राजस्थान पुलिस अथवा स्थायी सेवा नियम, 1989 के नियम 21 (2) में प्रदत्त शक्तियों का प्रयोग करते हुए पुलिस दूरसंचार के निम्नलिखित पदों पर सीधी भर्ती की लिखित परीक्षा हेतु पूर्व में प्रसारित /निर्धारित पाठ्यक्रम (Syllabus) के अंतर्गत में संलग्न पाठ्यक्रम (Syllabus) निर्देशित किये जाते हैं:-

1. निरीक्षक
2. उप निरीक्षक (प्रवेशक/तकनीकी)
3. सहायक उप निरीक्षक (तकनीकी/साइफर)
4. सहायक उप निरीक्षक (फिटर-इलेक्ट्रिशन)

म.बी. क्रमांक: ८५६
दिनांक २५.११.२०१६

(मनोज भट्ट)
महानिदेशक पुलिस
राजस्थान, जयपुर।

प्रतिलिपि:- निम्न को सूचनार्थ एवं आवश्यक कार्यवाही हेतु।

1. अतिरिक्त महानिदेशक पुलिस, प्रशासन/प्रशिक्षण राजस्थान, जयपुर।
2. अतिरिक्त महानिदेशक पुलिस (दूरसंचार एवं तकनीकी) राजस्थान, जयपुर।
3. महानिदेशक पुलिस एवं निदेशक पुलिस दूरसंचार राजस्थान, जयपुर।
4. महानिदेशक पुलिस (प्रशिक्षण) राजस्थान जयपुर।
5. ई.ओ.ओ.आई/आदेश पत्रावली।

(मनोज भट्ट)
महानिदेशक पुलिस
राजस्थान, जयपुर।
PART -A

GENERAL STUDIES

1. Role of Telecommunication in improving working efficiency of Police Department.


3. Changing role of Police in the context of Democratic aspiration of the people of India.

4. Concept of Social Justice and Secularism

5. Fundamental Rights and Duties of citizens under the Constitution of India.


7. Geographic attributes of India with special reference to Rajasthan.

8. Relevance of concept of Mixed Economy in the Developing countries, with particular reference to India.


PART - B

ELECTRONICS & TELECOMMUNICATION ENGINEERING

1. Physical Electronics, Electronic Devices and ICs: Electrons holes in Semiconductors; Carrier Statistics; Mechanism of Current flow in a Semiconductor; Hall Effect; Junction Theory; Different Types of Diodes and their Characteristics; Bipolar Junction Transistor; Field Effect Transistors;

Syllabus for Inspector/S.I.(Opr./Tech.)/A.S.I.(Tech./Cipher/Fitter) of Police Telecommn.
Power Switching Devices like SCRs, GTOs, Power MOSFETs; Basics of ICs- Bipolar, MOS and CMOS Types; Basics of Opto Electronics.

2. **Network Theory**: Network Analysis Techniques; Network Theorems, Transient Response; Steady State Sinusoidal Response; Network Graphs and their Applications in Network Analysis; Tellegen's Theorem; Two Port Networks; Z, Y, h and Transmission Parameter's combination of Two Ports; Analysis of common Two ports. Network Functions; Parts of Network Functions; Obtaining a Network Function from a given part.

3. **Analog Electronic Circuits**: Transistor Biasing and Stabilization; Small Signal Analysis; Voltage & Power Amplifiers; Frequency Response; Wide Band Techniques; Feedback Amplifiers; Tuned Amplifiers; Oscillators; Rectifiers and Power Supplies; Operational Amplifiers; PLL; Four Quadrant Multipliers; IC Regulators. Pulse Shaping Circuits and Waveform Generators.

4. **Electromagnetic Theory and Antennas**: Analysis of Electrostatic and Magnetostatic Fields, Laplace's and Poisson's Equations; Boundary value problems and their solutions; Maxwell's Equations; Application to Wave Propagation in Bounded and Unbounded media, Transmission Lines: Basic Theory, Standing Waves; Matching Applications, Micro Strip lines; Basics of Wave Guides and Resonators; Elements of Antenna Theory; Propagation of EM waves in HF, VHF, UHF, and Microwave Frequencies, Characteristics and Analysis of HF, VHF and UHF Antennas; Antenna Arrays.

5. **Electronic Measurements and Instrumentation**: Basic concepts; Standards and Error Analysis; Measurements of Basic Electrical Quantities and Parameters; Electronic Measuring Instruments and their Principles of working: Analog and Digital; Comparison; Characteristics; Application

6. **Analog & Digital Communication Systems**: Basic Information Theory; Modulation and Detection in Analog and Digital Systems; Sampling and Data Reconstructions; Quantization & Coding; Time Division and Frequency Division Multiplexing; Equalization; Optical Communication in Free space & Fiber Optic; Basics Of Satellite Communication; Concepts of Mobile Communication; Mobile Radio Propagation & Components of Cellular Systems; Different Types of Modulation Techniques- AM, FM, PM Delta Modulation, Pulse Code Modulation, Detection Techniques in various Types of Modulation used in Communication; Basic study of Communication Protocols.
7. Microwave Engineering: Microwave Tubes and Solid State Devices; Microwave Generation and Amplifiers; Waveguides and other Microwave Components and Circuits; Micro Strip Circuits; Microwave Antennas; Microwave Measurements; Masers; Lasers; Microwave Communication Systems; Principles & Working of Different types of Radars.

8. Computer Engineering: Number Systems; Data Representation; Programming; Elements of a High Level Programming Language; Use of Basic Data Structures; Fundamentals of Computer Architecture; Processor Design; Control Unit Design; Memory Organization; I/O System Organization; Microprocessors; Architecture and Instruction set of Microprocessors 8085, 8086, 80486, 68000 and Pentium; Assembly Language Programming; Microprocessor Based System Design; Typical Examples; Personal Computers and their Typical uses.

SYLLABUS FOR WRITTEN EXAMINATION FOR DIRECT RECRUITMENT POST OF SUB-INSPECTOR (TECHNICIAN/OPERATOR) POLICE TELECOMMUNICATIONS UNDER THE RPSSR-1989. Total Marks-400

PART –A

**General Knowledge and General Science** Marks-150

1. Current events, important organizations, institutions, personalities, games and sports at International, National and State level.

2. Indian National Movement with special reference to non-cooperation movement, Civil disobedience and Quit India Movement. Contribution of Rajasthan in freedom struggle. Integration of princely States and formation of Rajasthan.


4. Geography of Rajasthan: Physical, edaphic and biotic features, Natural resources: minerals, water, energy, wildlife, livestock and vegetation.


6. Art and Culture of Rajasthan : Fairs, Festivals, Folk Dances, Customs, Dialects, Dresses, Ornaments, Folk music and instruments, Paintings, Religious beliefs and saints. Important tourism places.


Syllabus for Inspector/S.I.(Opr./Tech.)/A.S.I.(Tech./Cipher/Fitter) of Police Telecommn.

9. Basic knowledge of computer and its applications, cyber crimes.

PART –B

Marks-250

1. **Circuit analysis**: Networks—some important definitions, loop and nodal equation based on D.C. and A.C. circuits (Kirchhoff’s Law). Four terminal networks: Ampere volt conventions, open, close and hybrid parameters of any four terminal network, Input, output and mutual impedance for an active four terminal network. Various circuit theorems: Superposition, Thevenin, Norton, reciprocity, compensation, maximum power transfer and Miller theorems.

2. **PN Junction**: Semiconductor, P and N type of material, charge densities in N and P materials: Conduction by drift and diffusion of charge carriers, formation and working of PN junction diode, reverse and forward characteristics.


4. **Transistors**: volt-ampere characteristics for bipolar junctions transistor, Concept of load line and operating point, Hybrid parameters. CB, CE, CC configurations. Junction field effect transistor (JFET) and metal oxide semiconductor filed effect transistor (MOSFET). Circuit symbols. volt-ampere characteristics of Transistors. Source follower operation of FET as variable voltage resister.

Syllabus for Inspector/S.I.(Opr./Tech.)/A.S.I.(Tech./Cipher/Fitter) of Police Telecommn.
5. **Power Electronics**: SCR, Diac, Triac, UJT

6. **Transistor Biasing**: Need of bias and stability of Q point, stability factors, and various biasing techniques: fixed bias, collector to base feedback bias and voltage divider bias.

7. **Amplifiers**: Analysis of transistor amplifiers using hybrid parameters and its gain-frequency response: Cascade amplifiers, basic idea of direct coupled and R.C. coupled amplifiers, Differential amplifiers; Amplifier with feedback: Concept of feedback, positive and negative feedback, voltage and current feedback circuits. Advantage of negative feedback.

8. **Oscillators**: criteria for self-excited and self-sustained oscillation, circuit requirement for build-up of oscillation, Basic transistor oscillator circuit and its analysis, colpitt's and Hartely oscillators. R.C. oscillators, crystal oscillators and their advantages.

9. **Wave propagation and antenna**: Electromagnetic waves, energy density of EM waves, EM waves in different medium, spectrum of EM waves, Radio wave propagation, transmission lines, characteristic impedance, standing wave ratio, matching methods, basics of antenna.


11. **Instruments**: Conversion of a galvanometer in to ammeter and voltmeter, measurement of basic electrical quantities and parameters, basic knowledge of multi-meter, Oscilloscope and signal generators.

12. **Logic circuits**: Logic fundamentals: AND, OR, NOT, NOR, NAND, XOR gates, arithmetic circuits, Boolean algebra, De Morgan's theorem, positive and
negative logic, circuit realization using DTL and TTL logic, simplification of Boolean expressions.

13. **Computer fundamentals:** Different number system, their radix conversion and arithmetic operations, Introduction to computers & related terminology, hardware fundamentals, basics of software, types of memory, fundamental of computer architecture, operating systems, application software, different computer network communications & connectivity, internet and its online resources.
SYLLABUS FOR WRITTEN EXAMINATION FOR DIRECT RECRUITMENT TO THE POST OF ASSISTANT SUB INSPECTOR (TECHNICIAN/ CIPHER), POLICE TELECOMMUNICATIONS UNDER THE RPSSR 1989

Total Marks-400

Marks-150

PART –A

General Knowledge and General Science

1. Current events, important organizations, institutions, personalities, games and sports at International, National and State level.

2. Indian National Movement with special reference to non-cooperation movement, Civil disobedience and Quit India Movement. Contribution of Rajasthan in freedom struggle. Integration of princely States and formation of Rajasthan.


4. Geography of Rajasthan: Physical, edaphic and biotic features, Natural resources: minerals, water, energy, wildlife, livestock and vegetation.


6. Art and Culture of Rajasthan: Fairs, Festivals, Folk Dances, Customs, Dialects, Dresses, Ornaments, Folk music and instruments, Paintings, Religious beliefs and saints. Important tourism places.


9. Basic knowledge of computer and its applications, cyber crimes.

**PART – B**

**Marks-250**


3. **Circuit analysis:** Networks-some important definitions, loop and nodal equation based on D.C. and A.C. circuits (Kirchhoff’s Law). Four terminal networks: Ampere volt conventions, open, close and hybrid parameters of any four terminal network, Input, output and mutual impedance for an active four terminal network. Various circuit theorems: Superposition, Thevenin, Norton, reciprocity, compensation, maximum power transfer and Miller theorems.

Syllabus for Inspector/S.I.(Opr./Tech.)/A.S.I.(Tech./Cipher/Fitter) of Police Telecommn.
4. **PN Junction**: Semiconductor, P and N type of material, charge densities in N and P materials: Conduction by drift and diffusion of charge carriers, formation and working of PN junction diode, reverse and forward characteristics.


6. **Transistors**: Notations and volt-ampere characteristics for bipolar junctions transistor, Concept of load line and operating point, Hybrid parameters. CB, CE, CC configurations. Junction field effect transistor (JFET) and metal oxide semiconductor field effect transistor (MOSFET). Circuit symbols. biasing and volt-ampere characteristics. Source follower operation of FET as variable voltage resistor.

7. **Transistor Biasing**: Need of bias and stability of Q point, stability factors, and various types of bias circuits for thermal bias stability: fixed bias, collector to base feedback bias and four resistor bias.

8. **Amplifiers**: Analysis of transistor amplifiers using hybrid parameters and its gain-frequency response: Cascade amplifiers, basic idea of direct coupled and R.C. coupled amplifiers, Differential amplifiers; Amplifier with feedback: Concept of feedback, positive and negative feedback, voltage and current feedback circuits. Advantage of negative feedback: Stabilization of gain, effect of negative feedback on output and input resistance, reduction of nonlinear distortion effect on gain - frequency response.


10. **Logic circuits**: Logic fundamentals: AND, OR, NOT, NOR, NAND, XOR, gates, Boolean algebra, De Morgan's theorem, positive and negative logic, circuit realization using DTL and TTL logic, simplification of Boolean expressions.

11. **Electromagnetic Waves**: Electromagnetic waves, energy density of EM waves, EM waves in different medium, spectrum of EM waves.

12. **Computer fundamentals**: Different number system, their radix conversion and arithmetic operations, Introduction to computers & related terminology, hardware fundamentals, basics of software, types of memory, fundamental of computer architecture, operating systems, application software, different computer network communications & connectivity, internet and its online resources.
SYLLABUS FOR WRITTEN EXAMINATION FOR DIRECT RECRUITMENT TO THE POST OF ASSISTANT SUB INSPECTOR (FITTER/ELECTRICIAN) POLICE TELECOMMUNICATIONS UNDER THE RPSSR 1989

Total Marks-400

PART - A

Marks-150

General Knowledge and General Science

1. Current events, important organizations, institutions, personalities, games and sports at International, National and State level.

2. Indian National Movement with special reference to non-cooperation movement, Civil disobedience and Quit India Movement. Contribution of Rajasthan in freedom struggle. Integration of princely States and formation of Rajasthan.


4. Geography of Rajasthan: Physical, edaphic and biotic features, Natural resources: minerals, water, energy, wildlife, livestock and vegetation.


6. Art and Culture of Rajasthan: Fairs, Festivals, Folk Dances, Customs, Dialects, Dresses, Ornaments, Folk music and instruments, Paintings, Religious beliefs and saints. Important tourism places.


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Syllabus for Inspector/S.I.(Opr./Tech.)/A.S.I.(Tech./Cipher/Fitter) of Police Telecommn.

9. Basic knowledge of computer and its applications, cyber crimes.

PART – B

Marks-250

The syllabus for A.S.I. (Fitter/Electrician) will be as per the syllabus decided for Fitter and Electrician trades of Craftsmen Training Scheme (CTS) by The Directorate General of Employment & Training (DGE&T), Ministry of Labour, Government of India.
PROFICIENCY IN HINDI LANGUAGE

(For Inspector, S.I.(Operator/Technician), A.S.I.(Technician/Cipher/Fitter)

Proficiency in Hindi language will be tested. The standard of question paper will be equivalent to secondary school examination for only those candidates who have not opted Hindi subject as compulsory in Secondary/senior secondary school level. The minimum pass marks will be 40%. These marks will not be added in competitive examination but candidate must pass this paper failing to which he/she will be disqualified. This will be extra paper from main paper & will be known as Hindi language proficiency test. This paper shall carry 50 marks. Duration of paper will be 3 hours and it will be a descriptive paper. Knowledge of Hindi grammar, essay writing, official letter writing and file noting will be tested in this paper.

(Signed)
(Manoj Bhatt)
Director General of Police
Rajasthan, Jaipur