



पूर्व तट रेलवे/EAST COAST RAILWAY
मुख्यालय कार्यालय, कार्मिक विभाग, रेल सदन, साउथ ब्लॉक भुवनेश्वर
Headquarters Office, Personnel Department, Rail Sadan,
South Block Bhubaneswar-751017



Notification No. ECoR/Pers/RRC-GDCE/2026

Date: 14.09.2026

Sub: Addendum of Additional Syllabus for Junior Engineer to GDCE Notification No. ECoR/Pers/RRC-GDCE/2026 dated 07.08.2026 and Extension of Closing Date for Submission of Online Application

Further, to Para 20.0(e) of the GDCE Notification No. ECoR/Pers/RRC-GDCE/2026 dated 07.08.2026 issued by RRC/Bhubaneswar, the following additional syllabus and instructions are hereby notified:

- 1. Para 20.0(e) - Technical Ability:** Questions on Technical Ability will be framed as per the Exam Group mapped in the Discipline Mapping Table. A candidate possessing more than one minimum educational qualification mapped to different Exam Groups may choose any one Exam Group, provided he/she opts for the post(s) for which the prescribed educational qualification is mapped to the chosen Exam Group.
- 2. Additional Syllabus:** Additional syllabus for the following Exam Groups for Junior Engineer (JE), along with the Discipline Mapping Table, is hereby added for reference: (Copies Enclosed).
 - (a) Electrical & Allied Engineering
 - (b) Electronics & Allied Engineering
 - (c) Mechanical & Allied Engineering
- 3. Verification of Eligibility:** Applicants are advised to verify their eligibility for the post(s) applied for. Corrections, wherever required, may be made in terms of Paras 10.9 and 10.10 of the GDCE Notification dated 07.08.2026.
- 4. Editing of Online Application:** Candidates who have already applied but are not eligible for certain post(s) as per the terms and conditions of the GDCE Notification are advised to suitably edit their applications before the closing date. Necessary provision for modification of the online application has already been enabled.

Instructions for Editing Post/Exam Group and Post Preferences

a. One-Time Editing Facility:

The facility to edit your Post/Exam Group and Post Preferences will be available only once. Candidates are advised to review their existing selections carefully before proceeding.

b. Review Existing Preferences:

On accessing the edit option, your currently selected Post Group and Post Preferences will be displayed for your reference.

c. Proceed to Edit:

If you wish to modify your selections, click on "Continue to Edit Preferences".

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d. Previous Selections Will Be Cleared:

Please note that upon clicking "Continue to Edit Preferences", all your previously submitted Post Group and Post Preference selections will be cleared.

e. Enter Preferences Again:

After the previous selections are cleared, you will be required to select and submit your Post Group and Post Preferences afresh.

f. Final Submission:

Candidates are advised to carefully review all selections before submitting the revised preferences. Once the revised preferences are submitted, no further opportunity to edit the Post/Exam Group or Post Preferences will be provided.

Important: Please exercise caution while using the edit facility, as it is a one-time opportunity, and your existing preferences will be permanently cleared when you proceed with editing.

5. Those eligible staff/applicants who could not able to apply against GDCE notification earlier due to their own reason they can apply now.
6. **Extension of Closing Date:** The closing date for editing of post/exam group and post preference those who have already registered and for those fresh applicant, the submission of online applications is hereby **extended up to 29.09.2026**.
7. Candidate who have already applied and registered their name/applications need not be required to apply fresh.
8. Employees are advised that fresh applications or any modifications to applications already registered may be made through the existing link on the website **www.rrcbbs.org.in**.

All other terms and conditions of the GDCE Notification dated 07.08.2026 shall remain unchanged.

This is issued for information of all concerned and guidance of the candidates.

Encl.: As above


Assistant Personnel Officer (HQ)
for Chairperson Railway Recruitment Cell
East Coast Railway

DISCIPLINE MAPPING TABLE

S.N.	Three Years Diploma in Engineering or Bachelor's degree in Engineering/ Technology	Exam Group
1	Mechanical Engineering	Mechanical and Allied Engineering
	Production Engineering	
	Automobile Engineering	
	Manufacturing Engineering	
	Mechatronics Engineering	
	Industrial Engineering	
	Machining Engineering	
	Tools & Machining Engineering	
	Tools and Die Making Engineering	
	Combination of any sub stream of basic streams of above disciplines	
2	Electrical Engineering	Electrical and Allied Engineering
	Combination of any sub streams of basic streams of Electrical Engineering	
3	Electronics Engineering	Electronics and Allied Engineering
	Instrumentation and Control Engineering	
	Communication Engineering	
	Computer Science and Engineering	
	Computer Engineering	
	Computer Science	
	Information Technology	
	Combination of sub-streams of basic streams of above disciplines	
4	Civil Engineering	Civil and Allied Engineering
	Combination of any sub stream of basic streams of Civil Engineering	
	B.SC. in Civil Engineering of 3 years duration.	

Syllabus for Mechanical & Allied Engineering Exam Group– JE	
S. N.	Subject
1	Engineering Mechanics: Resolution of forces, Equilibrium and Equilibrant, parallelogram law of forces, triangle law of forces, polygon law of forces and Lami's theorem, couple and moment of a couple, condition for equilibrium of rigid body subjected to number of coplanar non-concurrent forces, definition of static friction, dynamic friction, derivation of limiting angle of friction and angle of repose, resolution of forces considering friction when a body moves on horizontal plane and inclined plane, calculation of moment of inertia and radius of gyration of : (a) I-Section (b) channel section (c) T-Section (d) L-Section (Equal & unequal lengths) (e) Z-Section (f) Built up sections (simple cases only), Newton's laws of motion (without derivation), motion of projectile, D'Alembert's principle, definition law of conservation of energy, law of conservation of momentum.
2	Material Science: Mechanical properties of engineering materials – tensile strength, compressive strength, ductility, malleability, hardness, toughness, brittleness, impact strength, fatigue, creep resistance. Classification of steels, mild steel and alloy steels. Importance of heat treatment. Heat treatment processes – annealing, normalizing, hardening, tempering, carburizing, nitriding and cyaniding.
3	Strength of Materials: Stress, strain, stress strain diagram, factor of safety, thermal stresses, strain energy, proof resilience and modules of resilience. Shear force and bending moment diagram – cant lever beam, simply supported beam, continuous beam, fixed beam. Torsion in shafts and springs, thin cylinder shells.
4	Machining: Working principle of lathe. Types of lathes – Engine lathe – construction details and specifications. Nomenclature of single point cutting tool, geometry, tool signature, functions of tool angles. General and special operations – (Turning, facing, taper turning thread cutting, knurling, forming, drilling, boring, reaming, key way cutting), cutting fluids, coolants and lubricants. Introduction to shaper, slotter, planer, broaching, milling and manufacture of gears, heat treatment process applied to gears.
5	Welding – Introduction, classification of welding processes, advantages and limitations of welding, principles of arc welding, arc welding equipment, choice of electrodes for different metals, principle of gas (oxy-acetylene) welding, equipment of gas welding, welding procedures (arc & gas), soldering and brazing techniques, types and applications of solders and fluxes, various flame cutting processes, advantages and limitations of flame cutting, defects in welding, testing and inspection modern welding methods, (submerged, CO₂, atomic – hydrogen, ultrasonic welding), brief description of MIG & TIG welding.
6	Grinding & Finishing Process: Principles of metal removal by grinding, abrasives, natural and artificial, bonds and binding processes, vitrified, silicate, shellac rubber, grinding machines, classification: cylindrical, surface, tool & cutter grinding machine, construction details, relative merits, principles of centreless grinding, advantages & limitations of centreless grinding work, holding devices, wheel maintenance, balancing of wheels, coolants used, finishing by grinding, honing, lapping, super finishing, electroplating, basic principles – plating metals, applications, hot dipping, galvanizing tin coating, parkerising, anodizing, metal spraying, wire process, powder process and applications, organic coatings, oil base paint, lacquer base enamels, bituminous paints, rubber base coating.
7	Metrology: Linear measurement – Slip gauges and dial indicators, angle measurements, bevel protractor, sine bar, angle slip gauges, comparators (a) mechanical (b) electrical (c) optical (d) pneumatic. Measurement of surface roughness; methods of measurements by comparison, tracer instruments and by interferometry, collimators, measuring microscope, interferometer, inspection of machine parts using the concepts of shadow projection and profile projection.
8	Fluid Mechanics & Hydraulic Machinery: Properties of fluid, density, specific weight, specific gravity, viscosity, surface tension, compressibility capillarity, Pascal's law, measurement of pressures, concept of buoyancy. Concept of Reynold's number, pressure, potential and kinetic energy of liquids, total energy, laws of conservation, mass, energy and momentum, velocity of liquids and discharge, Bernoulli's equation and assumptions, venturi meters, pitot-tube, current meters. Working principle & constructional details of centrifugal pump, efficiencies – manometric efficiency, volumetric efficiency, mechanical efficiency and overall efficiency, cavitation and its effect, working principle of jet & submersible pumps with line diagrams.

9	Industrial Management: Job analysis, motivation, different theories, satisfaction, performance reward systems, production, planning and control, relation with other departments, routing, scheduling, dispatching, PERT and CPM, simple problems. Materials in industry, inventory control model, ABC Analysis, Safety stock, re-order, level, economic ordering quantity, break even analysis, stores layout, stores equipment, stores records, purchasing procedures, purchase records, Bin card, Cardex, Material handling, Manual lifting, hoist, cranes, conveyors, trucks, fork trucks.
10	Thermal Engineering: Laws of thermo dynamics, conversion of heat into work vice versa , laws of perfect gases, thermo dynamic processes – isochoric, isobaric, isothermal hyperbolic, isentropic, polytrophic and throttling, modes of heat transfer, thermal conductivity, convective heat transfer coefficient, Stefan Boltzman law by radiation and overall heat transfer coefficient. Air standards cycles – Carnot cycle, Otto cycle, Diesel cycle, construction and working of internal combustion engines, comparison of diesel engine and petrol engine. Systems of internal combustion engine, performance of internal combustion engines. Air compressors their cycles refrigeration cycles, principle of a refrigeration plant.

Syllabus for Electrical & Allied Engineering Exam Group– JE	
S. N.	Subject
1	Basic concepts: Concepts of resistance, inductance, capacitance, and various factors affecting them. Concepts of current, voltage, power, energy and their units.
2	Circuit law: Kirchhoff's law, Simple Circuit solution using network theorems.
3	Magnetic Circuit: Concepts of flux, mmf, reluctance, Different kinds of magnetic materials, Magnetic calculations for conductors of different configuration e.g. straight, circular, solenoidal, etc. Electromagnetic induction, self and mutual induction.
4	AC Fundamentals: Instantaneous, peak, R.M.S. and average values of alternating waves, Representation of sinusoidal wave form, simple series and parallel AC Circuits consisting of R.L. and C, Resonance, Tank Circuit. Poly Phase system – star and delta connection, 3 phase power, DC and sinusoidal response of R-Land R-C circuit.
5	Measurement and measuring instruments: Measurement of power (1 phase and 3 phase, both active and re-active) and energy, 2 wattmeter method of 3 phase power measurement. Measurement of frequency and phase angle. Ammeter and voltmeter (both moving oil and moving iron type), extension of range wattmeter, Multimeters, Megger, Energy meter AC Bridges. Use of CRO, Signal Generator, CT, PT and their uses. Earth Fault detection.
6	Electrical Machines: (a) D.C. Machine – Construction, Basic Principles of D.C. motors and generators, their characteristics, speed control and starting of D.C. Motors. Method of braking motor, Losses and efficiency of D.C. Machines. (b) 1 phase and 3 phase transformers – Construction, Principles of operation, equivalent circuit, voltage regulation, O.C. and S.C. Tests, Losses and efficiency. Effect of voltage, frequency and wave form on losses. Parallel operation of 1 phase /3 phase transformers. Auto transformers. (c) 3 phase induction motors, rotating magnetic field, principle of operation, equivalent circuit, torque-speed characteristics, starting and speed control of 3 phase induction motors. Methods of braking, effect of voltage and frequency variation on torque speed characteristics, Fractional Kilowatt Motors and Single Phase Induction Motors: Characteristics and applications.
7	Synchronous Machines: Generation of 3-phase e.m.f. armature reaction, voltage regulation, parallel operation of two alternators, synchronizing, control of active and reactive power. Starting and applications of synchronous motors.
8	Generation, Transmission and Distribution: Different types of power stations, Load factor, diversity factor, demand factor, cost of generation, inter-connection of power stations. Power factor improvement, various types of tariffs, types of faults, short circuit current for symmetrical faults. Switchgears and Protection: Rating of circuit breakers, Principles of arc extinction by oil and air, H.R.C. Fuses, Protection against earth leakage / over current, etc. Buchholz relay, Merz-Price system of protection of generators & transformers, protection of feeders and bus bars. Lightning arresters, various transmission and distribution system, comparison of conductor materials, efficiency of different system. Cable – Different type of cables, cable rating and derating factor.
9	Estimation and costing: Estimation of lighting scheme, electric installation of machines and relevant IE rules. Earthing practices and IE Rules.
10	Utilization of Electrical Energy: Illumination, Electric heating, Electric welding, Electroplating, Electric drives and motors.
11	Basic Electronics: Working of various electronic devices e.g. P N Junction diodes, Transistors (NPN and PNP type), BJT and JFET. Simple circuits using these devices.

Syllabus for Electronics & Allied Engineering Exam Group– JE	
S.N.	Subject
1	Electronic Components & Materials: Conductors, Semi conductor & Insulators; Magnetic materials; Jointing & Cleaning materials for U/G copper cable & OFC; Cells and Batteries (chargeable and non chargeable); Relays, Switches, MCB & Connectors.
2	Electronic Devices and circuits: PN Junction diodes, thyristor; Diode and triode circuits; Junction Transistors; Amplifiers; Oscillator; Multivibrator, counters; Rectifiers; Inverter and UPS.
3	Digital Electronics: Number System & Binary codes; Boolean Algebra & Logic gates; Combinational & Sequential logic circuits; A/D & D/A converter, counters; Memories
4	Linear Integrated Circuit: Introduction to operational Amplifier; Linear applications; Non Linear applications; Voltage regulators; Timers; Phase lock loop.
5	Microprocessor and Microcontroller: Introduction to microprocessor, 8085 microprocessor working; Assembly Language programming; Peripherals & other microprocessors; Microcontrollers
6	Electronic Measurements: Measuring systems; Basic principles of measurement; Range Extension methods; Cathode ray oscilloscope, LCD, LED panel; Transducers
7	Communication Engineering: Introduction to communication; Modulation techniques; Multiplexing Techniques; Wave Propagation, Transmission line characteristics, OFC; Fundamentals of Public Address systems, Electronic exchange, Radar, Cellular and Satellite Communication.
8	Data communication and Network: Introduction to data communication; Hardware and interface; Introduction to Networks and Networking devices; Local Area Network and Wide area network; Internet working.
9	Computer Programming: Programming concepts; Fundamentals of 'C' and C ++; Operators in 'C' and C ++; Control Statements; Functions, Array String & Pointers, File Structure; Data Structure and DBMS
10	Basic Electrical Engg.: DC Circuits; AC fundamentals; Magnetic, Thermal and Chemical effects of Electric current; Earthing - Installation, Maintenance, Testing,
