



EAST COAST RAILWAY

Office of the
Principal Chief Personnel Office,
Rail Sadan, CSPur, Bhubaneswar Odisha

No. ECoR/Pers/10/Selection DPQ/HQ/JE/Signal

Date: 22.06.2021

NOTIFICATION

Sub: Selection for promotion to the post of JE(Signal) in Pay Matrix Level-6 against 40% DPQ in Signal & Telecom Deptt. of ECoR/HQs/BBS.

It has been decided by the competent authority to call for applications from eligible staff of Signal & Telecom Deptt. of ECoR/HQs and from all Divisions of ECoR for filling up 04 vacancies {i.e. 03(three) UR & 01(one) ST} in the category of JE(Signal) in Pay Matrix Level-6 against 40% DPQ in Signal & Telecom Deptt. of ECoR/HQs/BBS.

Eligibility Criteria: The vacancies are to be filled up through the process of selection from amongst the eligible Sr.Technicians(Signal Maintainer) in Pay Matrix Level-6 subject to the condition that in the event of unwillingness or non-availability of Sr.Technicians (Signal Maintainer) in Pay Matrix Level-6, Technician-I(Signal Maintainer) in Pay Matrix Level-5 who have completed 2 years regular service, will also be eligible.

Mode of Selection: The mode of selection is written test, verification of Service Records and last three years APARs. All eligible candidates will be called for to appear in the written test as per their seniority within the zone of consideration on the basis of 1:3 ratio. The promotion to the post of JE(Signal) in Level-6 is subject to being declared medically fit in prescribed medical category and passing the mandatory promotional course training, wherever applicable. The syllabus for the written examination is enclosed for information of all concerned. The duration of the written test is of 02 hours. The question of the written test will be 100% objective multiple choice type. The answers are to be marked on OMR answer sheet and the OMR answer sheet will be evaluated manually. There will be 110 questions (including 10 questions for official language policy & rules) of objective multiple choice type with four answer options. Candidate has to answer a maximum of 100 questions. In case the candidate answers more than 100 questions, first 100 attempted questions are to be taken for evaluation. Cutting, overwriting, erasing, or alternation of any type in answer will not be accepted and Zero marks will be given for answer having correction/overwriting. There shall be no negative marking for incorrect answers.

Conti. at Page No.2

Closing Date: The closing date of submission of option application by the eligible staff in the prescribed Proforma (Annexure-I) to their controlling officer is 22.07.2021. The controlling officer should forward the option applications to the concerned Personnel Officer by 30.07.2021. Only the eligible applications should be sent by the Divisional/Workshop Personnel Officer in a single bunch along with consolidated statement with certification of service particulars as per entries in service records, so as to reach at this office by 07.08.2021 without fail. Applications received after 07.08.2021 will not be entertained. Ineligible applications should not be sent to this office under any circumstances. The APARs for last three years & the service records of the eligible applicants should be updated and kept ready for sending to this office at short notice.

General Instruction: This vacancy notice should be widely circulated amongst the staff of Signal & Telecom Deptt. of ECoR to avoid any complaints at a later date. Copy of notification must be placed on the notice board also for information of all concerned.

Encl: ANNEXURE-I (application format) & syllabus.

This is also available in East Coast Railway website
(www.eastcoastrail.indianrailways.gov.in)

(H.K.Mahanand)

Senior Personnel Officer-I

For Principal Chief Personnel Officer

Copy forwarded for information and necessary action to:

1. PCSTE/ECOR/HQ/BBS, CSTE(Con)/ECOR/BBS, CSTE(Proj)/ECOR/BBS
2. SPO(Con)/ECOR/BBS, SPO/RE/BBS
3. SSM(IT)/ECOR/BBS it is requested to upload this notification in East Coast Railway Website.
4. DRM(P)/ECOR- KUR, SBP & WAT
6. GS/ECORSU, GS/ECORSC
7. Notice Board of PCPOs Office.

For Principal Chief Personnel Officer

O/c

22/06/2021

22.6.21

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To
PCPO/ECOR/BBS

Application for selection to the post of JE(Signal) in Pay Matrix Level-6 against 40% DPQ in S&T Deptt. of ECoR/HQs/BBS as per PCPO/BBS' Notification No.ECoR/Pers/10/Selection DPQ/HQ/JE/Signal dated:22.06.2021.

(Last Date of receipt of this form in CPO's Office is 22.12.2017)

1	Name (In capital Letters)	:	
2	Father's Name	:	
3	Present Designation/Station (Substantive)	:	
4	Lien maintaining Divn./Rly.	:	
5	Pay Matrix Level (Substantive Only)	:	
6	Community(UR/SC/ST as per service record)	:	
7	Date of Birth	:	
8	Date of Initial appointment/category	:	
9	Date of regular posting as Sr.Techncian(SM)	:	
10	Effective date of seniority as Tech-I(SM)	:	
11	Effective date of seniority as Tech-II(SM)	:	
12	Effective date of seniority as Tech-III(SM)	:	
13	Employee Number	:	
14	Employee 's contact No.	:	

I hereby undertake that the information furnished in the application are correct and true to the best of my knowledge and belief. In case, any irregularity is found, my candidature is liable to be cancelled without any notice and I am liable for D&A action.

Place:

Date:

Signature of the Candidate

Signature of the
Controlling Supervisor with seal

Signature of the Controlling Officer with seal

It is certified that the above particulars of the candidate have been verified along with the entries made in his original service record and found correct.

Signature of the Personnel Officer of
concerned Unit/Divn./Workshop/HQs with seal

East Coast Railway

Office of the
Chief Personnel Officer
Bhubaneswar - 751 017.

No.ECoR/Pers/R/Syllabus/Selection/3

Date: 28.11.2011.

To
The Sr.DPO/DPO-KUR,WAT, SBP,
WPO/MCSW & SPO/Con/BBS
East Coast Railway.

Sub: Syllabus for 20% quota of vacancies for JE (Signal) & JE (Tele) through Limited Departmental Competitive Examination and Modality of Test Paper in the S&T Department.

Ref: This office letter No. ECoR/Pers/R/Syllabus/Selection/3, dated 23.11.2011 (Copy enclosed).

In continuation of this office letter No.ECoR/Pers/R/Syllabus/Selection/3, dated 23.11.2011 on the above subject, it has been decided that the same syllabus may be followed for selection to the post of JE (Signal) 40% DPQ & JE (Tele) 30% DPQ.

This has approval of the competent authority.

(S.K. Mishra)
Sr.Personnel Officer (IR&G)
for Chief Personnel Officer

Copy to: For information and necessary action.

1. CSTE/ECoR/BBS.
2. Sr.DSTE(Co-Ord)/KUR,WAT, SBP.
3. Dy.CPO(HQ)/ECoR/BBS.
4. APO(HQ)-I & II.

(Signature)
29.11.11

East Coast Railway

Office of the
Chief Personnel Officer
Bhubaneswar - 751 027

No.ECoR/Pers/R/Syllabus/Selection/3

Date: 23.11.2011.

To
The Sr.DPO/DPO-KUR,WAT, SBP,
WPO/MCSW & SPO/Con/BBS
East Coast Railway.

Sub: Syllabus for 20% quota of vacancies for JE (Signal) & JE (Tele) through Limited Departmental Competitive Examination and Modality of Test Paper in the S&T Department.

Ref: Sr.DPO/KUR's letter No. P/E/Selection Cell/S&T/JE/Syllabus, dated 12.10.2011.

Competent Authority has approved the Syllabus for 20% quota of vacancies for JE (Signal) & JE (Tele) through Limited Departmental Competitive Examination and Modality of Test Paper in the S&T Department of ECoR. The approved syllabus is as under:

1. Question paper will be in three parts: PART: "A", PART: "B" & PART "C" with Total marks: 100.
2. Format of question paper will be in accordance with the latest Railway Board guidelines.
3. Question paper shall be in bilingual form i.e. English & Hindi only.

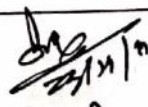
Part - A	1.1 :	Contains English, General knowledge and current affairs, reasoning tests, simple arithmetical calculations	15 marks
	1.2 :	Establishment, Store & Technical correspondence, Project management	15 marks
	1.3 :	Basic Electrical and Electronics Engineering	20 marks
Part - B		Technical subject on various Railway signaling/ telecom systems	50 marks
Part - C		Rajbhasha (optional)	10 marks

Syllabus

A 1.1	English	Essay writing on general topics, Letter writing, Simple English grammar, Gender, Singular, Plural numbers, Antonyms, Synonyms, Direct, Indirect speeches.
	General knowledge	General knowledge, current affairs.
	Arithmetic	Arithmetical calculations (Standard up to 10+2 level) and reasoning tests.

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East Coast Railway/BBS

A 1.2	Establishment	Establishment rules: HOER, Leave rules, Pass rule. Organizational set up in S&T department of Zonal HQ, Divisional HQ and way stations including cadre strength calculations based on ZISTU & DISTU.
	Store	Store DMTR, requisition of materials, IRS/TEC/RDSO specifications, stores manual, other store procedures. Tools & plants.
	Technical correspondence, Project management	Technical circulars, Inspection notes, Safety drives Project estimate, Tenders, contracts, Measurement book, Contractor bills.
A 1.3	Basic Electrical and Electronics Engineering	<p>DC Circuit - Voltage & Current sources, Loop and Nodal equations, Superposition theorem, Thevenin's theorem, Norton's theorem, Maximum power transfer theorem.</p> <p>Fundamentals of AC- Average value, RMS value, form factor, crest factor, AC power and power factor, phasor representation of sinusoidal quantities. Simple series, parallel & series-parallel circuits containing R-L, R-C, R-L-C parameters, Resonance in series & parallel circuits. Star Delta transformations.</p> <p>Introduction to Electrical Machines-Faraday's law of electromagnetic induction, Lenz's law, induced EMF, Working principle & Basic constructional features of Transformer, different types, O.C. and S.C. tests of transformer, equivalent circuit and vector diagram, losses, efficiency and regulation, autotransformer. Basic constructional features of DC machines, working principle and classification.</p> <p>Power Supply - Solar photovoltaic cell, primary and secondary cells, battery chargers, DG sets, voltage stabilizers, DC-DC converters, inverters, rectifiers.</p> <p>Earthing and Surge protection- Maintenance free earth, single earth, ring earth, Class A, B & C type surge protection devices, protecting against electrical surges and spikes including those caused by lightning.</p> <p>Protection to staff: Acid, fire, safety requirements, proximity, precautions in AC electrified area, tools, gloves, belts, helmets, guards, covers, live circuit working, handling electrical equipment, radio equipment, safety first manual, first aid.</p> <p>Basic Electronics - Characteristics of diodes, diode parameters, equivalent circuits, rectifiers, derivation for rectifier efficiency, ripple factor, filter circuits, power supplies. Principle of operation of transistors, Transistor Circuits and Integrated circuits.</p> <p>Introduction to common measuring equipment: Cathode Ray Oscilloscope, multimeters, frequency meter, ammeter, voltmeter, clamp on meter.</p>


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PART - "B" - Technical subject on various Railway signaling/ telecom systems 50 Marks

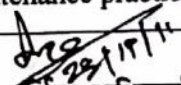
B1	SIGNALLING	
	Basic concepts	Basic concepts of Signaling, GS & SR, SEM Pt- I & II.
	System of Block Working	Absolute Block System, APB System, Automatic Block Section
	Track Circuit	DC Track Circuits, Single and Double rail, Laying at Glued joints, importance of traction bonds, Cross Bonding, Earthing arrangement, Relay and feed end arrangement. Ballast Resistance, seasonal adjustments of DC track circuit, Excitation voltage on relay terminals of DC track circuits and preventive steps. Maintenance features of track circuits. Track relay shelf type and plug in type, its parameters, cutting in features.
	Signalling & Power supply system	Signaling arrangement and power supply systems in AC electrified areas. Protection measures to the operating and maintenance staff. Earthing and its importance, Visibility of signal aspects. Double pole & Triple pole lamps, signal screening, Ball token and token less block working. Mast implantation for clear visibility of signal aspects, Solar Power supply, Load calculation for PI, RRI station, IPS for typical PI/RRI/EI station.
	Cables	Laying of signaling cables, cable insulation resistance, Meggering of cables, Earth leakage detectors, Maintenance Free earth Clamp meter, Cable fault route locator & Electro Magnetic Interface Shielding. Earthing of signaling cables and equipments. Measurements of earth resistance. Steps to improve Localization of faults and repair. Burning of cables in AC traction areas, causes precautionary measures to prevent such hazards.
	Points and levers	Types of Lever, range of Point operation with Point rodding, wire operated Signals, Its range of operation, Rod and wire compensators, Methods of route holding. Catch and slip siding. Locking in lever frames, Locking tables and Dog charts.
	RRI/Panel	RRI and Panel interlocking systems. R.C.C, Aspect Control Chart.
	Electrical Signaling	Point Motors, In built features, Control and Operation Circuits, Signal machines, Signal reversers, Track locking, Back locking, Indication locking, Approach and Dead approach locking etc. Lever lock and its functions. EKT/RKT and its functions, Circuit breakers.
	Modern Signalling	Basic Concepts of Electronic interlocking, Data logger and its utility, Analog and Digital axle counters, AFTC, Electronic track circuits, IBS Systems, Block proving axle counter and LED Signals.
	Block Signalling	Neal's A type Ball /Tablet token instrument, Diado/HWH makes TLBI, SGE Double line block instrument (Lock and Block), Token less Push button instrument. UFSBI.

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Contd.P/4.

Drawing office practice	Preparation of SIP, RCC, FPD, Locking table, dog chart, Circuit diagrams, contact analysis, cable coreage plan, cable route plan, As made (as at site) drawings. CRS application, Sighting committee report. Station working rule diagram.
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B2	TELECOMMUNICATION	
	Basic concepts	Basic concepts of Railway Telecommunication, Telecommunication engineering Manual
	Land Line communications	Parameters, trenching, laying, jointing, termination of quad cables, testing, Faults, Localization and remedies in 4 quad/6quad cables, block working, LC gate communication & emergency communication, maintenance schedules and periodical tests.
	Optic Fiber Communication system	OFC system, Principles of working (PDH & SDH), OFC Channel testing, Ring protection and NMS. Construction details of Fibers and OFC, Laying details, Splicing.
	Cable	Tele cabling, characteristics of Tele cables, Cable laying, Parameters, Loading coils, Condenser joints, Balancing of cables, Testing, Cable faults, Localization, Rectification, Annual maintenance of cables in RE and Non-RE areas.
	Train traffic control	DTMF Signaling, control office setup at HQ, different controls like TC, Dy. TC, TPC, TLC, SM's control working at way station, DTMF Equipments 2W, 4W, 2W/4W combination, control testing, radio patching, HQ and divisional telecom test room, earthing, Lightning protection.
	VHF / Satellite systems / Mobile	Communication, propagation methods, types of aerals, antenna, feeder/coaxial cable/connectors for 25Watts & 5 Watt VHF sets including power supply, uses, installation, programming, testing & maintenance of VHF sets, limitations of VHF. VSAT, Hub earth station, space link, remote earth station, interface equipment, network control centre, bandwidth management, satellite block diagram, network component details- hub configuration, remote configuration, remote indoor unit, INMARSAT Satellite, Mobile communication.
	Power Plant practice	Types of batteries, FCBC, SMPS chargers, Battery charging, Installation, Maintenance practices.


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	Computer basics	Basic computer concepts, notebook computers (laptop computer), Personal Digital Assistant (PDA, also known as Palmtop computer), desktop computers (PCs), Work stations, Servers and Supercomputers. Memory, Peripherals including mouse, printers, interfaces, disks, drives, controllers, USB ports, power supply, operating system concepts- single user/multi user, GUI & application software. Web page concept, internet, worldwide web, e-mail and multimedia.
	Data Networks	Types of networks, Network topologies, IP & non-IP based networks, NIC, hubs, nodes, clients, gateways, Routers, switches, modems, ISDN, DSLs, connectors/adapters, data cables. Installation, commissioning and maintenance of datacom equipment in various LAN, WAN networks like Railnet, internet (TCP-IP), data loggers, FOIS, COIS/ICMS, CMS, COA, MIS, IREPS, PRIME, VSAT, PRS, UTS etc., bandwidth requirements, broadband, path protections, standards, scalability, IP addressing, IP planning, network/sub-network masking, data security & encryption levels, software, firewall, intrusion detection & protection, convergence, traffic monitoring, BER, jitter, wander measurements, testing of data channels of 2Mbps & 64 kbps speed, telnet, HTTP, FTP, maintenance using NMS and Do's & Don't's.
	Accident Communication	List of equipment in ART, testing, provision of accident/disaster management communication arrangements at site, divisional control room & Zonal HQ control room, Maintenance & inspection of ART equipment, Information to public.
	Auto Telephony and Electronic Telephone Exchanges	Auto Telephone Systems, SPC, PCM-TDM principles, Electronic Telephone Exchanges, speech, voice, data communications, signaling types, ISDN, WLL, Trunk Boards, Telephone traffic and dealing with telephone traffic at peak and slack hour working, system requirements, MDF/IDF wiring, cabling, power plant and protections, maintenance and repairs.

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Contd.P/6.

Passenger Amenities	<p>Sound distribution, acoustic survey, defects & corrections, PA systems in yards, Platforms & conference halls, Paging and talk back in yards, Types of Microphone, Amplifiers, Loudspeakers, Acoustic characteristics of a meeting hall, video/audio conferencing.</p> <p>Passenger Amenity care on Railways, Enquiry Telecom system, Interactive Voice Response systems, prerecorded & PC based Auto announcing, train guidance/ indication boards, coach indication boards, touch screen kiosks, Voice Recorder, Passenger Reservation System, Digital Clocks, Fare display boards, Token Distribution System, Unreserved Ticketing System, PNR enquiry, accommodation availability, National Train Enquiry System, digital clocks (master-slave) , video surveillance system, various Faults, Localization of faults, all aspects of installation, commissioning and maintenance of the passenger amenities.</p>
Telecom Testing and Measuring instruments	<p>Insulation tester, meggar, Transmission measuring set, psophometer, X'talk measurement, CUM set, impedance balancing, cable fault locator, line tester, LAN/WAN analyser, frequency counter, power meter, programmable frequency scanner, field strength meter, different data analysers like communication, Ethernet, protocol analysers, BER meter, LAN meter.</p>
Telecom General	<p>Morning position, PTCC, Knowledge of PTCC manual, various standing committees at Central, State level, case clearance procedures from CEA & SLPTCC members, SACFA/WPC clearances, recommendations & standards CCIR/CCITT/IEEE/ITU.</p> <p>Inspections, maintenance schedules, records, reports, Drawings.</p>

PART - "C" – Official Language/ Rajbhasha

Copy to: For information and necessary action.

1. CSTE/ECOR/BBS.
2. Sr.DSTE(Co-Ord)/KUR,WAT, SBP.
3. Dy.CPO(HQ)/ECOR/BBS.
4. APO(HQ)-I & II.

(S.K.Mishra)

Sr.Personnel Officer (IR&G)
for Chief Personnel Officer
वरिष्ठ कार्मिक अधिकारी
Senior Personnel Officer
पूर्व तट रेलवे मुख्यालय
East Coast Railway/BBS

23.11.11