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RRB-JE

RAILWAY RECRUITMENT BOARD

JUNIOR ENGINEER

COMPUTER BASED TEST (CBT) - I

Previous Years Questions with Solutions,
Subjectwise & Chapterwise (2019)

**Mathematics | General Intelligence & Reasoning
General Awareness | General Science**

for

CE | ME | EE | EC | CSIT

SALIENT FEATURES:

- Detailed Solutions, Subjectwise & Chapterwise
- Includes **2019** all Streams & Shifts Question Papers
- Contains **3500** Questions of **35** Sets
- Useful for **SSC-JE** & Other Competitive Examinations

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Foreword

Dear Students,

Many competitive exam aspirants experience tremendous preparation pressure a few weeks before the real examination as they are not sure about the type of questions expected in the exam. It is very difficult to guess the possible questions in the competitive exam but there are ways to overcome this difficult situation. One such excellent option is solving the previous years' question papers as a part of the preparation strategy. Solving previous years' questions always gives a positive mindset before going to the real examination. This option may look simple and easy yet many aspirants do not include the practice of previous years' questions in their preparation.



The primary benefits of preparing with previous years' questions are the ability to understand the level of questions and prepare, gauge the importance of each individual subject by the number of questions appeared in previous years examination papers and further to identify key sub-areas within a subject by evaluating the number of questions appeared. These benefits are well known to the aspirants but the primary reason for not including previous years' question papers in the preparation strategy is non-availability of quality and trustable resource which can provide not only the exact questions but also quality solutions to these questions.

We at ACE Engineering Academy identified this gap in the competitive exam preparation strategy of the aspirants and came up with a series of books on previous questions and solutions for various competitive exams such as GATE, ESE, PSUs, and other government recruitment examinations. The latest offering is in this series is **Railway Recruitment Board - Junior Engineer (RRB - JE) CBT - I** Examination questions and solutions book. This book is prepared by exclusive RRB-JE subject matter experts so that the solutions are optimized to the RRB - JE level. The unique feature in this book is that the previous years' examination questions are categorized as subject wise, chapter wise so that the aspirant can integrate these questions along in their regular preparation.

We at ACE are sure that this book will be of tremendous help to the aspirants of RRB - JE CBT - I examination. Any suggestions or inputs which will add value are welcomed.

Thanks to all Professors who extended their services in the preparation of this booklet. It is believed that this volume is also a valuable aid to the students appearing for competitive exams like SSC-JE, Central & State Public Service Commissions & Various Competitive Examinations.

With best wishes to all the Students

Y.V. Gopala Krishna Murthy,
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Chairman & Managing Director,
ACE Engineering Academy,
ACE Engineering Publications.
Frost Interactive Service Pvt. Ltd. (ACE ONLINE).

RRB - JE Examination Pattern & Syllabus

RECRUITMENT PROCESS:

- Only single online application {common to all the notified posts in opted RRB - Junior Engineer (JE), Junior Engineer (Information Technology) [JE(IT)], Depot Material Superintendant (DMS) and Chemical & Metallurgical Assistant (CMA)} has to be submitted by the candidate through the link provided on the official website of RRBs.
- The entire recruitment process shall involve, 1st stage Computer Based Test (CBT), 2nd stage CBT, and Document Verification/Medical Examination as applicable. Selection is made strictly as per merit, on the basis of CBTs.
- The date, time and venue for all the activities viz CBTs and DV or any other additional activity as applicable shall be fixed by the RRB and shall be intimated to the eligible candidates in due course. Request for postponement of any of the above activity or for change of venue, date and shift will not be entertained under any circumstances.

1st Stage CBT (Common for all notified posts of this CEN):

Duration : 90 minutes (120 Minutes for eligible PwBD candidates accompanied with Scribe)

No. of Questions : 100

- The 1st stage CBT is of screening nature and the standard of questions for the CBT will be generally in conformity with the educational standards and/or minimum technical qualifications prescribed for the posts.
- The normalized score of 1st stage exam shall be used only for short listing of candidates for 2nd stage exam as per their merit.
- Candidates who are shortlisted for 2nd stage CBT availing the reservation benefits of a community, PwBD and ExSM shall continue to be considered only against that community for all subsequent stages of recruitment process.

The Questions will be of objective type with multiple choices and are likely to include questions pertaining to:

- (a) Mathematics:** Number systems, BODMAS, Decimals, Fractions, LCM and HCF, Ratio and Proportion, Percentages, Mensuration, Time and Work, Time and Distance, Simple and Compound Interest, Profit and Loss, Algebra, Geometry, Trigonometry, Elementary Statistics, Square Root, Age Calculations, Calendar & Clock, Pipes & Cistern.
- (b) General Intelligence and Reasoning :** Analogies, Alphabetical and Number Series, Coding and Decoding, Mathematical operations, Relationships, Syllogism, Jum-bling, Venn Diagram, Data Interpretation and Sufficiency, Conclusions and Decision Making, Similarities and Differences, Analytical reasoning, Classification, Directions, Statement – Arguments and Assumptions etc.
- (c) General Awareness :** Knowledge of Current affairs, Indian geography, culture and history of India including freedom struggle, Indian Polity and constitution, Indian Economy, Environmental issues concerning India and the World, Sports, General scientific and technological developments etc.
- (d) General Science :** Physics, Chemistry and Life Sciences (*up to 10th Standard CBSE syllabus*).

The section wise Number of Questions and Marks are as below :

Subjects	No. of Questions	Marks for each Section	Duration
	Stage-I	Stage-I	90 Min
Mathematics	30	30	
General Intelligence & Reasoning	25	25	
General Awareness	15	15	
General Science	30	30	
Total	100	100	

- The section wise distribution given in the above table is only indicative and there may be some variations in the actual question papers.
- Minimum percentage of marks for eligibility in various categories: UR -40%, OBC-30%, SC-30%, ST -25%. These percentage of marks for eligibility may be relaxed by 2% for PwBD candidates in case of shortage of PwBD candidates against vacancies reserved for them.

2nd Stage CBT:

Duration : 120 minutes (160 Minutes for eligible PwBD candidates accompanied with Scribe)

No. of Questions : 150

- Short listing of Candidates for the 2nd Stage CBT exam shall be based on the normalized marks obtained by them in the 1st Stage CBT Exam.
- Total number of candidates to be shortlisted for 2nd Stage shall be 15 times the community wise total vacancy of Posts notified against the RRB as per their merit in 1st Stage CBT.
- However, Railways reserve the right to increase/decrease this limit in total or for any specific category(s) as required to ensure availability of adequate candidates for all the notified posts.

Syllabus: The Questions will be of objective type with multiple choices and are likely to include questions pertaining to General Awareness, Physics and Chemistry, Basics of Computers and Applications, Basics of Environment and Pollution Control and Technical abilities for the post. The syllabus for General Awareness, Physics and Chemistry, Basics of Computers and Applications, Basics of Environment and Pollution Control is common for all notified posts under this CEN as detailed below:-

- General Awareness :** Knowledge of Current affairs, Indian geography, culture and history of India including freedom struggle, Indian Polity and constitution, Indian Economy, Environmental issues concerning India and the World, Sports, General scientific and technological developments etc.
- Physics and Chemistry:** Up to 10th standard CBSE syllabus.
- Basics of Computers and Applications:** Architecture of Computers; input and Output devices; Storage devices, Networking, Operating System like Windows, Unix, Linux; MS Office; Various data representation; Internet and Email; Websites & Web Browsers; Computer Virus.
- Basics of Environment and Pollution Control:** Basics of Environment; Adverse effect of environmental pollution and control strategies; Air, water and Noise pollution, their effect and control; Waste Management, Global warming; Acid rain; Ozone depletion.
- Technical Abilities:** The educational qualifications mentioned against each post shown in Annexure-A, have been grouped into different exam groups as below. Questions on the Technical abilities will be framed in the syllabus defined for various Exam Groups given at Annexure-VII-A, B, C, D, E, F & G.

The section wise Number of Questions and Marks are as below :

Subjects	No. of Questions	Marks for each Section	Duration
	Stage-II	Stage-II	120 Min
General Awareness	15	15	
Physics & Chemistry	15	15	
Basics of Computers and Applications	10	10	
Basics of Environment and Pollution Control	10	10	
Technical Abilities	100	100	
Total	150	150	

- The section wise distribution given in the above table is only indicative and there may be some variations in the actual question papers.
- Minimum percentage of marks for eligibility in various categories: UR -40%, OBC-30%, SC-30%, ST -25% This percentage of marks for eligibility may be relaxed by 2% for PwBD candidates, in case of shortage of PwBD candidates against vacancies reserved for them.
- Virtual calculator will be made available on the Computer Monitor during 2nd Stage CBT.

Discipline Mapping Tables:-

Three years Diploma in Engineering or Bachelor's Degree in Engineering/Technology	Exam Group
Mechanical Engineering	Mechanical and Allied Engineering
Production Engineering	
Automobile Engineering	
Manufacturing Engineering	
Mechatronics Engineering	
Industrial Engineering	
Machining Engineering	
Tools and Machining Engineering	
Tools and Die Making Engineering	
Combination of any sub stream of basic streams of above disciplines	
Electrical Engineering	Electrical and Allied Engineering
Combination of any sub stream of basic streams of Electrical Engineering	

Three years Diploma in Engineering or Bachelor's Degree in Engineering/Technology	Exam Group
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	
Civil Engineering	Civil and Allied Engineering
Combination of sub streams of basic streams of Civil Engineering	
B.Sc., in Civil Engineering of 3years duration	
Printing Technology/Engineering	Printing Technology

S. No.	Education Qualifications	Exam Group
1.	B.Sc., Chemistry and Physics	CMA
2.	BE/B.Tech., (Computer Science)	Computer Science and Information Technology
	BE/B.Tech., (Information Technology)	
	PGDCA	
	B.Sc. Computer Science	
	BCA	
	DOEACC "B" Level Course of 3 years duration or equivalent	

All the candidates with the above qualification shall be tested in the Exam Group mapped as per the above chart. However, candidates with educational qualification of BE/B.Tech (Computer Science) or BE/B.Tech (Information Technology), applying for both the posts of JE(S&T Department) and JE (IT), have to opt for either Electronics and Allied Engineering Exam Group or Computer Science and Information Technology Exam Group. The educational qualification for the post of DMS (Depot Material intendent) is Three Years Diploma in Engineering i.e a candidate with Three Years Diploma in any of Engineering disciplines, can apply for these posts as applicable. Candidates with educational qualifications not figuring in the above chart and eligible for DMS posts have to choose any one of the above listed Exam Groups other than CMA Exam Group, during the registration for online applications of this CEN.

A candidate possessing more than one minimum educational qualification, mapped to different Exam Groups, can choose any one Exam Group. These candidates would be eligible for all the posts for which they possess minimum educational qualifications.

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