



SOUTH CENTRAL RAILWAY

Office of the DRM/P,
Personnel Branch,
Sanchalan Bhavan,
Secunderabad.

No.SCR/P-SC/210 (a)/S&T/JE/Sig/PRQ

Date: 01.11.2021

JE/Sig (PRQ) Notification

Sub: Formation of panel for filling up of the post of Junior Engineer/Signal in Level-6/GP 4200, against 40% Promotional quota in S&T Dept of Secunderabad Division - Reg.

Ref: Sr.DSTE/SC's letter no. C/SG/155/2/3/JE/Sig dated: 10.08.2021 & 21.10.2021

- 1.0 It is proposed to conduct a selection for formation of panel for promotion to the post of JE/Sig in Level-6/ GP 4200 against 40% Promotional quota in S&T Dept of SC Division. The details of vacancies are as under:

Category	Quota	Level (in 7 th CPC)	UR	SC	ST	Total
JE/Sig	40% PR Quota	Level-6	06	--	---	06

2.0 Conditions of eligibility:

- 2.1 Three times of senior most Sr.Tech(Signal) to the number of vacancies will be called for selection in terms of Para-215(e) of IREM Vol-I.
- 2.2 The following employees working in the immediate lower grade i.e. Sr.Tech/Sig are called for selection in the order of seniority and on the basis of willingness communicated vide Sr.DSTE/SC's letter under reference.

S. No.	PF No.	Name (Sri)	Comm-unity	Present Desig	Stn
1	24203376758	P. NARASIMHUDU	UR	Sr.Tech/ESM	SC/RRI
2	24203376333	S.GHOUSE MOHINUDDIN	UR	Sr.Tech/ESM	ZRTI/MLY
3	24203358471	G.RAVI KUMAR	UR	Sr.Tech/ESM	RRI/SC
4	24211701286	K RAJ KUMAR	ST	Sr.Tech/ESM	SC/RRI
5	24209360281	B.MOSES	UR	Sr.Tech/ESM	CN/SC
6	24209360256	K RAGHU RAM	UR	Sr.Tech/ESM	KMT
7	24208060320	K.MALLESHAM	UR	Sr.Tech/ESM	KZJ/RRI
8	24211702643	K.RAMESH NAIDU	UR	Sr.Tech/ESM	MDR
9	24211702692	ANANTHA SUBRAMANYAM	UR	Sr.Tech/ESM	KMT
10	24211701183	B.HARI KRISHNA	UR	Sr.Tech/ESM	SNF
11	24211701249	R.A.V.VARA PRASAD	UR	Sr.Tech/ESM	SNF
12	24211701262	D.SRINIVAS	UR	Sr.Tech/ESM	SNF
13	24211701432	P.DANIEL	UR	Sr.Tech/ESM	MLY
14	24203365037	G.VARA KUMAR	UR	Sr.Tech/ESM	KZJ
15	242IE060145	V.PANDYA	SC	Sr.Tech/ESM	VKB
16	24211700087	K.RAJKUMAR PRASAD	ST	Sr.Tech/ESM	MAGH
17	24204258885	K.RAMESH	UR	Sr.Tech/ESM	WL
18	24203365414	M. RAVINDER	UR	Sr.Tech/ESM	NSKL

Eighteen (18) employees only.

Handwritten signature and date: 01/11/2021

- 2.3 The list of above employees is final. If one or more employees mentioned above give unwillingness for selection on a subsequent date, additional persons will NOT be called to compensate for him/them in terms of Note-2 of Para-215(e) of IREM Vol-I.
- 2.4 The above employees may be notified about the notification and clear acknowledgement may be obtained. In case of any employees, who are on leave/sick list/on line, copy of notification may be sent to their home address.
- 3.0 **Pre-selection training:**
- 3.1 There shall be no pre -selection training for SC / ST employees who are in the zone of consideration and will be considered against UR vacancies as per the Rly Brd's Lr. No. 83-E(SCT)42/1 Dated 14.04.1983.
- 4.0 **Syllabus:**
- 4.1 Syllabus for the written test is enclosed as Annexure 'A'.
- 4.2 There shall be questions on Official Language policy & Rules up to 10% of marks. However, it is not mandatory to attend the same.
- 5.0 **Sample Questions:**
- 5.1 Sample Questions are available on official website - www.scr.indianrailways.gov.in. the same may be downloaded.
- 5.2 Sample Questions are only indicative in nature but not exhaustive. The examinees are advised to update their knowledge keeping in accordance with the change of technology and job requirement with latest Rules/circulars/policies.
- 6.0 **Date & Venue of written examination:**
- 6.1 The date of written examination and venue will be informed in a short notice. Hence, employees are advised to be in readiness for written examination.
- 6.2 Supplementary written test will be conducted if necessary, in respect of staff who could not attend to the scheduled written examination for the reasons as envisaged in Para-223 of IREM Vol-I.
- 7.0 **Mode of selection:**
- 7.1 The post of JE/Signal being a safety one, there will be no relaxation in qualifying marks, for employees belonging to SC/ST community. They have to secure minimum 60% of marks in written test & 60% in aggregate on par with UR employees (Para 10.1.1 of S.C.No.320/1999).
- 7.2 The selection consists of Written Examination, Perusal of Record of service and Medical Examination.
- 7.3 **Professional Ability** will be adjudged through written examination only. The employees must secure a minimum 60% marks in professional ability and 60% marks of the aggregate for being placed on the panel.

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- 7.4 **Written Examination** will be objective type multiple choice question paper consisting of 110 questions (including 10 questions on Official Language Rules), of which employees are required to answer any 100 questions.
- 7.5 If the employee attempts more than 100 questions, the first 100 attempted questions will ONLY be evaluated. The questions attempted beyond first 100 questions will NOT be evaluated and ignored.
- 7.6 To ensure authenticity of the answers, Cutting, over writing, erasing or alteration of any type in the answer will NOT be accepted. Zero marks will be given for answers having correction or overwriting or alteration. The employees are strictly advised to note that such type of questions is treated as attempted questions i.e. they will be included in the first 100 attempted questions.
- 7.7 **No negative Marks:** There shall be NO negative marking for incorrect answers as selection is against promotional quota (PCPO/SC's SC No.159/2019).
- 7.8 The duration of examination will be 120 minutes.
- 7.9 Further provisions of PCPO/SC's SC No.212/2018 will be applicable for the said written examination.
- 7.10 **Medical Examination:** Employees qualified in written test must be fit in A-III(Aye-Three) medical classification. In the event of not meeting the requisite medical classification, their names will be dropped.
- 7.11 **Eligibility for empanelment:** On being found fit in prescribed medical classification, the names of selected employees shall be arranged in the order of seniority on the basis of factors/procedure in terms of Para-219 of IREM Vol-I in respect of this selection and in terms of PCPO/SC's Lr. No. P@605/XI, dt:22.08.07.
- 7.12 **Training:** The empanelled employees are required to undergo training for a period of 34 weeks in terms of RBE No.42/2020.
- 8.0 **Notifying to the staff:**
- 8.1 The controlling officer/supervisor shall give wide publicity of the notification to all the eligible staff of S&T Dept. of SC Division and notification should be displayed at conspicuous place. It is the responsibility of controlling officer/supervisor to circulate the notification among the staff concerned.
- 8.2 In terms of Railway Board's Lr.No.E(NG)I-72/PM1/166, dated 26.06.1972, PCPO/SC's S.C.No.213/72, the Senior Subordinate/Supervisor concerned has to furnish a certificate that "the eligible employees were duly notified of the holding of the test and asked to submit their applications duly giving their willingness" and forward the same to Sr.DPO/O/SC. It should be the personal responsibility of the Senior Subordinate/Supervisor to complete the formality in this respect. It is further advised that any other communication received in respect of the selection should invariably be intimated to all the eligible employees. In case of non receipt of any communication the same may be obtained from the Personnel department or from the Controlling Officer. Any laxity in this regard will be viewed seriously.

Naresh Kumar
01/11/20

8.3 The Notification, Sample Question Bank are placed on SCR website:

(www.scr.indianrailways.gov.in)→About us→ Divisions→Secunderabad→ Personnel
Question Banks→ JE/Signal

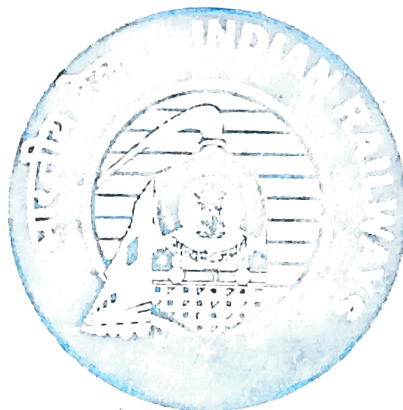
This issues with the approval of Competent Authority.

Encl: Syllabus (Annexure-A)


(D. NARASIMHA)
APO-M&EL/SG
for Sr.DPO/SC

Copy to:

- 1) SDGM/Vig./SC (kind attention of Dy.CVO/P/SC)
- 2) OS/Selection Cell 3) OS/IT Cell: for uploading in website.
- 5) DSs/SCRES/SCRMU/AISCSTREA/SCROBCREA/SC division.



**Syllabus for selection to the post of JE/Signal 20% LDCE quota and
40% Promotional quota**

1. Signaling and interlocking :

- a) Essentials of Interlocking
- b) Preparation of signaling plans and numbering MACLS, PI Lay outs.
- c) Preparation of inter cabin allotting.
- d) Signal control circuits for MACLS including PI British type both route setting and non route setting.
- e) Various type of locking in Interlocking circuits

2. Basic signaling concepts:

- a) Role of Signaling in Railway operation
- b) Definitions (GR 1.02)
- c) Signaling Concepts
- d) Fixed Signals, Kinds, Aspects & Indications (GR.3.02-3.08)
- e) Designation of Signals
- f) Location of Signals
- g) Subsidiary Signals, Repeaters, Indicators, Markers & Back Lights
- h) Overlaps
- i) Breaking Distance
- j) Sighting Distance & Visibility of Signals
- k) Isolation
- l) Simultaneous Reception and Dispatch of Trains
- m) Systems of working
- n) Classification of Stations – Comparison of A, B & C
- o) Standards of Interlocking
- p) Operation of Points
- q) Inter Cabin control
- r) Level Crossing Gates
- s) Section capacity
- t) Principles of Signal Engineering
- u) Intermediate Sidings

1. Electrical signaling:-

- a) Relays of various types used in SC railway
- b) DC track circuits & their components, Initial adjustments, insulation of points & crossovers etc. Preparation of track bonding diagrams for different lay outs. (Series, Parallel, Series parallel)
- c) Electronic point machines, universal and TWS type and their working control and detection circuits, various chokes to be carried out and measurements to be taken during maintenance.
- d) Colour light signaling, cutting in arrangements, Red lamp protection, and various signaling lamps in signaling.
- e) Automatic signaling and basic principle and circuitry.
- f) Electric key transmitter and its wiring.
- g) Cables: Various cables used in signaling, parameters of cable, length of parallelism in RE area.

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- h) Earthing: Various earths used in signaling instruments of earth values, Maintenance earth and Ring earth.
- i) Various transmitters, rectifier, DC-DC converters used in signaling
- j) IPS- components of various modules for way side stations, periodical checking's to be done
- k) Secondary cells (LMLA) initial charging, deciding of capacity of charger based on cells, Telecom application chargers used in signaling.
- l) Solar photo type cells and solar panels.
- m) Generators
- n) Axle counters: Universal working block diagram, various cards available in the evaluator and their description and function of each card- Adjustment and reading.

2. Block signaling:

- a) Push type button, token less block instrument, PTJ type, Nomenclature of Relays, working principle of various codes transmitted and received
- b) Single line Daido block instrument, frequencies used in transmitting and receiving codes, general working
- c) SGE double line block instrument, lock and block circuit and LSS control circuit, Dos & Don't, Automatic block signaling circuits.
- d) IBS working principles.

3. Signaling in general :

- a) Rules applying to railway servants generally
- b) Duties of signal technicians, supervisors and officers
- c) Signal Failures and Duties of Staff
- d) Schedule of Dimensions – 2004
- e) Drawings, Specifications and Books of Reference
- f) Layouts of Yards and Permanent way
- g) Schedule of Maintenance of Signaling Apparatus
- h) Painting Programme
- i) Periodical Testing and Overhauling of Mechanical and Electrical Signaling Apparatus
- j) Push Trolleys and Motor Trolleys
- k) Working of Trains in Abnormal Conditions and Emergencies

4. Signaling in 25 KV RE .

- a) SIGNAL CLEARANCE AND VISIBILITY
- b) PROTECTION OF OPERATING AND S&T STAFF
- c) EARTHING ARRANGEMENTS IN RE AREA
- d) LAYING OF SIGNALLING CABLES
- e) BLOCK INSTRUMENTS AND CIRCUITS
- f) STRAY CURRENTS
- g) ALTERATIONS TO TRACK CIRCUITS
- h) INDUCTION & IT'S EFFECTS ON SIGNALLING
- i) PERSONNEL SAFETY IN 25KV RE AREA
- j) EVALUATION AND UPGRADATION OF EXISTING SYSTEM DESIGN-VARIOUS PARAMETERS

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- k) INDUCED VOLTAGES DUE TO HIGHER CATENARY CURRENTS
- l) REVISED DESIGN OF SIGNALLING SYSTEM TO SUIT
- m) HIGH CAPACITY CURRENTS

5. Stores:

- a) Various type of stores
- b) Type of tenders and Works measurements
- c) Various type of estimates and works program
- d) Audit inspection
- e) UDM
- f) Dead stock & T&P maintenance & DMTR
- g) Written off stores and custody
- h) Stock verification and theft of stores.

6. Establishment matters:

- a) Work men compensation act
- b) HOER
- c) DAR major penalties and minor penalties
- d) Various type of leave rules, Pass rules and other welfare measures
- e) Railway conduct rules
- f) PNM, PREM, DCM, Related to trade organizations.

7. Official language:

- a) A,B,C regions, various incentives issued for implementation of Raj basha
- b) Equivalent words in Raj basha for certain words in English
- c) Usage of Raja basha in official correspondence.

8. Modern Railway signaling:

- a) Electronic inter locking- various types used in SC Railway & their salient features, Various testing procedures for EI commissioning
- b) IPS
- c) Data loggers
- d) BPAC ,SSDAC , HASSDAC, Dual SSDAC
- e) LED signals
- f) TCAS
- g) UFSBI

9. Electronic interlocking:

- a) PURPOSE, ROLE, NECESSITY OF EI
- b) Limitations of RRI
- c) Need of Electronic Interlocking
- d) ADVANTAGES OF ELECTRONIC INTERLOCKING SYSTEM OVER RELAY INTERLOCKING
- e) POLICY ON TYPE OF INTERLOCKING TO BE ADOPTED
- f) ELECTRONIC INTERLOCKING SYSTEM
- g) BLOCK DIAGRAM
- h) CLASSIFICATION OF FUNCTIONS
- i) WORKING PRINCIPLE OF EI SYSTEM
- j) CONFIGURATION OF ELECTRONIC INTERLOCKING SYSTEM
- k) CLASSIFICATION BY REDUNDANCY

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- l) CLASSIFICATION BY ARCHITECTURE
- m) Criteria for the Selection of EI System
- n) CLASSIFICATION OF STANDBY CONFIGURATIONS
- o) BLOCK DIAGRAMS OF VARIOUS AVAILABLE SYSTEMS in SC division
- p) INSTALLATION OF ELECTRONIC INTERLOCKING SYSTEM

10. **Manuals :**

- a) SEM
- b) Block working manual
- c) Accident manual
- d) G&SR.


Sr.DSTE/SC

