

SOUTH CENTRAL RAILWAY



Office of the Divl.Rly.Manager
Personnel Branch, 4th Floor
Sanchalan Bhavan,
Secunderabad

No.SCR/P-SC/209/EL/TRS/JE/PRQ

Date: 15-10-2018

Sr.DEE/ELS/KZJ, Principal /ETTC/BZA
All SSE/SE's of Electrical(TRS/ELS/KZJ) Organization of SC division

NOTIFICATION

Sub:- Formation of panel for promotion to the post of Junior Engineer/ELS/KZJ in Level-6/ 4200 GP of 7th CPC Pay Matrix against 25 % Promotional Quota in Electrical (TRS) Organization, SC Division

1. It is proposed to conduct selection for formation of panel for promotion to the post of JE/ELS/KZJ in Level 6/4200GP of 7th CPC Pay Matrix against 25 % Promotional Quota in Electrical (TRS/KZJ) Organization of SC Division. The details of vacancies are as under:

Category	UR	SC	ST	Total
JE /ELS/KZJ	02	01	01	04

2. CONDITIONS OF ELIGIBILITY

- 2.1 In terms of Para-215(e) of IREM Vol.I, eligible staff working as Senior Technicians borne in the Seniority of the wings of Elect. & Mech. (ELS/KZJ) in Level-6/4200GP of 7th CPC Pay Matrix up to 3 times the number of vacancies to be filled up should be called for the selection. The employees listed as per integrated seniority, below Table I & Table -II

(Field of Eligibility) Table -I

Sl.NO.	PF.NO	Name /SRI	Comm unity	DOB	DOA	DOE
01	03327292	N.Satyanarayana	SC	04.01.1963	21.01.1988	01.12.2005
02	03325301	N.Rajender Uppalaiah	UR	02.02.1965	03.05.1990	01.12.2005
03	09329160	M.R.Kanakalah	UR	01.06.1962	08.10.1988	01.12.2005
04	01976874	A.Rajender	SC	19.12.1961	01.01.1984	01.12.2005
05	01977253	K.Venkat mallu	SC	28.07.1961	01.01.1984	28.10.2006
06	01971748	R.S.R.C.Murthy	UR	05.05.1960	01.03.1985	28.10.2006
07	03672347	M.A.Rahim khan	UR	28.05.1960	10.03.1979	28.10.2006
08	01976539	MD.AliSaheb	UR	02.10.1962	09.09.1985	12.12.2011
09	01140681	B.Sampath kumar	UR	15.06.1970	13.08.1994	12.12.2011
10	11600779	J.Motilal	ST	02.10.1967	25.10.1996	28.09.2012
11	11602934	Malothkota	ST	02.04.1973	21.11.1997	01.11.2013
12	IE071062	B.Ramdas	ST	01.01.1982	01.11.2007	30.12.2015

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(Stand by)

Table -II

Sl.NO.	PF.NO	Name /SRI	Comm unity	DOB	DOA	DOE
01	11603860	D.Rajkumar	UR	08.08.1969	17.06.1996	12.12.2011
02	11401527	B.Yadagiri	SC	06.07.1968	19.09.1992	12.12.2011
03	11600317	MD.Basheer Ahmed	UR	29.12.1973	17.01.1995	28.09.2012
04	11605315	B.Veeranna	ST	15.04.1977	31.07.2000	01.09.2016

- 2.2 In case of any employees who are on leave/sick list/on line, alert notice may be sent to their home address.
- 2.3 If any of the employees in the Table -I are not willing to appear for the written test, a declaration to that effect should be obtained from the employee and forwarded to this office on or before 01.11.2018
- 2.4 The employees alerted as stand-by in Table -II should note that they will be called for written examination, only if the employees in the Table -I express unwillingness for the above selection the next eligible indicated in the standby list (Table -II) will be called for the written examination. Further the unwillingness submitted after due date will not be considered for calling the employees from standby list for selection and no additional persons from the Table -II will be called for the selection to make good of the shortfall..
- 2.5 No relaxation to SC/ST candidates as this is a safety posts and therefore all candidates to get 60% marks.

3. **PRE SELECTION TRAINING.**

- 3.1 Sr DEE/ELS/KZI shall arrange for pre-selection training to the reserved employees for a period of **3 to 4 weeks** at the earliest, which shall cover entire syllabus as per Board's instructions under SC No.41/98 read with S.C.No. 245/2001.
- 3.2 This pre-selection training shall be imparted as far as possible on the basis of those at Zonal Training or System Technical Training School at the earliest.
- 3.3 In case any of reserved community employee is unwilling to undergo pre-selection training, a written declaration in this regard shall be obtained and sent to this office for record.
- 3.4 These instructions should be adhered to strictly in an effective manner so that the performance of the reserved employees may come up to the required standard.

4. **DATE AND VENUE OF WRITTEN EXAMINATION.**

- 4.1 The date of written examination and venue will be informed in a short notice after completion of the pre selection training for reserved community employees. All the employees in the list at Table -I & II (whoever considered) are hereby alerted to be in readiness for selection.
- 4.2 Supplementary written test will be conducted if necessary, in respect of staff who could not attend for the scheduled written examination for the reasons as envisaged in Para-223, Chapter-II, IREM.Vol.I.

5. **MODE OF SELECTION AND QUALIFYING MARKS.**

- 5.1 Professional Ability: - The professional ability of the employees in the field of selection will be adjudged through written test only. The employees must secure 60% of marks in professional ability as well as in the aggregate.

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- 5.2 The post of JE/ELS being a safety one, there will be no relaxation in qualifying marks, for candidates belonging to SC/ST community. They have to obtain minimum of 60% in written test & 60% in aggregate on par with UR employees (Ref: Para 10.1.1 of S.C. No. 320/1999).

Factors / Headings	Max. Marks	Qualifying Marks
Professional ability	50	30
Record of Service	30	-
Seniority	20	-
Total	100	60

- 5.3 Distribution of marks under head of Record of Service.

15 marks	On the basis of grading of APARs/Working Report of last 3 years
10 marks	On the basis of entries of Awards/Punishments in the SR
5 marks	On the basis of entries in SR for Academic/Tech. Qualifications

- 5.4 The selection panel will be formed as per seniority amongst those who secure 60% marks in Professional ability and 60% in aggregate

6. SYLLABUS:

- 6.1 Syllabus for the written test is enclosed as Annexure '1'. Option is available for writing in Hindi also.
- 6.2 Question Bank is available on railway website – www.scrindianrailway.gov.in. However, copy of the same is enclosed herewith.

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15/10/18
(Sk. Peer Babu)
APO/II/SC
for Sr.DPO/SC

Encl: As above.

C/-Sr.DEE/ELS/KZJ : It is requested to kindly arrange to send DAR/SPE/Vig clearance in favour of the employees listed in Table-I & II.

C/-Ch.OS/Confidential Section: It is requested to arrange to keep in readiness the APARs/ACRs of all the employees listed in Table -I & II in all respects for the last three years. It is also advised to furnish a certificate that all the remarks were communicated keeping in view of the Railway Board's instructions contained in Lr.No.E(NG)I-2009/CR/2, dated 30.04.2010, CPO/SC's S.C.No.77/2010.

Ch.OS/EL/Bills Section: It is requested to keep the Service Records and Personal Records duly updated making entries related to the awards/punishments/increments/Qualifications.

OS/Selection cell : for information and necessary action.

C/-Ch.OS/SDGM/SC, OS/PNM-5

C/- Divl. Secy./SCRMU; SCRES

C/- Divisions/All India SC/ST Associations &
All India OBC Association.

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for Sr. Divisional Personnel Officer/SC

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SOUTH CENTRAL RAILWAY
SECUNDERABAD DIVISION

SYLLABUS FOR PROMOTION AS JE-II IN SCALE Rs.9300-34800+4200(GP) IN TRS ORGANISATION through LDC Quota.

PART-A

A) Basics of electricity

- 1) Study of Electricity, Ohms Law, Magnetism, Electromagnetic induction, Flemings R.H. Rule, L.H. Rule, Lenz's Law, self inductance, Mutual inductance, Study of AC circuits i.e., RL, RC, RLC Circuits, Series Resonance, Parallel resonance.
- 2) Study of power factor and the improvement methods demand and economy in installation of electrical energy.
- 3) Measurements of Resistance, current voltage, power study of various types of meters and equipments used, Megger, diode tester, ammeter, Voltmeter etc., uses of shunts, multipliers.

B) DC Generators:

Working principles of D.C. Generators, DC shunt generators, DC series generators and DC compound generators.

C) DC Motors:

Study of DC motors and their performance characteristics and Speed characteristics. DC series motor as traction motor and its suitability for traction applications.

D) Transformers:

Study of Transformers and concept of Mutual induction. Step down, Step Up transformers, Auto transformers, Current transformers and Potential Transformers.

E) Induction Motors:

- 1) Study of 3phase induction motors and their performance characteristics. Their applications, Torque speed characteristics. VFD drives and their application to Induction Motors.
- 2) Study of 3 phase induction motors principle, maintenance and overhauling, study of Induction generator, working principles, study of Arno, Aux, machines of A.C. Loco

F) Transmission and distribution networks:

Study of transmission lines and distribution lines and under-ground cables, study of erecting the lines determination of conductor size and re-cabling of locomotives.

G) Importance of Earthing and Earth testing procedure:


Why earthing is to be done, PIPE earthing, Plate earthing, Maintenance free earthing, Study of Earth testing procedure, insulation test for various equipments and testing of insulators.

H) Electrical Safety and ACTS and Rules:

1. Electricity act and safe rules and Shock treatment, first aid and use of Fire Extinguishers.

I) ELECTRICAL TRD EQUIPMENT and Its BASIC Knowledge:

Electrical OHE and its arrangement, Traction Substation Layout and its Equipment.



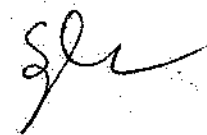
B) 3-Phase Locomotives (WAP-7, WAG-9)

1. 3phase induction Motors as Traction Motors: Study of Characteristics, use of 3phase induction motors for traction duty. Study of Traction Motor used in A.C. Locomotives WAP7 & WAG-9 Maintenance, repairs, overhaul of Traction motors of 3Phase Locomotives (WAG-9, WAP-7).
2. Study of 3Phase Locomotive circuits i.e., Power circuits and control circuits, parameters of A.C. Circuits, Simple calculations, study of power supply arrangements of A.C. traction(3phase Locomotives).
3. Study of current collection in 3Phase Locomotives, study of roof equipments of A.C. Loco.
4. Study of 3phase Locomotive Transformers, overhaul and maintenance of Transformers, Auto- Transformers, conditions for parallel operation of transformer, Maintenance and overhauling tests to be conducted on the transformer, testing of transformer.
5. Study of Auxiliary converter circuits and components and Auxiliary power supply and load sharing between BURs during normal condition and during isolation of one BUR.
6. Study of Transformer cooling circuit and function of TFP MPH.
7. Study of SR coolant circulation and function of SRMPH.
8. Machine room layout of 3phase locomotives. Locations of various equipment in Machine room.
9. Study of various types of contractors and relays, study of relays and contractors used in the 3phase Locomotives.
10. Study of batteries in 3phase locomotives, commissioning (initial charging), maintenance and reclamation and battery charging procedures.
11. Working on the 3phase locomotives, precautions to be taken, fire preventive measures in the locomotive and study of fire fighting.
12. Study of circuit, analysis of WAG-9 Locomotives i.e., study of circuits, cabling Index and other drawings.
13. Protective functions in three phase locomotive(ABB document 3EHP 541526), working of VCD, Failure mode operation, Inching mode operation, Constant speed control, Traction Interlock, SR Interlock and Indication of faults using BFFA & LSFL
14. Study of WAG-9 Bogie, wheel arrangements, suspension arrangements and all mechanical features like elements of Vibration, Oscillation, Damping devices, Elasticity i.e., Springs and dampers etc.
15. Study of Sander gear and Brake rigging, various types of brake systems in 3phase Loco.
16. Different lubricants used in WAP 7/ WAG9 locomotives
17. Study of Pneumatic circuitry of WAG-9, Study of various Pneumatic Valves, braking system (E-System).
18. Study of maintenance schedules for various equipment in the 3phase Locomotive, its periodicity.
19. Study of 3phase Locomotives, testing, engine fitness and troubleshooting procedure.
20. RDSO Modification and SMIs implementation and maintenance of various records for 3phase Locomotives.
21. Study of Electronic devices i.e., IGBT and GTOs as control switches in power circuitry and auxiliary circuitry of 3phase Locomotives.
22. Study of new equipments in Loco such as CVVRS, Vacuum Toilet, VCD and DPWCS.

PART-B

A) Conventional Locomotives (WAG-5/7, WAM-4, WAP-4)

1. DC Series Motors as Traction Motors: Study of Characteristics, Armature Reaction and Commutation Improvements for commutation and suitability of D.C. Series Motor for traction duty. Study of Traction Motor used in A.C. Locomotives WAP4 & WAG5/7 Maintenance, repairs, overhaul of Traction motors of Conventional Locomotives.
2. Study of Conventional Locomotive circuits i.e., Power circuits and control circuits, parameters of A.C. Circuits, Simple calculations, study of power supply arrangements of A.C. traction(Conventional Locomotives).
3. Study of current collection in A.C. Locomotive, study of roof equipments of A.C. Loco.
4. Study of Transformer principle, overhaul and maintenance of Transformers, Auto-Transformers, conditions for parallel operation of transformer, study of transformer used in A.C. Loco WAP4/5 & WAG5/7; Maintenance and overhauling tests to be conducted on the transformer, study of tap changer, operation method for voltage control, Testing of transformer.
5. Study of fuse protectors, switches and isolators, construction and working details of circuit breakers of A.C. Conventional Locos (DL).
6. Study of various types of contractors and relays, study of relays and contractors used in the A.C. Loco, Drum Contactors. Function of blow out coil and arc chutes.
7. Study of batteries, commissioning (initial charging) maintenance and reclamation and battery charging procedures.
8. Study rectification methods, filters, study of Silicon rectifier, smoothening reactor in the Loco study of semi-conductor devices, battery charger.
9. Safe working on the locomotive precautions to be taken. Fire preventive measures in the locomotive and study of fire fighting.
10. Study of circuit, analysis of WAP4 & WAG5/7 Locomotive i.e., study of circuits, cabling Index and other drawings.
11. Study of WAP-4 & WAG5/7 Bogie, wheel arrangements, suspension arrangements and all mechanical features like elements of Vibration, Oscillation, Damping devices, Elasticity etc.
12. Study of Sander gear and Brake rigging, various types of brake systems in Conventional Loco (WAG-7).
13. Study of Pneumatic circuitry of WAP-4 & WAG5/7, Study of various Pneumatic Valves, braking system (E-System).
14. Study of maintenance schedules for various equipment in the Conventional Locomotive, its periodicity.
15. Different lubricants used in WAG 5/7 & WAP 4 locomotives
16. Study of Conventional Locomotive, testing, engine fitness and troubleshooting procedure.
17. RDSO Modification and SMIs implementation and maintenance of various records of Conventional Locomotives.
18. Maintenance of records in PPO
19. Study of new equipments in Loco such as MPCS, SIV, VCD and WMUCS.
20. Study of DJ control Circuit. Study of various branches and trouble shooting of various branches in DJ control circuit of Locos both with SIV fitted Locos and Arno fitted Locos.



PART -C

1. Railway service conduct rules, Pass rules, D&A rules, Hours of employment regulations, payment of wages act, WC act.
2. Procurement of Stores- stocked items and non -stocked items, imprest stores, disposal of unserviceable stores, stock verification and accountal correspondence.
3. Rules and regulations about Official Language i.e., Hindi as Official Language.

