

**NOTIFICATION NO. 42/2020**

Sub: Filling up the post of Junior Engineer in Pay Matrix Level- 6 against 25% DPQ in Electrical / G. department of Raipur Division/SECR.

It is proposed to form a panel to fill up three (03) post of Junior Engineer in paymatrix level -6 against 25% departmental quota of Electrical / G. department of Raipur Division. The details are as under:

Category	UR	SC	ST	Total
Jr. Engineer/Gen.	01	01	01	03

1. ELIGIBILITY AND SERVICE CONDITIONS OF STAFF :

- The list of senior most eligible staff working as Sr Technician (PL, TL & AC) of Electrical / G. department of Raipur Division in paymatrix level-6 and who are in the normal zone of consideration in 1:3 ratio based on their seniority is enclosed as **Annexure-B**.
- A stand-by list of employees for selection is also mentioned in **Annexure-C**. these employee may be advised that they will be included in the main list enabling them to appear for the written examination only in the case of employees in the main list of **Annexure-B** have expressed their unconditional unwillingness to appear for the selection on or before the cut-off date i.e. 06.07.2020

2. MODE OF SELECTION :

In terms of CPO/SECR/BSP's Estt Rule No. 05/2003 (RBE-137/2003), the positive act of selection to assess the professional ability of the candidate shall consist of written test. The candidate has to obtain a minimum of 60% marks in professional ability, i.e. in written examination, for being considered for further selection process of perusal of service record. The post of Junior Engineer being classified as "Safety Category post" there is no relaxation in qualifying marks to employees belonging to the category of SC/ST and hence they are also required to secure 60% marks in the written examination.

3. SYLLABUS:

The tentative syllabus for selection to the post of Junior Engineer (G.) of Electrical/G. department against 25% DPQ is enclosed as **Annexure-A** for wide publication amongst the staff concerned. Further, if any changes in syllabus is made the same will be informed.

4. PROCEDURE FOR WRITTEN EXAMINATION:

- The question paper will be 100% objective Type.
- All the questions will be of multiple choices only.
- To ensure the authenticity of the answers, cutting, overwriting, erasing or alteration of any type in the answer will not be accepted and will not be evaluated.
- 10 questions (optional) will be on Rajbhasa.
- The questions on official language will form part of the professional ability for 10% of total marks. The questions on official language policy are mandatory but there shall not be any compulsion on the part of the candidates to answer such questions.

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- f. There will be 110 questions and candidates will have to answer 100 questions only. If any candidate answers more than 100 questions, the first 100 attempted questions will count.
- g. It is advised to the candidates that no corrections of any type to objective type answers will be permitted. In case any correction is made, that answer shall not be evaluated at all. The following would tantamount to correction: -

- i. Cutting
- ii. Overwriting
- iii. Erasing
- iv. Scoring off a ticked answer in multiple-choice and ticking another answer and
- v. Modifying the answer in any way.

5. SUPPLEMENTARY WRITTEN EXAMINATION:

With the approval of the competent authority a supplementary examination will be held to the employees who have remained absent from the main examination in the following circumstances.

- a. Sickness of the candidate or other reasons over which the employee has no control.

6. PRE-SELECTION COACHING:

- a. The period of training is fixed uniformly for 3 weeks.
- b. The training is mandatory for all SC/ST candidates. There is no need to obtain their willingness/unwillingness for such training.
- c. The eligible SC/ST candidates coming under zone of consideration in the selection will be spared for such training on full time basis without fail.
- d. The attendance sheet of SC/ST candidates in the training should be sent to Personnel Branch for confirmation of above.

7. DATE OF EXAMINATION:

The date, venue and time of examination will be intimated separately.

8. PROCEDURE FOR DRAWAL OF PANEL:

The name of the selected candidates will be arranged in the order of seniority but those securing a total of 80% or more marks in the aggregate will be classified as "Outstanding" and placed in the panel appropriately in order of their seniority allowing them to supersede not more than 50% of total employees in the zone of consideration.

9. ADDITIONAL INFORMATION FOR GUIDANCE TO THE STAFF:

The following factors would be taken in to account by the Selection Board for selection and their relative weightage are as under:

Srl No.	Factors/Heading	Maximum Marks	Qualifying Marks (Min)
1.	Professional Ability/ Written exam	50	30
2.	Record of Service	30	--
3.	Seniority	20	--
Total		100	60

The assessment under 'Professional Ability' will be based on the marks secured by the individual employee in the written examination held as part of selection.

The "Record of Service" will be assessed as per the APARs of last three years and the marks on awards & punishments will also be assessed as per the entries in service records as on the date of notification i.e. 19.06.2020

The senior-most employees will be allotted 20 marks and the junior-most employee will be awarded minimum 12 marks. The difference of 8 (Eight) marks will be proportionately divided between the remaining qualified employees.

(Authority: CPO/SECR/BSP's Estt Rule No. 222/06)

10. NOTIFYING TO THE STAFF:

Senior Subordinate/Supervisor concerned has to furnish a certificate that 'the eligible candidates were duly notified of the holding of the test and asked to submit their applications giving willingness or otherwise in writing' and forward the same to this office. 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 the entire eligible employee. 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.

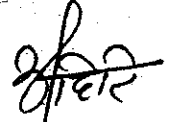
The unwillingness, if any, received from the employees is to be forwarded to this office on or before 06.07.2020, the unwillingness submitted after this date will not be accepted and failure to attend the exam will be taken up under DAR action. Only genuine reasons as cited at Srl No.5 of page no.2 will be considered.

11. GENERAL INFORMATION:

- To attend the above written exam, candidate is advised to attend on scheduled date of exam along with proper identification memo.
- Unit incharge is advised to release the staff in time with proper identification memo.
- If use any unfair means is noticed from the candidate, they shall be asked to leave the examination hall and has to face action under DAR also.
- If any discrepancy is found at any stage in regard to the applicant the candidature is liable to be cancelled at any stage of selection without any information.

The above notification may be circulated to all the concerned.

Encl: As above



(डॉ. अदिति पटेल)

मंडल कार्मिक अधिकारी

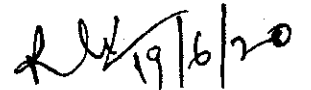
कृते वरिष्ठ मंडल कार्मिक अधिकारी

क: E/PB/R/ CDR/2012/44

Date: 19.06-2020

Copy forwarded for information and necessary action to: -

- Sr. DEE/G. /R.
- DC/SECRMC/R.
- DS/ AI SC-ST REA/R.
- DS/OBCEA/Raipur.
- Sectional Ch Staff & Welfare Inspector.
- Notice Board of Sr.DPO/Office/R.
- Available on web-site of <http://www.secr.indianrailways.gov.in> Link as Home page- About us- Division/Workshop- Raipur-Personnel- Notification.



कृते वरिष्ठ मंडल कार्मिक अधिकारी

Provisional list of staff of Electrical / Gen. department for calling option for willing / Unwilling for selection to the post of JE/Elect./G (25% DPQ)

Sr No	Name(Sri/Smt)	Emp No.	STN	Desig.	Comm.	Against
1.	M.GOPI KRISHNA	06063858	DURG	Sr. Tech/PL	OC	Against UR
2.	J HARIBABU	06063998	R	Sr. Tech/PL	OC	Against UR
3.	K.JAYDEO RAO	06063925	PPYD	Sr. Tech/PL	OC	Against UR
4.	BISHANLAL BHANDARI	07961625	DURG	Sr. Tech/TL	ST	Against ST
5.	BHAGIRATHI GHARDA	06063652	DURG	Sr. Tech/AC	SC	Against SC
6.	KAMAL NAYAN BHOYAR	07965163	DURG	Sr. Tech/TL	SC	Against SC
7.	RAJESH	07384208	WRSR	Sr. Tech/PL	SC	Against SC
8.	DURGA PRASAD BADRA	06065375	BYT	Sr. Tech/PL	ST	Against ST
9.	RAVENDRA KUMAR	05GB0106	BIA	Sr. Tech/PL	ST	Against ST

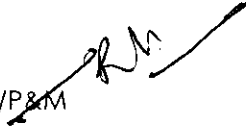
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Standby list of staff in case of unwillingness is/are given by the Annexure-B

Sr No	Name(Sri/Smt)	Emp No.	STN	Desig.	Comm.	Against
1.	D.K.GANGULY	6063020	R	Sr. Tech/PL	UR	Against UR
2.	S.SHESHA GIRI RAO	6063068	R	Sr. Tech/PL	UR	Against UR
3.	CHINTA SANYASI RAO	6063871	DURG	Sr. Tech/AC	UR	Against UR
4.	ABDUL KUDDUS,	7552798	DURG	Sr. Tech/TL	UR	Against UR
5.	L. RAJA BABU,	6063391	BMYD	Sr. Tech/PL	UR	Against UR
6.	Y R ESWAR RAO,	6064668	DURG	Sr. Tech/PL	UR	Against UR
7.	V S R MURTY	7957105	BMYD	Sr. Tech/PL	UR	Against UR
8.	K.V.RAMANA	7957117	BIA	Sr. Tech/PL	UR	Against UR
9.	BHANU PRATAP SAHU	6062465	BMYD	Sr. Tech/PL	UR	Against UR
10.	BASANT HARIJAN	6065247	WRSR	Sr. Tech/PL	SC	Against SC
11.	GOPAL	07956587	R	Sr. Tech/PL	SC	Against SC
12.	VIKASH KR.KASHYAP	05AC0276	DURG	Sr. Tech/TL	SC	Against SC
13.	PAPPU LAL MEENA	08AC0250	WRS/R	Sr. Tech/AC	ST	Against ST
14.	TULSEEDAS KOSLE	9779619	DURG	Sr. Tech/PL	SC	Against SC
15.	RAVENDRA KUMAR	05GB0106	BIA	Sr. Tech/PL	ST	Against ST
16.	HIMMAT RAM	9776783	DRZ	Sr. Tech/PL	ST	Against ST


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SYLLABUS FOR WRITTEN EXAMINATION FOR SELECTION TO THE POST OF JUNIOR ENGINEER IN ELECTRICAL GENERAL DEPARTMENT.

GENERAL

1. **Indian Electricity Act and Rules.** Application of these to Railway working, checks to be carried out before commissioning new electrical assets.
2. **Transformers:** Mutual induction, Equivalent circuit of Transformer, Vector diagram, Regulation, Method of cooling, Tap changing, Parallel operation, Polarity and phase sequence, Testing, Protection, Instruments, PTs & CTs etc.
3. **Induction Motors:** Theory, Squirrel cage and slip ring motors, Torque, Slip curves, Circle diagram, Stator and rotor resistance, Starting torque, Induction generator, starting method, Testing method, etc.
4. **Voltage regulation:** Short circuit symmetrical and asymmetrical components, Protection of switch-gear by reactors, Rating of circuit breakers, Fuses and protective relays.
5. **Illumination standards:** Illumination standards of light, Pole curves, Reflection and absorption, Lighting calculations, interior design and economical layout of service buildings, workshops & yards, various sources of light, Fluorescent tubes etc.
6. **Measurement and instrumentation:** Measurement of resistance, Potentiometer, Wheatstone & Kelvin bridges, Meggers for insulation resistance and earth resistance, Volt meters, Ammeters, PF meters, Single phase watt meters, Measurement of three phase power, Recording instruments, Watt-hour meter, Clock meters, Maximum demand meters, Multi meters, Pyrometers, Thermo couple, Digital indication instruments etc.
7. **General Power Supply:** HT & LT sources, Power supply network, Sub-station layout, Overhead and underground distribution, Maintenance and operation of transformers, Switchgears, Protective devices construction, erection and commissioning of new sub-station, Distribution lines, line calculations, etc. House wiring, Metering, Safety precautions, Tariffs & agreements, Relative merits of obtaining HT & LT supply, Steps to reduce maximum demand and energy consumptions, measurement of power, power factor, Maximum demand, etc.
8. **LT Supply:** LT supply for single, illumination, Yard lighting, Street lighting, Town supply network.
9. **Water Supply:** Requirement of water, planning of water supply systems, Sources of water, Pipeline, Frictional and other losses, Discharge calculations. Reciprocating Centrifugal Submersible and Turbine pumps; Relative merits, Choice of VS and HS pumps, Characteristic curves of pumps, Efficiency, Preventive maintenance, Special failures of pumps and motors, Periodical overhaul.
10. **Stand by arrangement:** Petrol and diesel generating set, Generation of essential and non-essential loads, Planning for new sets, operation, maintenance and overhaul of stand by sets.
11. **Air conditioning and Refrigeration:** Central air-conditioning plant and package plants, Refrigeration cycle, Air changes, Planning for capacity and drives for plants, Refrigerants, Ducting specification; Design testing of water coolers, Central as well as package plants, operation and preventive maintenance, Special failures, Overhaul, Trouble shooting and repair of sealed units.
12. **Train lighting:** Parallel block double battery system, Advantages & disadvantages of this system, various modifications carried out this system, Guard's control switch, Use of rectifiers. Coach wiring, under frame wiring and schedule of rewiring couplers, lamp resistance, junction boxes and fuses, Generators, non-generation ratio, scale of lighting and fanning, water resistance apparatus.

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- End-on-generation, Mid-on-generation, advantages and drawbacks, power cars, Electrical and mechanical components, layout and operation, maintenance procedures, slip coaches.
TL batteries, Lead acid and alkaline cells, maintenance free batteries, primary and secondary maintenance, charging of batteries, capacity of batteries, maintenance problems with lead acid batteries, battery chargers, serving at way side stations.
Simplified train lighting. Use of alternators, anti theft measure, deficiency and fitment of amenity fittings, co-ordination with security department.
Fires in trains, preventive measures and precautions.
Periodical overhaul and Heavy repairs of train lighting equipment.
13. **Air-conditioned coaches:** Board outlines of types of equipment used in 110 Volt and 400 V air-conditioned coaches and refrigerated vans, Drives and their problems. Maintenance and operational problems, Refrigeration compressors-type in service and their problems, Gear boxes-their maintenance and alignment, RMPU and Conventional coaches, Maintenance schedules for AC coaches, Partial AC coaches, AC two-tier, 3 tier sleeper coaches, Running repairs.
14. **Knowledge of official language Rules.**
15. **Establishment Rules & Procedures:**
Broad outline of Payment of Wages Act, Minimum Wages Act, Workman's Compensation Act, Factory Act. Hours of employment rules and apprentice act as applicable to the Railway working. Organization of the Railways. Conditions of Services of Railway service conduct rules. Rules for Issue of Passes and PTOs to Railway staff. Discipline and Appeal Rules in force to Railways.
16. **Questions on General knowledge.**

Jawkey
Sr. Divisional Electrical Engineer (G)
S.E.C. Railway, Raipur.

टी. एल. बैटरी, लेड एसिड एवं अल्कलाइन सेल, संधारणमुक्त बैटरी, प्राथमिक एवं द्वितीयक संधारण, बैटरियों की चार्जिंग, बैटरियों की क्षमता, लेड एसिड बैटरियों के संधारण की समस्याएं, बैटरी चार्जर, वे साइड स्टेशनों पर सेवा प्रदाय।

सरलीकृत ट्रेन लाइटिंग, आल्टरनेटर्स का उपयोग, चोरी रोकने के उपाय, एमेनिटी फिटिंग की कमियाँ एवं फिटमेंट, सुरक्षा विभाग के साथ समन्वय।

ट्रेन में अग्नि दुर्घटनाएं, निरोधक उपाय तथा सावधानियां।

ट्रेन लाइटिंग उपकरणों का आवधिक ओवरहॉल एवं हैवी रिपेयर।

13. एयर कंडिशनड कोच : 110 वोल्ट एवं 400 वोल्ट एयर कंडिशनड कोच तथा रेफ्रिजरेटेड वैन्स में प्रयुक्त उपकरणों के प्रकार की बोर्ड की रूपरेखा, ड्रइव्स तथा उसकी समस्याएं, संधारण तथा प्रचालन की समस्याएं, रेफ्रिजरेशन कंप्रेसर्स - प्रकार, सर्विस तथा उनकी समस्याएं, गियर बॉक्स संधारण तथा संरक्षण, आर. एम. पी. यू. एवं पारंपरिक कोच, ए. सी. कोचों की संधारण शेड्यूल, आंशिक ए. सी. कोच, ए. सी. टू टियर, थ्री टियर, स्लीपर कोच, रनिंग मरम्मतें।
14. राजभाषा नियमों का ज्ञान
15. स्थापना नियम एवं प्रक्रियाएं : मजदूरी का भुगतान अधिनियम की बोर्ड की रूपरेखा, न्यूनतम मजदूरी अधिनियम, कामगार प्रतिपूर्ति अधिनियम, कारखाना अधिनियम, रेलवे के कार्यचालन में यथा प्रयुक्त रोजगार के घंटे का नियम एवं अप्रेंटिस अधिनियम, रेलवे का संगठन, रेल सेवा आचरण नियम की सेवा शर्तें, रेल कर्मचारियों को पास एवं पी. टी. ओ. जारी करने के नियम, रेलवे में लागू अनुशासन तथा अपील नियम।
16. सामान्य ज्ञान के प्रश्न :

पं०

वरिष्ठ मंडल विद्युत अभियंता (सा)
द. पू. म. रेलवे, रायपुर।

विद्युत सामान्य विभाग में कनिष्ठ अभियंता के पद हेतु होने वाले लिखित परीक्षा का पाठ्यक्रम :

1. भारतीय विद्युत अधिनियम तथा नियम : रेलवे के कार्यचालन में इनका अनुप्रयोग, नई विद्युत परिसंपत्तियों की कमीशनिंग के पूर्व की जाने वाली जांचें।
2. ट्रांसफॉर्मर्स : अन्योन्य प्रेरण (म्यूचुअल इंडक्शन), ट्रांसफॉर्मर का समतुल्य परिपथ, वेक्टर आरेख, विनियम, शीतलन की विधि, टैप चेंजिंग, समानांतर प्रचालन (पैरेलल ऑपरेशन), ध्रुवता एवं फेज अनुक्रम, टेस्टिंग, प्रोटेक्शन, उपकरण, पी. टी. तथा सी. टी. इत्यादि।
3. इंडक्शन मोटर्स : सिद्धांत, स्कुअरल केज तथा स्लिपरिंग मोटर्स, टॉर्क, स्लिप वक, वृत्तीय आरेख, स्टेटर तथा रोटर प्रतिरोध, स्टार्टिंग टॉर्क, इंडक्शन जनरेटर, स्टार्ट करने की विधि, जांच की विधि इत्यादि।
4. वोल्टेज रेगुलेशन : लघुपथन (शॉर्ट सर्किट) समरूपी एवं असमरूपी घटक, रिएक्टर्स के द्वारा स्विच-गियर का प्रोटेक्शन, सर्किट ब्रेकरों की रेटिंग, फ्यूज तथा प्रोटेक्टिव रिले।
5. इल्यूमिनेशन के मानक : प्रकाश के इल्यूमिनेशन मानक, ध्रुव वक, परावर्तन एवं अवशोषण, सर्विस बिल्डिंगों का किफायती ले-आउट तथा डिजाइन सहित प्रकाशीय गणनाएं, वर्कशॉप एवं यार्ड, प्रकाश के विभिन्न स्रोत, फ्लुरोसेंट ट्यूब इत्यादि।
6. मापन तथा इंस्ट्रुमेंटेशन : प्रतिरोध का मापन, पोटेंशियोमीटर, व्हीट स्टोन तथा केल्विन ब्रिज, इंसुलेशन एवं अर्थ रजिस्टेंस के लिए मेगर, वोल्टमीटर, अमीटर, पी. एफ. मीटर, सिंगल फेज वॉट मीटर, थ्री फेज पावर का मापन, रिकॉर्डिंग उपकरण, वाट आवर मीटर, क्लॉक मीटर, मैक्सिम डिमांड मीटर, मल्टी मीटर, पायरो मीटर, थर्मो कपल, डिजिटल इंडिकेशन उपकरण आदि।
7. सामान्य विद्युत आपूर्ति : एच. टी. एवं एल. टी. स्रोत, विद्युत आपूर्ति नेटवर्क, सब-स्टेशन ले-आउट, ओवरहेड एवं अंडरग्राउंड डिस्ट्रिब्यूशन, ट्रांसफॉर्मरों का अनुरक्षण तथा प्रचालन, स्विच-गियर, प्रोटेक्टिव डिवाइसों का निर्माण, नए सब-स्टेशन इत्यादि का निर्माण तथा कमीशनिंग, हाउस वायरिंग, मीटरिंग, टैरिफ तथा एग्रीमेंट्स, एच. टी. एवं एल. टी. आपूर्ति लेने के तुलनात्मक लाभ, अधिकतम मांग तथा ऊर्जा खपत को कम करने के उपाय, पावर का मापन, पावर फैक्टर, अधिकतम मांग इत्यादि।
8. एल. टी. आपूर्ति : विभिन्न स्थानों के लिए एल. टी. आपूर्ति इल्यूमिनेशन, यार्ड लाइटिंग, स्ट्रीट लाइटिंग, नगरीय विद्युत आपूर्ति नेटवर्क।
9. जल आपूर्ति : जल की आवश्यकता, जल आपूर्ति प्रणाली की आवश्यकता, जल के स्रोत, पाइप लाइन, फ्रैक्शनल तथा अन्य लेंसेस, डिस्चार्ज गणनाएं, रेसिप्रोकेटिंग सेंट्रीफ्यूगल, सबमर्सिबल एवं टर्बाइन पंप, तुलनात्मक लाभ, वी. एस. एवं एच. एस. पंपों का चुनाव, पंपों का अभिलक्षण वक दक्षता, निरोधक अनुरक्षण, पंपों एवं मोटर्स की विशेष विफलताएं, आवधिक ओवरहॉल।
10. स्टैंडबाय व्यवस्था : पेट्रोल एवं डीजल जनरेटर सेट, एसेंशियल तथा नॉन-एसेंशियल लोड का जनरेशन, नए सेटों की योजना, स्टैंडबाय सेटों का ओवरहॉल, प्रचालन तथा अनुरक्षण।
11. एयर कंडिशनिंग तथा रेफ्रिजरेशन : केंद्रीय एयर कंडिशनिंग प्लांट तथा पैकेज प्लांट, रेफ्रिजरेशन चक, एयर चेंजेस, क्षमता की योजना तथा प्लांट के लिए ड्राइव्स, रेफ्रिजरेंट, डिकिंग ब्योरा, वाटर कूलरों की डिजाइन जांच, केंद्रीय तथा पैकेज प्लांट, प्रचालन तथा निरोधक अनुरक्षण, विशेष विफलताएं, ओवरहॉल, सील्ड यूनिटों की ट्रबल शूटिंग एवं मरम्मत।
12. ट्रेन लाइटिंग : समानांतर ब्लॉक दोहरी बैटरी प्रणाली, इस प्रणाली के लाभ एवं हानि, इस प्रणाली में किए गए विभिन्न मॉडिफिकेशन, गार्ड नियंत्रण चाबी, रेक्टिफायर के उपयोग, कोच वायरिंग, अंडरफ्रेम वायरिंग, रिवायरिंग कपलर्स का शेड्यूल, लैंप रजिस्टेंस, जंक्शन बॉक्स तथा फ्यूज, जनरेशन, नॉन-जनरेशन अनुपात, लाइटिंग एवं फैनिंग स्केल, जलरोधी उपकरण।

एंड-ऑन-जनरेशन, मिड-ऑन-जनरेशन, लाभ एवं हानि, पावर कार, विद्युतीय एवं यांत्रिकीय घटक, ले आउट एवं प्रचालन, संधारण प्रक्रिया, स्लिप कोच।