

**South Eastern Railway**

Office of the  
Sr. Divl. Personnel Officer  
S.E. Railway, Kharagpur

No. SER/P-KGP/EN/260/10/EN/Instructor (Tele)/syllabus/25  
To

Date: 06.08.2025

The Sr. DSTE(Co-ord.)  
S.E. Railway, Kharagpur

Sub: Approved uniform syllabus for the post of Senior Instructor (Tele) in Pay Level-7 (7<sup>th</sup> CPC) & Jr. Instructor (Tele) in Pay Level-6 (7<sup>th</sup> CPC) in S&T Department of Kharagpur Division.  
Ref: PCPO/GRC's letter No. SER/P-HQ/EN/Instructor (Tele)/syllabus dated 05.08.2025.

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Enclosed please find the copy of PCPO/GRC's letter cited under reference regarding syllabus for selection to the post of Senior Instructor (Tele) in Pay Level-7 (7<sup>th</sup> CPC) & Jr. Instructor (Tele) in Pay Level-6 (7<sup>th</sup> CPC) in S&T Department of Kharagpur Division.

This is for your information and wide circulation amongst all the eligible staff of this Division so as to enable all the probable candidates to prepare themselves for the forthcoming examination.

  
Assistant Personnel Officer  
for Sr. Divl. Personnel Officer  
S.E. Railway, Kharagpur  
Date: 06.08.2025

No. SER/P-KGP/EN/260/10/Instructor

Copy to Ch. OS/IT cell/Sr. DPO Office/KGP for uploading the same on Divisional Website.

  
for Sr. Divl. Personnel Officer  
S.E. Railway, Kharagpur

Shahid  
06/08/25

MC  
06.08.25

दक्षिणपूर्वरेलवे / South Eastern Railway

मुख्यालय/ Headquarters:  
कार्मिकविभाग / Personnel Department  
गार्डनरीच, कोलकाता - ७०००४३  
Garden Reach, Kolkata - 700043

NO: SER/P-HQ/EN/Instructor (Tele)/Syllabus

Date: 05.08.2025

To  
The Dy. CSTE/HQ  
The Sr. Div. Personnel Officers  
(ADA/CKP/KGP/RNC)  
South Eastern Railway

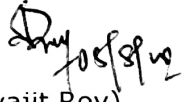
Sub: Approved uniform syllabus for the post of Sr. Instructor (Tele) in Level-7 & Jr. Instructor (Tele) in Level-6 in S&T Dept. over S.E. Railway.

In order to standardize the syllabus for conducting the selection through CCBT, the syllabus as enclosed has been prepared for probable candidates of the category of Ex-Cadre post Sr. Instructor (Tele) in Level-7 and Jr. Instructor (Tele) in Level-6 in S&T Dept. over South Eastern Railway. This may be circulated to all concerned so as to enable all the probable candidates to prepare themselves for the forthcoming examinations.

This has the approval of the concerned HOD.

You are therefore requested for the wide circulation of the same and it is also available on the website- [www.ser.indianrailways.gov.in](http://www.ser.indianrailways.gov.in) .

Encl: - As above.

  
(Satyajit Roy)  
Asstt. Personnel Officer (HQ)  
for **Pr. Chief Personnel Officer**

Copy forwarded for information to the: -

1. Secy. to GM for kind information of GM
2. PS to PCSTE for kind information of PCSTE
3. PS to PCPO for kind information of PCPO
4. CCE/CSTE(Proj)/CPO(A)/GRC
5. Dy. CSTE(Proj)/Dy. CPO(HQ)/GRC
6. Sr. DSTEs (ADA/CKP/KGP/RNC)
7. APO(HRMS)/APO(Ruling)/GRC
8. OS/HRMS-for uploading in the Railway website

  
for **Pr. Chief Personnel Officer**

**Syllabus to the post Sr. Instructor (Tele) in L-7 & Jr. Instructor (Tele) in L-6 of S&T Department,**

**1. General Rules & Safety:**

- a. Organization Structure of Railways.
- b. Zonal Organization Structure.
- c. Accident Manual.
- d. Telecom manual.
- e. Schedule of Dimension
- f. Personal safety while working in Telecom Gears.
- g. Fire Safety.
- h. First aid and Cleanliness.

**2. General Physics:**

- a. Basic electricity.
- b. Series and Parallel circuit.
- c. Electricity and Magnetism.
- d. Basic electronics.
- e. Modulation and Multiplexing Technique.
- f. VF Transformer.
- g. Digital Electronics.

**3. Power Supply and Surge Protection :**

- a. Cells and Battery.
- b. SMPS Charger.
- c. Type of Charging.
- d. UPS and Voltage Stabilizer.
- e. Solar Power System.
- f. SPDs and their application
- g. Earthing practice.
- h. Earth resistance measurement procedure.
- i. Power supply arrangement of different Telecom System.

**4. Cables:**

- a. Type of cables used in Telecommunication.
- b. Construction and color code of PIJF Pair cable.
- c. Construction and color code of Quad cable as per RDSO.
- d. Cable testing procedures and standard testing parameter.
- e. Fault localization and Restoration.
- f. Cable laying and Precaution,
- g. Cable Joint and Termination.
- h. Block working in Quad cable.
- i. Maintenance schedule of Quad cable.
- j. PTCC rules.

**5. OFC System:**

- a. OFC cable Specification and Construction.
- b. Principle of data and voice transmission through OFC.
- c. Different type of Test and Measuring Equipment in OFC.
- d. Cable laying, Termination and Splicing.
- e. JPO of undertaking digging work.

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- f. Fault localization through OTDR and Power Meter.
- g. SDH concept and Equipment.
- h. PDH concept and Equipment.
- i. Power Supply arrangement of OFC Equipment.
- j. Installation and maintenance of OFC Equipment.

**6. Train Traffic Control Communication:**

- a. Types of Control Communication.
- b. Different control communication on OFC.
- c. VoIP based TCCS
- d. Voice Logger.
- e. LC Gate Communication.
- f. Maintenance, fault localization and rectification of control circuit.
- g. Power Supply arrangement of control communication.
- h. Emergency Control Communication.

**7. Data Communication:**

- a. Networking concept.
- b. OSI Module.
- c. IP Concept.
- d. Data transmission on LAN and WAN.
- e. IP Routing.
- f. TCP
- g. Wireless LAN.
- h. Datacom Equipment- Modem, Router, Switch, Server, Firewall
- i. Railnet, PRS/UTS, FOIS, COIS, COA
- j. IP-MPLS
- k. Railway Broadband Services and GPON
- l. VSS and ISS
- m. E-Mail, E-Office.
- n. NMS of all Datacom equipment.
- o. Tunnel Communication.
- p. Cyber Security Management of data circuit.

**8. Exchange:**

- a. ISDN Exchange.
- b. IP Exchange.
- c. IP Telephony and NGN.
- d. Power and protection arrangement of Telephone Exchange.
- e. Installation and maintenance of Exchange.

**9. Mobile Radio Communication:**

- a. VHF communication- Department wise frequency allocation, and 25 W VHF set. WPC and SACFA
- b. VHF Based Secured Station Communication Equipment (SSCE)
- c. GSM-R
- d. LTE, Tower installation and maintenance
- e. Type of Antenna.

**10. Passenger Amenities:**

- a. PA system.
- b. IPIS- TIB and CIB

5W

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- c. Wi-Fi, POET
- d. GPS Clock
- e. NTES

**11. Other Communication:**

- a. Audio and Video conference.
- b. Audio, video and data communication in VIP Function.
- c. CUG Phones

**12. Disaster Management:**

- a. Disaster Management Plan.
- b. Communications Arrangement during Disaster.
- c. ART, ARME
- d. Minimum essential Telecom equipment provided at ART/ARME.
- e. Duty of Telecom staff at accident site.

**13. Establishment Rules:** Leave Rules, Pass Rules, HOER, DAR Rules, Wages Act, Selection, Training mandatory and non-mandatory Course , Trade Test procedure

**14. Accounts and Store:**

- a. Stores and their accountable, procurement and stocking of stores for maintenance, Imprest stores and their recoupment, procurement of non-stock Items, local purchase etc.
- b. Stores requisition, Indenting procedures of stock items, store return, different ledgers, classification of stores, stores verification, funds, budgets and budget allotment etc, , types of tenders, SOP,
- c. Types of estimate and its preparation, tenders and contract, bills etc. Accounts inspection, Audit Inspection etc.
- d. Tools and plants,
- e. Budget orders, allotment, control over expenditure etc.

**15. Official Language:** Official language policy and rules regarding use of Hindi.

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