

उप निरीक्षक(रेडियो) का कार्य विवरण एवं उत्तरदायित्व :-

1. प्र.आर(रे) एवं सउनि(रे) से अपेक्षित समस्त कार्यों को विस्तृत एवं गहन अनुभव ज्ञान के साथ निर्वहन।
2. जिला कन्ट्रोल रूम/डायल-100/सीसीटीवी सर्विलेन्स/जिला रेडियो प्रभारी से संबंधित जिला प्रभारी के समस्त दायित्व।
3. एम.एस.वर्ड, एक्सेल, पावर पाईन्ट का गहन ज्ञान एवं कम्प्यूटर नेटवर्किंग का ज्ञान।
4. विशिष्ट एवं अति विशिष्ट व्यक्तियों एवं चुनाव इयूटी व अन्य महत्वपूर्ण आयोजनों के समय की जाने वाली संचार प्रणाली स्थापित करना, संचार व्यवस्था स्थापित करना, इयूटी लगाना एवं पर्यवेक्षण करना।
5. वरिष्ठ पुलिस अधिकारियों एवं प्रशासनिक अधिकारियों से समन्वय स्थापित करना।
6. पदानुसार निर्णय लेना, वरिष्ठ अधिकारियों से पत्र व्यवहार एवं दस्तावेजों का संधारण।
7. संचार उपकरणों का रिपेयरिंग, मेंटेनेन्स एवं अधिनस्थों द्वारा किये जा रहे कार्यों का पर्यवेक्षण।
8. कानून-व्यवस्था इयूटी एवं आपदा के समय संचार योजना बनाना, संसाधनों की व्यवस्था करना और इयूटी लगाना।
9. प्राथमिक जांच करना एवं विभागीय जांच में प्रस्तुतकर्ता अधिकारी के दायित्व।
10. स्टाफ को व्यवहारिक प्रशिक्षण, कल्याणकारी गतिविधियों का संचालन।
11. जिला प्रभारी (रेडियो) होने की स्थिति में दायित्वों एवं कार्यों के कार्यकारी निर्वहन, जिले में निरीक्षक(रेडियो) प्रभारी होने की स्थिति में आवश्यकतानुसार एवं कार्य वितरण अनुसार सेकण्ड इन कमाण्ड के कार्य।
12. वायरलैस सेटों की विशिष्ट मरम्मत।
13. स्पेयर क्रय कराना, क्रय संबंधी नस्ती प्रचलन, संधारण आदि।
14. प्रशासन, क्रय, अनुशासन संबंधी नियमों, परिपत्रों का पालन करना/कराना।
15. प्र.आर(रे) एवं सउनि(रे) द्वारा प्रस्तुत किए गये पत्राचार ड्राफ्ट का परीक्षण, शुद्धिकरण, हस्ताक्षर करना/हस्ताक्षर के लिए जिला प्रभारी को पेश करना।
16. कम्प्यूटर पर प्रजेन्टेशन तैयार करने का विशिष्ट ज्ञान/कार्य।
17. एक्सेल शीट पर उपलब्ध डाटा का विश्लेषण एवं विश्लेषण रिपोर्ट तैयार करना।

(अ.म.नि. (द्व.स.) मटो. द्वारा अनुमोदित)

I. Entry Level Examination (Self Knowledge Based)

(M.M.=100)
(Min. pass marks=50)

Training Module for Grade-II with P.P. ASI(Radio) to SI(Radio)

| Topic | Topic details |
|--|--|
| 1 A.C. theory & Networks analysis | Brief introduction only 1. Brief theory of Alternating Current 2. Concept of Power, voltage, current, impedance & power factor etc. 3. Basic R,L,C components , resonance, & basic circuit idea. (filter, coils & coupling etc.) |
| 2 Power electronics | 2. Definitions and specifications of basic electronic circuitry Voltage regulator, Power supply, SMPS and different batteries(Li-ion , Li-polymer & VRLA Battery) |
| 3 Electronic devices and circuits | 3. Semi conductors, Diode, Transistors/MOSFET, Opto-electronic devices, Amplifier , Oscillator & MODEM definitions , properties & specifications. |
| 4 Digital electronics | 4. Introduction to multiplexer, Flip flops, resistors and micro processor application in radio sets. |
| 5 Radio communication technique | 5. Modulation techniques (AM, FM, PM, FDMA TDMA, & PCM,) Transmitter & Receiver |
| 6 Transmission line, antenna and wave propagation | 6. Types of transmission line, antenna and brief introduction of wave propagation SWR, impedance match, types of regular cables in use. |
| 7 Brief Introduction of Radio Operating Procedure on following points. | 1.Pro sign, Authorized abbreviation. Operating signals. 2.Types of message, Section and component of formal message, Component used in procedure message, Service message. 3.General instruction on message writing. Use of priorities, security. 4.Out message, In message, Through message, N.R slip, delay memo. 5. Call and call sign, preliminary calling and answering, establishing communication, discipline to be exercised when calling and answering, offering message. 6.Transmitting message, Reception of message. Identification, Checks, Repetitions and correction check, Repetition and correction of group count, Control working break in working .Time signal, Emergency silence, Authentication. 7. "F" method , "G" method, Broadcast method (B.C.) difficult communication method (D.C.) 8.Operating rules, Radio log, Recording of message, Handing and taking over charge the watch. 9. Abbreviated procedure. 10.Distress signal, Alarm signal, Urgency signal, Safety signal. 11.General types of R/T communication, How to speak, Preliminary calling and answering, Control working, initiating R/T conversation, Transmitting and receiving formal message, Abbreviated R/T procedure, Security. 12. Q code and P code. 13. D.S.R. 14. Basic knowledge of communication security, PWCC. 15. Duties of OIC (R) watch and S.S.O. Signal security. 16. Handling of CSD/Cipher document. |
| 8 Message receiving/sending by e-mail. | Message receiving/sending by e-mail. (each 5 message practice) |

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II. Technical Knowledge (Theory)

Training Module for Grade-II cum P.P. Course - ASI(Radio) to SI(Radio)(Total Periods = 390)

| Topic | Topic details | No. of Period 190 | Faculty/ Resource |
|-------|--|----------------------------------|-------------------|
| 1 | <p>Digital Trunking System</p> <p>1.1- Introduction to Trunking concept & System Operations. 1.2- Field operation, Talk group management, Trunking Operation, Fail-soft mode status. 1.3- Working function of main components and handling precautions. 1.4- System advantages over conventional systems, Introduction to APCO & TETRA system, Specifications & features.</p> | 10 | |
| 2 | <p>Dial-100 :- System architecture & System operations</p> <p>(A) Define objective role of officer incharge Dial-100. 1. Introduction to Dial-100 system & system architecture. 2. Job description- Duties & responsibilities of Call Taker, Dispatcher, SPOC. 3. Detailed study of SOP 1 & 2 of Dial-100. (B) Role in execution of Dial-100 1. Role & responsibilities of Radio District Incharge / Supervisor in Dial-100. 2. FRV management in district (2.1) Control room Dial-100 management. (2.2) Tools & Instruments of FRV. (2.3) Staff training for Net viewer/Desk/FRV 3. MDT- Introduction & use of MPS software. (C) GIS Mapping 1. Introduction, importance & utility of P.O.I. in mapping. 2. Collection of P.O.I. in field. 3. Precautions during field data collection. (D) General Operations (on dashboard) 1. Complaint ticket generation. 2. Helpdesk operation & uses. 3. E-ticket generation. 4. Data analysis & report generation. (E) Operation on dash board. 1. Introduction of AWAYA phone system of Dial-100 call center. 2. Introduction of I-call center & I-Dispatcher software. 3. Use of dashboard for report generation. (F) Feedback & public response. 1. Feedback 2. Whatsapp Desk 3. Social Media- Facebook & Twitter handling. 4. Cyber security precautions. 5. C.M. helpline overview.</p> | 06 06 06 04 04 04 | |
| 3 | <p>Communication Networking</p> <p>3.1 VHF Network :-</p> <p>1. Introduction to VHF Networks, installation process, Site selection, Height of Antenna. Repeaters & Patch units. 2. Frequency programming in VHF sets/ repeaters.</p> <p>3.2. Practical approach to field operation & communication management.</p> <p>1.Frequency allotment in VHF network & frequency monitoring. (A)Wireless frequency spectrum licensing related rules and regulations and relevant legal provisions regarding wireless act. Indian telegraphy act 1893. (B) Proposal request form no. 11 send to WPC. Letter of intend, submission of license fees and royalty charge as spectrum charge, decision letter/agreement in</p> | 14 | |

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|---|--|---|----|--|
| | | <p>principal SACFA-citing clearance, wireless operating license</p> <ol style="list-style-type: none"> 2. Geographical maps, radio mobile software & installation of radio station/tower. 3. Power Source - Battery & Generator management. 4. Active lightening arrester, types & specifications. | | |
| | 3.3 HF Network | <ol style="list-style-type: none"> 1. HF installation, networking & tuning. 2. Types of HF sets and specifications. 3. Introduction of digital HF with vocoder AE installation, programme of set as per encryption key, with the help of programming software. | | |
| 4 | CCTV | <p>(A) City surveillance system –</p> <ol style="list-style-type: none"> 1- CCTV System introduction, network architecture, operation and uses. 2- CCTV System implementation in cities of m.p. 1st and 2nd phase in brief. 3- Types of cameras used in cctv system specification and working. 4- CCTV field unit / outdoor equipment and maintenance. 5- CCTV indoor/Control room equipment, maintenance & system softwares 6- Distt./City cctv police control room working. 7- SCMRC control room monitoring and working. 8- VMS, NMS, Command & Control, Helpdesk working, CCTV Networking basics and SOP. 9- ANPR system. 10- Location, Equipment and system etc. checking before & after installation of CCTV system. 11- RLVD system. 12- Mobile surveillance vehicle viewing and retrieving video. <p>(B) PS CCTV System – system features, network architecture, working and operation.</p> | 24 | |
| | Introduction of 1- Video Conferencing | <ol style="list-style-type: none"> 1. Introduction 2. Parts of video conferencing 3. Modes of video conferencing 4. Video conferencing component & equipments. 5. Component functions 6. Remote control button & there use 7. Installation procedure of video conferencing 8. Benefits of video conferencing | 12 | |
| 5 | 2- UAV | <ol style="list-style-type: none"> 1. Overview 2. Main features 3. Performance parameters 4. Specifications 5. Surveillance tool 6. Application areas 7. Deployment method 8. Benefits 9. Precautions before, after & during UAV flight 10. Govt. regulations/ Legal status and permission regarding UAV flight. 11. Handling of UAV & precautions. 12. Parts of UAV 13. Software introduction. | 06 | |
| | 3- Biometric | <ol style="list-style-type: none"> 1. Overview 2. Working Procedure 3. BAS use in organisation 4. Registration method | 04 | |

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|----|-----------------------|---|------------------|---|
| | | 5. Requirements for BAS 6. Precautions in installation of BAS Machine 7. Types of report and there analysis. | | |
| | 4-ROIP | 1. Overview 2. Working procedure 3. ROIP use in organization 4. Components of ROIP, Advantages of ROIP System. 5. Common frequent problems & there Solution methods for ROIP System. | | |
| 6 | Computer | (A) Computer hardware and networking, data centre hardware introduction, working and data centre network architecture. Description of computer architecture, Input and Output devices. Introduction with computer language and volatile and Non volatile memories. (B) MS Office (Word/Excel/Powerpoint) Basic | (A) 10 (B) 30 | (A) Mr. Piyush Solanki Mob-9589050964 |
| 7 | Social Media | Computer Operation of Social networking like Whatsapp, Twitter, Facebook , SMS & Cyber Security. 1. Whatsapp - Installation, Profile updating, Privacy settings, Number saving, Group making, Message sending etc. 2- Twitter - Installation, Profile updating, Privacy settings. 3. SMS - Message sending procedure. 4. Facebook - ID creation, Profile settings, Privacy settings, News & photo updating, Likes-comments-sharing, Searching people, relatives & friends. | 16 | Mr. Akash Kumar Jadahv Mob-8225959966 |
| 8 | Communication Network | VHF and HF networking. Way of transmission (Simplex, Half Duplex and Full Duplex). Need of repeater and its importance in VHF networking, Squelch voltage and importance in fabrication of repeater/patch unit. Advantage s of repeater and limitations. Trouble shooting in repeater, fault finding and remedy. What is trunking and key feature of TETRA trunking system. Study of various components used in trunking. Integration Techniques of digital trunking/tetra system with VHF Network. | 18 | |
| 9 | Solar System | Working principle of Solar PV cell. How to install solar PV panel working of intelligent BTY. charger and role of MPPT charging. Designing of a power pack. | 10 | |
| 10 | Behavioral Science | Telephone talk, Wireless talk and their etiquettes . Retention capacities, soft skills and work discipline. | 06 | |

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III. Professional/Official Approach (Administrative Role)
Training Module for Grade-II cum P.P. ASI(R) to SI(R)

| No | Topic | Topic details | No. of Period 30 | Faculty/ Resource |
|----|--|--|---------------------|----------------------|
| 1 | Disaster Management | Definition of Natural calamities & disaster, Role of NDRF and SDRF, Installation of communication system during disaster. Overview of Public protection and disaster relief | | |
| 2 | Administrative function of district (radio) incharge | Administrative set up of MP Police, Functions of workshop, Store, Office, PRC in Zonal and State Head Quarters, function of various branches, DCPW, How to conduct P.E. and role of presenting officer in D.E. | 04 | |
| 3 | Store & Purchase Rules | Introduction to GOP 126/07, Sanctioning authority of officers in Police, Procedure of keeping store ledgers. Condemnation and write off of store items, recovery of losses. | 03 | |
| 4 | Handling of Cipher documents and communication | Introduction & definition of security, Types of message, Security destruction maintenance of records etc. Process of obtaining license under telegraph act provisions, scrabbling techniques, communication breaches, cipher software. | 04 | |
| 5 | Office Administration | Function of DDO , Official correspondence and proper way of filling documents, leave rules, TA rule, Medical rules, GPF rules, Orderly Rooms, Police Regulation, Maintenance of registers in admin, duties of OIC(R) watch, record keeping. | 04 | |
| 6 | Role & Functions of MTO | Maintenance of Vehicles and vehicle records. | 02 | |
| 7 | Working of Control Room incharge. | Dial-100 DPCR functions, Communication control, Liaison, man power management, duty arrangement at special occasions (Festivals/L.O./VIP/Mela/AD Ops) | 02 | |
| 8 | Project handling | Short term task management (POI, SPOC Data, Major Technical Installations etc.) | 02 | |
| 9 | Communication skills | Media brief reporting , Social Media - Brief messaging and event report writing. | 02 | |
| 10 | Role of SRC | Record maintenance of service book, OB & compilation | 02 | |
| 11 | Operating functional skills | (A) 1. General ability to receive, sending, cipher message code/decoding. 2. Computer typing skills at moderate speed. 3. E-mail message composition, message downloading, save records & mail forward operations. (B) Introduction to Radio Procedure 1. Familiarize with type of messages, section component of formal message. 2. General instructions regarding message writing. (use of priorities & securities) 3. Call signs, establishing communication, communication discipline. 4. Operating rules, Radio log, recording of message, H/O of charge during shift change. 5. DSR preparation & distribution. 6. Basic knowledge of communication security, handling of CSD/cipher documents. 7. Type of classified messages to encoded for transmission. 8. Introduction to computer based automated Cipher system. 9. Security classification of classified message. 10. Security of classified files, papers, message and other materials. 11. Security of equipments/installation. 12. Importance of secrecy devices in communication security. 13. Communication procedure for classified message, prevention of compromise. 14. Maintenance of records of destruction/disposal. | 05 | |

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IV. Practical approach and innovation
Practical Training Module for Grade-II cum P.P. ASI(R) to SI(R)

| No | Module Categories | | Practical Topic | No. of Period 155 | Faculty/ Resource |
|----|------------------------------------|-----|--|----------------------|----------------------|
| 1 | Instruments | 1.1 | Radio test set - parameter testing & specifications. | 2 | |
| | | 1.2 | Specification & operation of various types of radio sets. | 4 | |
| | | 1.3 | Study of block diagram of VHF radio sets. | 4 | |
| | | 1.4 | Parameter testing of radio sets. | 6 | |
| | | 1.5 | Solar system- auto switch/PCB/MPPT charge controller/intelligent charge controller, Battery charging system. | 5 | |
| 2 | Software uses | 2.1 | Working of GPS. | 3 | |
| | | 2.2 | To locate line of sight using radio mobile. | 4 | |
| | | 2.3 | Frequency programming in radio sets | 4 | |
| 3 | Fault finding | 3.1 | General fault in radio sets. | 8 | |
| | | 3.2 | Tracing & fault finding in radio circuitry . | 11 | |
| 4 | Demonstration/Visits | 4.1 | Study the connectivity of repeater with radio set. | 4 | |
| | | 4.2 | Introduction, operation of Dial- 100, Technical visit of Dial-100 control room/ CCTV control room/Trunking Room | 6 | |
| | | 4.3 | Operation & handling of U.A.V. – Exposure level introducing idea. | 6 | |
| | | 4.4 | Operation of VC system. | 4 | |
| 5 | Fabrication | 5.1 | Elementary knowledge of light, Fan and power wiring. | 1 | |
| | | 5.2 | Earthing and cable jointing , graded fuse. | 1 | |
| | | 5.3 | Transistor, Transformer, Relay, Diode & Bridge testing. | 2 | |
| 6 | UAV Handling | 6.1 | Demonstration of UAV flights. | 4 | |
| | | 6.2 | Legal instructions and related provisions in UAV operations.(active searching regarding related topics) | 2 | |
| 7 | Communication network Installation | 7.1 | Installation of 60 ft. and 80 ft. Mast for VHF antenna. | 6 | |
| | | 7.2 | Installation temporary VHF/ HF radio set for VIP/ VVIP duty. | 4 | |
| | | 7.3 | VHF networking. | 4 | |
| | | 7.4 | Basic installation & operation of CCTV, P.S. CCTV system, ANPR camera operation. | 10 | |
| | | 7.5 | Installation & operation of biometric. | 4 | |
| 8 | Practical Demonstration | 8.1 | Cyber Security - Precautions to be taken while working on Internet/ using pen drive / Do's & Don'ts for E-mail. | 2 | |
| | | 8.2 | Integrated Control Room | 4 | |
| | | 8.3 | CCTNS | 4 | |
| | | 8.4 | ROIP – (A) General description ROIP interface box, software, installation and configuration. (B) Radio configuration. | 6 | |
| | | 8.5 | CUG Portal – Updation of database | 2 | |
| | | 8.6 | Installation & operation of MDT. | 6 | |
| | | 8.7 | Operation of net viewer | 8 | |
| | | 8.8 | Operation of Biometric attendance system(BAS) | | |
| 9 | Social Media Handling | 9.1 | Social media – Legal aspects and instructions of Information technology (IT), Precautions on handling of Internet. Brief messaging and summary report writing in 50-150 words. | 8 | |
| | | 9.2 | Active searching of advanced technical topics and its relevant presentation. | 3 | |

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7



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