

ANNEXURE-B

Syllabus for Written Test for the post of Constables (Telecommunication)

Marks: 100

No. of Questions: 100

Time: 02:00 Hours

	S.No.	Subject/Topic	Total number of questions
Aptitude	1.	General English	15
	2.	General Knowledge and current affairs (India)	15
	3.	General Knowledge with special reference to J&K	5
	4.	Numerical and Reasoning Ability	15
	5.	Basic Concepts of Computers	10
			Total Marks (Aptitude)
Technical	6.	Technical Questions	40
		Grand Total	100

DETAILED SYLLABUS

1. GENERAL ENGLISH

- Articles
- Clauses
- Pronouns
- Homonyms/ homophones
- Tenses
- Clauses
- Punctuation
- Synonyms and antonyms
- Analogies
- Idioms and Phrases
- Uses of prepositions



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2. GENERAL KNOWLEDGE AND CURRENT AFFAIRS (INDIA)

- Important dates in Indian History/Freedom Struggle, different dates and events
- First in world (Adventure, Sports, Discoveries).
- First in India (Adventure, Sports, Discoveries)
- Popular names of Personalities (Religion, Politics, Scientific discoveries, Geographical, Sports, History)
- The Newspaper world - (Current Dailies & Weeklies of India)
- Books & Authors – General
- Famous Places in India
- Languages
- Capitals & Currencies
- United Nations Organizations - Veto Powers, No. of Countries as its Members Principal organs and their functions
- SAARC, ASEAN
- Everyday Science
- World famous Awards - (1. in Science)
(2. in Literature)
(3. in Sports)

- National Awards (1. in Science)
(2. in Literature)
(3. in Sports)

- The world of Sports
- Climate & Crops in India
- Constitution of India (Formation, Fundamental rights, Directive Principles).
- Democratic institutions
- Forms of Government
- Political & Physical divisions of world & India
- Important rivers & Lakes in India
- Current Events of National and International Level
- Agriculture in economic development; Industrialization and economic development
- Centrally Sponsored Schemes-Guidelines and Objectives
- Indian Foreign Trade


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3. GENERAL KNOWLEDGE WITH SPECIAL REFERENCE TO J&K

- Abbreviations, Important dates, popular names of personalities and their achievements/Contribution (National and International)
- Weather, Climate, Crops, Means of Transport Important power projects and their impact on J&K Economy
- Rivers and Lakes
- Important Tourist Destinations
- History of J&K - Historical places of the J&K and their importance
- RTI Act
- Indus Water Treaty and its impact on economy
- Agriculture in Economic Development, industrialization and economic Development.
- Current events of Local, National and International Importance.

4. NUMERICAL AND REASONING ABILITY

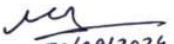
The candidates will be tested primarily on the fundamental mathematical concepts and application oriented reasoning. The broad areas will include the following:

Basic Arithmetic:

- Number System
- Percentage
- Average
- Profit & Loss
- Ratio & Proportion
- Speed, Distance and Time
- Mathematical reasoning
- Basic Algebra
- Mensuration
- Decimal Fractions
- Simple and Compound Interest
- Trigonometry
- Simplification

Reasoning ability:

- Number series
- Letter series
- Coding decoding


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- Direction sense
- Blood relations
- Statements and conclusions
- Logical Reasoning
- Mental Reasoning
- Sequential output tracing
- Assertions and reasons
- Arithmetical Operations

5. BASIC CONCEPTS OF COMPUTERS

The candidates' understanding of the concepts of computers and its application will be tested and it will broadly cover the following:

- Computer terminology
- Hardware and Software
- Input and Output Devices
- MS word and MS Excel
- Storage and Operating systems
- Safety and Security
- E-mail and Internet Usage
- Search Engines

6. TECHNICAL SYLLABUS

Radio Communication

Modulation-amplitude modulation and frequency modulation, modulation Index, Carrier signal, modulated signal. AM modulator, FM Modulator, Demodulation, Bandwidth, AM applications, FM applications, AM receiver-super heterodyne radio receiver, FM receiver

Radio wave propagation Types of propagation-ground wave propagation-Sky wave propagation, Space wave, AF, IF, RF

Television Transmission

Television transmitters

Antenna, types-dipole antenna, transmission lines feeders, coaxial cables.

Persistence of vision of eye, Picture transmission, Scanning in picture tube Progressive scanning inter laced scanning-composite video signal, negative picture pulses, Video signal band width, channel band, width, SSB (Single side band transmission) VHF, UHF Ranges

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Electronics ad Telecommunication

Radio Wave Propagation: Radio Wave Propagation Principle, types of Propagation Fading.

Modulation and Demodulation: Need for Modulation, Types of Modulation and Demodulation. Introduction to AM, FM & PM, SSB-SC & DSB-SC. Block Diagram of AM And FM Transmitter. FM Generation & Detection. AM, FM & PM comparisons.

Antenna: Fundamentals Of Antenna, Various Parameters, Types Of Antennas & Application


Digital Modulation and Demodulation: Techniques, Sampling. Quantization & Encoding, Concept of Multiplexing and De Multiplexing. PAM/PPM/PWM Signals and principles

Mobile Communication. Basics of Mobile Communication. Concept Cell Site, Hand Off, Frequency Reuse, Block Diagram And Working Of Cell Phones, Cell Phone Features. GSM and CDMA Technology

Communication equipments. AM&FM RADIO Concept and Working, TELEVISION Concept and Working and Optical Fiber Equipments.

Electrical and Electronic Gadgets: UPS, Inverter, Stabilizer and SMPS working system

e-Governance: Objectives. Origins In India, E-Governance Project In India. Work plan And Infrastructure. DBMS, ANTI-VIRUS.


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Electricity

Electrical units, Effects of electric current, conductors and insulators. Types of solder and flux. AC Circuits

Magnetic terms and units. Magnetic material, Properties of magnet. Laws of electromagnetism

Wiring, IE rules, Wiring accessories- switches, fuses, MCB, ELCB, MCCB, RCCB, relays Earthing- megger, earth tester.

DC generator- Principle, parts and functions, types, EMF equation. Voltage build up.

Three phase induction motor Principle, parts and functions. Slip, speed, rotor Frequency, torque, copper loss, applications.