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East Central Railway

Office of the
General Manager(P)
Hajipur
Dated:- 03/09/2019

No:- ECR/HRD/GAZ/254/ASTE-30% (Gr.'B)/2019

Secy. to GM/ECR: For kind information of GM
PS-I to AGM: For kind information of AGM
PCPO/ECR/HJP, SDGM/ECR/HJP & PCSTE/ECR/HJP
GM/IRCON International Ltd./Son Annex Bhawan/Patna
CAO(Con)(S&N)/MHX/ECR/PNBE
CAO/DLF/MEW, CAO/GELF/DMH, CAO/RWP/Bela, CAO/WPO/PNBE
General Manager (P)/NCR & CORE/Allahabad
GM (P).NER/GKP & GM(P)/ER/KKK
General Manager/RITES/NDLS
CSTE/Con/S&N/ECR/MHX/PNBE
CPO(A), CPO(IR)/ECR, CPD/RE/DNR
DRM/ECR/DNR, MGS, DHN, SEE & SPJ
CSO/ECR/HJP, CWM/PD/MGS, WS/SPJ & CRW/HRT
Chairman/RRB/Patna & MFP
Sr.DPO/ECR/DNR, MGS, DHN, SEE & SPJ
Dy.CPO(Con.)/MHX/PNBE, Dy.CPO/WP/Patna
Sr. DSTE/S/DSTEs/ECR/DNR, MGS, DHN, SEE & SPJ
Dy.CPO/HQ/ECR/HJP & Dy.CSTE/Con/MHX
SPO/PD/MGS, SPO/Rectt./HJP, Principal/ZRTI/E.C.Rly/Bhuli & MFP
APO/MPP/ECR/HJP : for uploading on website.
All Extra Divisional Units

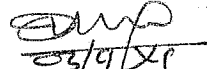
OS/HP
25/9/19
9/15/19

Sub:- Limited Departmental Competitive Examination (LDCE) for the post of ASTE (Gr. 'B') in pay band ₹ 9300-34800 (Level-8) Grade pay ₹ 4800 against 30% quota.

Ref:- Notification dated 22.08.2019.

In continuation to this office notification dated 22.08.2019, syllabus (in 03 pages) for selection to the post of ASTE(Gr.'B') against 30% quota is enclosed herewith as 'Annexure-B' for circulation to all concerned.

DA:- As above.


23/9/19
(Dilip Paswan)
Sr. Personnel Officer /Gaz
For General Manager (P)

Syllabus (Revised) for 30% LDCE for Promotion Group 'B' ASTE in Signal & Telecommunication Department:

(A) Technical Subject

General Mathematics

- Arithmetic and statistical operations, graphs, fractions, percentage, sampling & averages.
- Geometry-area & volume upto Higher Secondary/12th Standard level
- Algebra, simultaneous equations etc up to Higher Secondary/12th Standard level
- Mechanics – Velocity & acceleration, work done, horse power etc up to Higher Secondary/12th Standard level

Strength of Material

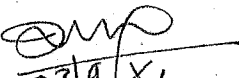
- Various Engineering materials and their properties, bearings stress & strain, fatigue, hardness, corrosion & surface finish.

Physics & Basic Electricity

- Temperature & measurement
- Mechanics – Newton's law of motion, velocity & Acceleration Work, Energy, Power, Archimedes' principle etc.
- Heat & work, expansion of solids, liquids & gases
- IC Engines, gas turbine heat recovery & thermal efficiency. Super charging & inter cooling
- Ohm's law, Coulomb's Law Faraday's Law, Voltage, Current & Resistance, wet & Dry Batteries, Power Factor
- Simple motors & Dynamos –Principle of working of ransformer, Relay, Fuse, Circuit Breaker
- Power Supply, AC & DC Rectifiers

Rules & Manuals

- Rules for Opening of Railways, Signal Engineering Manual, Telecommunication Engineering Manual, Store Procedures and Practices, AC Traction Manual, Block Working Manual, Schedule of Dimensions, Operation Manual, Disaster Management, Accident Manual – Accident Classification, Causes of Accident and their prevention, Duties of First Official reaching the Accident Site, Enquiries, Failure Analysis & Investigations.
- Fundamental Engineering & Applied Technology, Simple Structures, Dynamics, Simple Machinery, Magnetism, Electricity, Sound, Electrical Machinery and Circuits, Fundamental Electronics & Electronics Circuits, Power Supply Equipment and Systems, Protection Systems against Lightning & Surges, Principles of Optics & Optical Fibre Cable, Principles of Digital Electronics – Boolean Algebra, Digital Devices and their Applications, Data Communication Principles & InformationTechnology _ Familiarity with PC Specifications , Operating Systems-Windows, Operating and Application Software, Basic LAN/WAN & Networking, Intranet/Internet.


03/9/14
SPO/GAZ.

Signaling

Mechanical & Electrical Interlocking, Interlocking plans and locking tables, Block Signaling, Electro-mechanical and Electrical Signaling, Automatic Signaling, Panel Interlocking, Route Relay Interlocking, Axle Counters, Track Circuits, Automatic Warning System, Train Protection & Warning System (TPWS) and/or Anti Collision Device (ACD), Centralized Traffic Control (CTC), Electronic Interlocking (EI), Data Loggers & Networking, LED Signals, Block Proving by Axle Counters (BPAC), Audio Frequency Track Circuits (AFTC), Integrated Power Supply (IPS) etc.

Telecommunication

Overhead and underground cable system, control office and way station and emergency control communication equipment, Telephone exchange ----- automatic, specialized communication and allied equipment like STM, DWDM etc in Railways, comprising HF, VHF and Microwave, GSM-R and/or Tetra for Mobile Train Radio, OFC and Quad cable, Communication in RE area, Data communication & IP Networks, Digital Electronic Exchanges, ISDN, Network Management Systems, networks for PRS, FOIS, TMS, UTS etc, Concept of GPS.

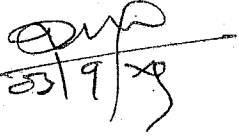
Workshop Practice- Raw material, processing, Workshop machines and their utilization, Overhauling Procedure and Practices, Inspection and Testing of components, Testing Procedure, commissioning and measurement, Integration, Testing & Certification of IPS/SMPS, DC-DC Converters, Invertors & Battery Chargers/Float Rectifiers, Block instruments & Relays, Relay Technology- Different Types of Relays & their working, Block Instruments and Point Machines, Quality Control and Safety Practices.

(B) General Knowledge

- This section would contain questions of general interest and importance, which is acquired by general observation or reading without specific text book study. Subjects of national importance as well as achievements of Railways are also to be covered. The standard of General Knowledge shall not be more rigorous than Matriculate level.
- Official Language.

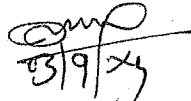
(C) Establishment & Financial Rules**Establishment Rules**

- General conditions of services of Railway servants including rules regarding leave joining time, passes etc
- Railway service D&D Rules-1968 & amendments
- Railway service Conduct Rules-1966 & amendment
- Retirement benefits
- Payment of wages, allowance & overtime
- Labour laws including payment of Wages Act, Workmen's Compensation Act, Hours of Employment Regulations, Factory Act, Contract Labour Act
- Manpower playing & Training
- Welfare measures in Railways
- PNM, JCM & PREM


33/9/23
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Financial Rules

- Parliamentary control over Railway Finance – public accountability, canons of financial propriety
- Railway Budget- Budgetary terms, Types of Budgets, Budget cycle, Demand of Grants, Expenditures Classification
- Rule for allocation- Classification of Expenditure, Control over expenditure- Responsibility of accounting performance budgeting, Exchequer, General Financial results of working
- Work Programme- Financial justification of works, Survey, preparation of estimate, capital budget- Control over expenditure, capital expenditure, re-appropriation
- Financial Control over store expenditure-Purchase and stores keeping procedure-inventory control
- Financial and cost control in Railway Workshop
- Rules and Procedure relating to tenders and contracts for execution of works and procurement of stores, M&P Programme
- Procedure for processing and finalizing the audit objections and draft paras
- Delegation of Powers


31/12/24
SPO/Goz.