	--	2

**(C) FIELD EXPOSER :-**

**(TOTAL 02 WEEKS)**

S.NO	PLACE	PURPOSE	DURATION
1	DIAL-100 BHOPAL	CALL DISPATCHER, NET-VIEWER, MDT, SOP ETC..	01 WEEK
2	ZONAL WORKSHOP	R/SET & EQUIPMENT REPAIRING, JOB REGISTER, MER ETC..	01 WEEK

**(D) EXAMINATION CHART OF COMBINED BASIC GRADE-III COURSE :-**

**(TOTAL 01 WEEK)**

S.NO.	SUBJECT	MARKS
1	RADIO THEORY	100 MARKS
2	WORKSHOP PRACTICAL I PAPER	100 MARKS (PRACTICAL 90, VIVA10) (CASE STUDY S.NO. 1-4 & 6-10 OF 10 MARKS EACH)
3	WORKSHOP PRACTICAL II PAPER	100 MARKS (PRACTICAL 90, VIVA 10) (CASE STUDY S.NO. 1-9 OF 10 MARKS EACH)
<b>TOTAL</b>		<b>300 MARKS</b>

**SECOND SEMESTER :****(A) RADIO PROCEDURE :-****(TOTAL 160 PERIODS)**

S.NO	TOPIC	PERIODS
1	MORSE CODE	15
2	DEFINITION	12
3	PROSIGN, ABBREVIATION	5
4	TYPES OF MESSAGE	5
5	IN, OUT, THROUGH MESSAGE HANDLING	8
6	OPERATING SIGNAL	5
7	RADIO LOG, SIGNAL DIARY, ALL METHOD, DUTIES OF CONTROL STATION, OPERATING RULES	10
8	SIGNALS, RT COMMON PHRASES, LAW AND ORDER MESSAGE CATEGORIES	5
9	USE OF PRIORITY, SECURITY, CLASSIFICATION OF MESSAGE	5
10	CLASSIFIED IN/OUT MESSAGE HANDLING DUTIES OF SENIOR OBSERVER	5
11	R.T. TALK	60
12	HANDLING OF CIPHER DOCUMENTS	10
13	RADIO MESSAGE (R/M) DRAFTING	10
14	RETENTION TEST OF MESSAGES	5

**(B) COMPUTER :-****(TOTAL 320 PERIODS)**

S.NO.	NAME OF TOPIC	NO. OF PERIODS	
		THEORY	PRACTICAL
<b>(A) FUNDAMENTAL OF COMPUTER</b>			
1	BASIC STRUCTURE AND BLOCK DIAGRAM	3	-
2	INPUT AND OUTPUT UNITS		
3	MEMORY, TYPES OF MEMORY		
4	HARDWARE AND SOFTWARE		
5	OPERATING SYSTEMS		
<b>(B) WINDOWS</b>			
1	USE OF WINDOWS	2	2
2	TYPES OF WINDOWS		
<b>(C) HARDWARE/SOFTWARE INSTALLATION</b>			
1	HARDWARE INSTALLATION	6	8
2	SOFTWARE INSTALLATION		
<b>(D) HINDI/ENGLISH TYPING</b>			
1	ENGLISH TYPING	-	20
2	HINDI TYPING	-	35
3	ROMAN HINDI TYPING	-	5
<b>(E) MS-WORD</b>			
1	EXPLORING WORD	1	4
2	HOME MENU	2	6
3	INSERT MENU	2	6
4	PAGE LAYOUT MENU	1	4
5	MAILING MENU	2	6
6	VIEW, REVIEW, REFERENCE MENU	1	4

7	OFFICE BUTTON MENU	1	4
8	MS-WORD EXERCISE	-	5
9	LETTER DRAFTING	-	5
<b>(F) MS-EXCEL</b>			
1	SPREADSHEET BASICS	1	4
2	HOME MENU	2	6
3	INSERT MENU	2	6
4	PAGE LAYOUT MENU	1	4
5	FORMULA MENU	3	6
6	DATA MENU	2	6
7	REVIEW, VIEW MENU	1	4
8	MS-EXCEL EXERCISE	-	6
<b>(G) MS-POWER POINT</b>			
1	MENU BAR	1	4
2	TOOL TIPS	1	4
3	FORMATION OF PPT	1	4
4	CHANGING TEXT STYLE & ALIGNMENT	2	4
5	INSERT CLIP ARTS AND PICTURES	1	4
6	SLIDESHOW AND CUSTOMIZATION	3	4
7	MS-POWER POINT EXERCISE	-	6
<b>(H) COMPUTER HARDWARE AND NETWORKING</b>		10	20
<b>(I) EMAIL – INTERNET</b>			
1	INTERNET	2	4
2	EMAIL	2	6
<b>(J) BULK SMS &amp; SKYPE</b>			
1	BULK SMS	2	6
2	SKYPE	2	6
<b>(K) SOCIAL MEDIA</b>			
1	FACEBOOK	2	6
2	TWITTER	2	6
3	WHATSAPP	2	6
4	USES AND MISUSES OF SOCIAL MEDIA	2	6

**(C) FIELD EXPOSER :-**

**(TOTAL 02 WEEKS)**

S.NO	PLACE	PURPOSE	DURATION
1	DISTRICT CONTROL ROOM	CCTV, RADIO TRUNKING, VIDEO CONFERENCING, REPEATER STATION & R.T. TALK PRACTICE	01 WEEK
2	ZONE P.R.C.	IDT, EMAIL, HF/VHF NET, MESSAGE IN/OUT, SIGNAL DIARY, LOG ETC..	01 WEEK

**(D) FIELD VISIT :-**

AIR TRAFFIC CONTROL (ATC), AKASHVANI, DOORDARSHAN KENDRA, R.R.C.A.T.,  
RAILWAY TRAFFIC CONTROL & ETC.

**(E) EXAMINATION CHART OF COMBINED BASIC GRADE-III COURSE :- (TOTAL 01 WEEK)**

S.NO.	SUBJECT	MARKS
1	RADIO PROCEDURE	100 MARKS
2	COMPUTER I PAPER (HINDI & ENGLISH TYPING)	100 MARKS (HINDI-50, ENGLISH-50)
3	COMPUTER II PAPER (MS-OFFICE)	100 MARKS (WORD-40, EXCEL-20, PP-10, INTERNET & EMAIL- 10, H/W & S/W INSTALLATION-10, VIVA-10)
<b>TOTAL</b>		<b>300 MARKS</b>

**(F) SUMMARY :-**

S.NO.	PARTICULARS	NO. OF PERIODS	WEEKS
A	RADIO PROCEDURE	160	32
B	RADIO THEORY	200	
C	WORKSHOP	280	
D	COMPUTER	320	
E	PT/PARED/YOGA/SPORTS	378	
F	FIELD EXPOSER	-	04
G	MID-TERM BREAK	-	01
H	EXAM	-	02
<b>TOTAL</b>		<b>1338</b>	<b>39 WEEKS (09 MONTHS)</b>

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