

# HOW TO BECOME A RAILWAY OFFICER

FOR RAILWAY DEPARTMENT EXAMINATIONS (LDCE 30%, LGS 70%)

CIVIL ENGINEERING (ADEN / AXEN & JE)

OBJECTIVE / MULTIPLE CHOICE QUESTIONS WITH ANSWERS

Er. SURESH K SHEVRA  
FORMER EXECUTIVE ENGINEER  
CENTRAL RAILWAY

## VOLUME-1



सर्वश्रेष्ठ परीक्षा मार्गदर्शक

2024

SHEVRA

A SOLUTION OF HIGHER ENGINEERING VERSION FOR RAILWAY ACADEMY



**First Edition 2021**  
**First Reprint Edition 2022**  
**Second Edition 2022**  
**Second Reprint Edition 2022**  
**Third Edition Nov 2023**  
**Fourth Edition Nov 2024 (VOL-1)**  
**© Copyright with the publisher**  
**All rights reserved.**

No part of this publication may be reproduced or transmitted in any form without the written permission of publisher. Some photographs / Data have been taken from internet whose sources are not known. The copyright is duly acknowledged here.

**Publisher:-**

**Er Suresh K Shevra**

1414, Civil Lines

Jhansi 284001

Mobile 9422296949,

**The book is also available on 9422296949, 9403989787**

**Printed by:-**

**Saraswati Print Media**

Nauchandi Ground Meerut-250002 (U.P.)

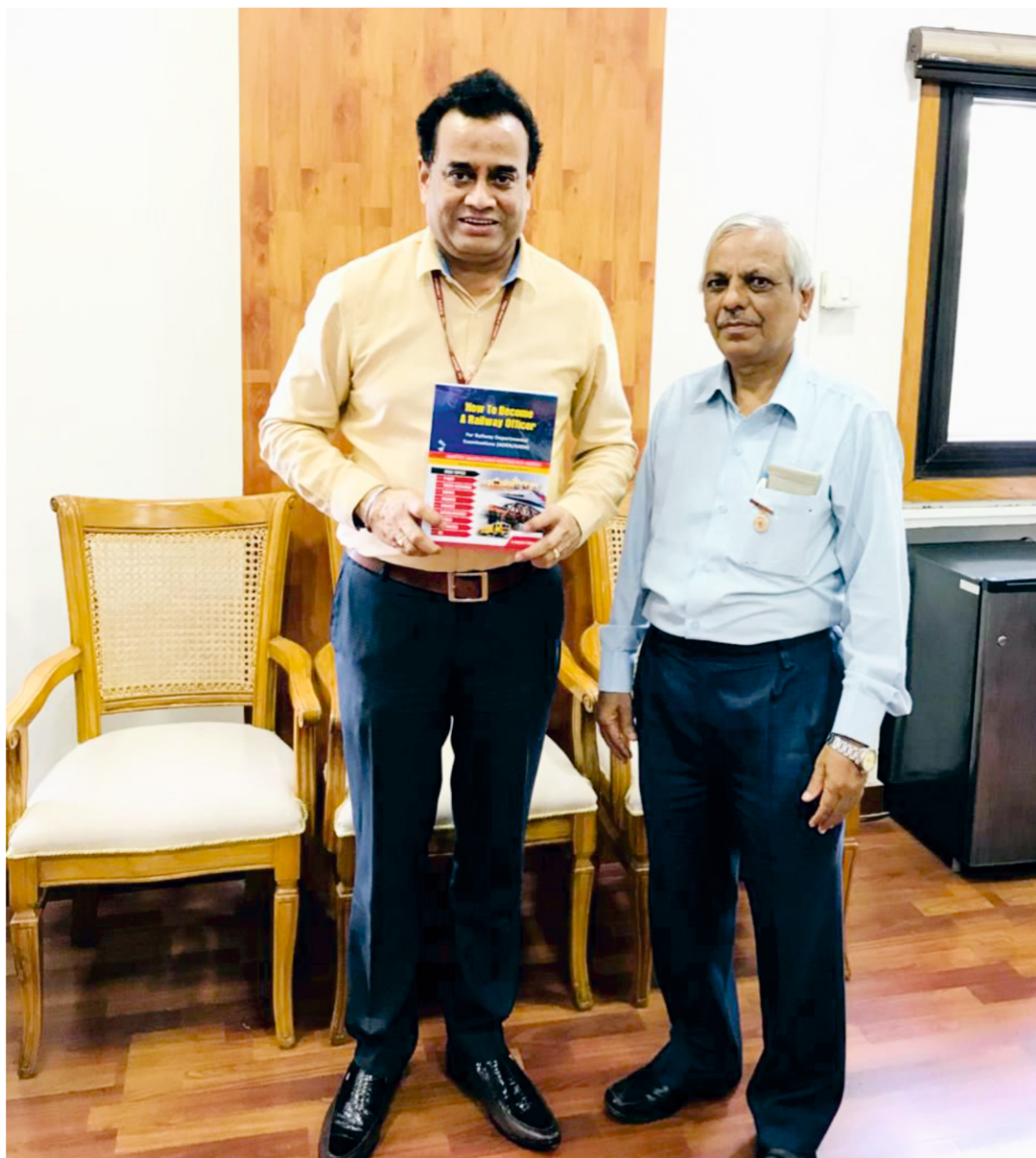
**Price: 600/-**

All dispute subject to court of Nashik, (Maharashtra)

**ISBN : ISBN : 978-93-5777-018-7**



TO  
SMT BENI BAI & SHRI CHHAKKI LAL SHEVRA  
MOTHER & FATHER  
WITH  
LOVE & RESPECT



Hon'ble Shri Rajesh Argal Additional Member, Infrastructure Railway Board New Delhi (Left Side) along with the author Shri Suresh Kumar Shevra former Executive Engineer Central Railway (Right Side), inaugurating the How to Become Railway Officer Objective Book, at Rail Bhawan New Delhi on 20-07-2021





राम करण यादव  
महानिदेशक  
Rama Karan Yadav  
Director General



सत्यमेव जयते



भारत सरकार, रेल मंत्रालय  
भारतीय रेल सिविल इंजीनियरी संस्थान,  
पुणे-411001  
Government of India, Ministry of Railways  
Indian Railways Institute of Civil Engineering,  
PUNE 411 001

## Foreword

I am pleased to note that **Er. SURESH. K. SHEVRA** retired Executive Engineer Central Railway is publishing 4th edition of "**HOWTO BECOME A RAILWAY OFFICER**", now in 2 volumes by expanded number of questions within 3 years.

Contents of the Volume-I have been divided into 3 Part i.e. P-Way, Bridge & Tunnel and Works and that of Volume-II in 5 parts i.e. Establishment, Finance, Stores, General Knowledge & Rajbhasha. In this edition Author stressed on thorough knowledge of each subject through Multiple Choice Objective questions with answers incorporated with latest correction slips of different Manuals and according to the latest instruction issued regarding CBT Exam for AEN by NAIR Vadodara and Railway Board. Volume-II is specially designed for other than technical subject which will be beneficial to other departments i.e. AEN, AME, ASTE, APO, ACM, AOM, AFA, AEE and AMM also.

The Author **Shri S.K. Shevra** Retired **Executive Engineer Central Railway** has over 30 years long rich experience of Civil Engineering fields in different capacities.

I wish to congratulate the author all success for his work.

(R.K. Yadav)

Palace: Pune

Date: 3-10-2023

Director General IRICEN Pune MH

बी.एस.एन.एल BSNL  
Office : (020) 26123680  
Fax: (020) 26128677

रेलवे Railway  
Office : 62400  
Fax (013) : 55860

ई मेल email  
iricenmail@iricen.railnet.gov.in



भारतीय रेल यांत्रिक एवं विद्युत अभियंत्रण संस्थान  
**Indian Railways Institute of Mechanical & Electrical Engineering**  
(AN ISO 9001:2015, ISO 14001:2015, ISO 50001:2011 CERTIFIED INSTITUTE )



पी. रवि कुमार  
**P. Ravi Kumar**  
अपर महानिदेशक  
**Addl. Director General**

## **FOREWORD**

It is great pleasure that “**HOW TO BECOME A RAILWAY OFFICER**”, 4<sup>th</sup> edition in 2 volumes have been published by Blue Circle Publication for the benefits of those aspirants preparing for the 70% & 30% Computer Based objective type Tests (CBT) conducted by Railway Board.

VOLUME-I- consist of Professional Subject for Civil engineering which is further divided into three parts 1. P-Way (17 chapters), 2. Bridges & Tunnels, 3. Work (18 chapters).

Similarly, VOLUMES-II consists of other than Professional Subject divided into 5 parts 1. Establishment, 2. Finance, 3. Stores, 4. Raj bhasha, 5. GK & Computer and especially useful for all departments i.e., ACM, AEE, AEN, AFA, AME, AMM, AOM, APO, ASTE.

I congratulate the Author Suresh K. Shevra and wish him all success with his work.

Palace: Jamalpur  
Date: 31-10-2023

**(P. Ravi Kumar)**  
**Additional Director General**  
**IRIMEE, Jamalpur**

इरिमी, कारखाना मार्ग, जमालपुर, बिहार। IRIMEE, Workshop Road, Jamalpur, Bihar 811214



[www.irimee.indianrailways.gov.in](http://www.irimee.indianrailways.gov.in)



06344-243293/243400

## मध्यरेल / CENTRAL RAILWAY



राजेश अरोरा  
प्रधान मुख्य अभियंता

**Rajesh Arora, IRSE**  
Principal Chief Engineer

प्रधान मुख्य अभियंता कार्यालय  
छत्रपतिशिवाजी महाराज टर्मिनस  
मुम्बई-400001

Principal Chief Engineer's Office,  
Chhatrapati Shivaji Maharaj Terminus,  
MUMBAI-400001



### FOREWORD

The book “**HOW TO BECOME A RAILWAY OFFICER Volume - I & II**” written by Shri Suresh K. Shevra former Executive Engineer Central Railway are a unique book in which it has been focused on syllabus issued by Railway Board for aspirant of, AEN, AME, ASTE, APO, ACM, AOM, AFA, AEE and AMM, Railway group B services. All the aspirant will be benefited those appearing centralized computer based objective type MCQ examination for 70% and 30% LDCs for promotion to group ‘B’ post conducted by NAIR Vadodara.

The language has been kept simple, making the book extremely readable specific to all stream of Indian Railways.

Being a quite a comprehensive book, I have full confidence this edition will continue to be a valuable as a guide for CBT Exam as well as useful as a reference in day-to-day work in the field.

I compliment author Shri Suresh K Shevra former Executive Engineer Central Railway for his excellence work and hope for his success.

CST Mumbai CR  
03-10-2023

  
3-X-23  
**(RAJESH ARORA)**

Principal Chief Engineer, Central Railway

हीरी बल्लभ

निदेशक वित्त / मु.वित्त.अ.

**HIRA BALLABH**

DIRECTOR FINANCE / C.F.O.



डेडीकेटेड फ्रेट कोरीडोर

डेडीकेटेड फ्रेट कोरीडोर कॉर्पोरेशन ऑफ इण्डिया लि.

भारत सरकार (रेल मंत्रालय) का उपक्रम

**Dedicated Freight Corridor Corporation of India Ltd.**

A Govt. of India (Ministry of Railways) Enterprise

('AAA' RATED COMPANY BY CRISIL, ICRA & CARE)



## FOREWORD

'HOW TO BECOME A RAILWAY OFFICER' written by Shri Suresh K. Shevra in two volumes in a unique compilation. More than 5200 Multiple Choice Objective questions with answers are incorporated with latest correction Slips of different Manuals for aspirant of, ACM, AEN, AEE, AFA, AOM, AMM, AME, APO, ASTE, Railway Group 'B' services.

All the aspirants appearing for centralised computer based objective type MCQ examinations and for 70% and 30% LDCEs for promotion to group 'B' posts would be benefited. These volumes are also useful for other railway employees in their day-to-day working.

I compliment the author for this excellent work.

With Best Wishes.

Palace: NDLS

Date: 18-10-2023



(HIRA BALLABH)

---

पंजीकृत एवं कार्पोरेट कार्यालय : पांचवा तल, सुप्रीम कोर्ट मेट्रो स्टेशन बिल्डिंग परिसर, नई दिल्ली-110001

Regd. & Corporate Office : 5th Floor, Supreme Court Metro Station Building Complex, New Delhi-110001  
Tel.: +91-11-23454610, 23379821 Fax : 011-23454615 Web.: www.dfccil.com EMAIL : hiraballabh@dfcc.co.in  
CIN : U60232 DL 2006 GOI 155068



सत्यमेव जयते

संतोष कुमार अग्रवाल  
SANTOSH KUMAR AGARWAL

महानिदेशक

भारतीय रेल सिविल इंजीनियरिंग संस्थान

भारत सरकार, रेल मंत्रालय,

पुणे- 411001

DIRECTOR GENERAL

Indian Railways Institute of Civil Engineering,

Government of India, Ministry of Railways,

Pune - 411001.

## Foreword

I am happy to learn that Shri Suresh K Shevra retired XEN Manmad CR is publishing an objective book "**HOW TO BECOME A RAILWAY OFFICER**", for the aspirants preparing for JE, SSE, ADEN, level LDCE/LGS and other Departmental Computer Based Objective Type Tests (MCQ).

I am sure this book is unique being focussed on in-depth understanding of subjects at basic and advanced level of Civil professional subjects in Part-1 i.e P-Way, USFD, L-Xing, Welding, TMS, Bridge, Track Machines, Works, etc. and general subjects in Part-2 i.e. Establishment, Finance, Stores Raj bhasha, General knowledge & computer subjects in tune with latest Manuals & circulars. These topics are covered in a simple language, which can be understood even by a person not having Engineering Degree/Diploma.

I am sure that Railway Civil engineers will be benefited from this book as it will definitely cater for the new changes in the syllabi.

I thank the author & wish success for his work in the form of this book.

Pune

Date : 09 April, 2021

(Santosh Kumar Agrawal)

Director General

IRICEN Pune

बी.एस.एन.एल BSNL: (020)  
Tel: (o) 261236809 (R) 26050791  
Fax: (020) 26128677

रेलवे Railway: (013)  
Tel: (o) 62430 (R) 62401  
Fax: 55860

वेब Web  
Website: [www.ircen.gov.in](http://www.ircen.gov.in)  
e-mail: [dg@ircen.gov.in](mailto:dg@ircen.gov.in)





**OP SINGH**  
**ADDITIONAL MEMEBR**  
**(LAND & AMENITIES)**



सत्यमेव जयते



एक कदम स्वच्छता की ओर

भारत सरकार  
रेल मंत्रालय  
रेलवे बोर्ड, रेल भवन  
नई दिल्ली - 110001

**GOVERNMENT OF INDIA**  
**MINISTRY OF RAILWAYS**  
**RAILWAY BOARD, RAIL BHAVAN**  
**NEW DELHI - 110001**

Dated : 08-03-2021

## Foreword

It is heartening to note that Er. Suresh Kumar Shevra is releasing a book titled "How to become a Railway Officer". Focus has been kept on depth understanding of Railway Civil Engineering subjects at basic and advanced level. It will definitely be helpful to aspirants preparing JE/SSE/ADEN level through LDCE/LGS exams conducted by the various zonal railways. Wide range of Multiple Choice Questions with answers have been covered in a simple and effective manner which can be easily understood by the field Engineers/technical persons.

I am sure that Civil Engineering officials will be greatly benefitting from the book.

I congratulate Er. S. K. Shevra for authoring such a useful technical book.



(OP SINGH)

Addl Member (L&A)

## **FOREWORD**

I am pleased to note that Blue Circle Publication India is bringing out the updated version of 'HOWTO BECOME A RAILWAY OFFICER 2023'.

It would be stating the obvious to mention about the utility and popularity of this MCQ Book which is useful to all classes of Civil Engineers in the country for preparation of both professional and non-professional subjects. I am hopeful that this book will benefit candidates appearing for centralised computer based objective type examinations for 70% Selection and 30% LDCE for promotion to Group 'B' posts of Civil Engineering Department of Indian Railways.

I congratulate the author Shri Suresh K Shevra and wish him all success for his work.



( Atul B. Khare )  
Pr. Executive Director/Civil Engg. (Plg.)  
Railway Board

New Delhi, 30 November, 2022

प्रदीप कुमार गर्ग  
**PRADEEP KUMAR GARG**

प्रमुख मुख्य इंजिनियर  
**PRINCIPAL CHIEF ENGINEER**



**पश्चिम रेलवे**  
**Western Railway**

चर्चगेट, मुंबई – 400 020  
Churchgate, Mumbai - 400 020.  
Phone : (022) 22016893

### **FOREWORD**

It gives me great pleasure that Blue Circle Publication India is bringing out the revised 3<sup>rd</sup> edition of **"HOW TO BECOME A RAILWAY OFFICER"** during December, 2022. The book covers professional as well as non professional subjects as per syllabus issued for aspirants of Group "C" to Group "B" Railway Civil Engineers by Railway Board and aspirant appearing for centralised computer based objective type examinations for 70% Regular and 30% LDCs for promotion to group "B" post will be benefitted. I am confident that this MCQ Book will be very useful to Railway Civil Engineers.

I wish all the success to Shri Suresh Kumar Shevra, Author of the 3<sup>rd</sup> edition of **"HOW TO BECOME A RAILWAY OFFICER"**.

**Churchgate**  
**22 November, 2022**

**(PRADEEP KUMAR GARG)**  
**PRINCIPAL CHIEF ENGINEER**  
**WESTERN RAILWAY**

## PREFACE FOURTH EDITION

As you would have observed from the book cover, you have just entered the portal of knowledge which will serve as a beacon of light throughout your professional life. The response to earlier edition of this book **"HOW TO BECOME RAILWAY OFFICER"** had been encouraging because of more than 2900 Multiple Choice Objective questions with answers (now increased more than 5786) incorporated with latest correction Slips of different Manuals and according to the latest instruction issued by Railway Board. It is learnt with great pleasure about 50 % readers of this book have been qualified throughout the Indian Railway in last 3 year AEN Exam conducted by NAIR Vadodara, due to which constant demand for this book not only from Civil Engineering but also all other 8 departments officials of Indian Railways increased.

The book sets out to systematically provide a basic understanding of the many aspects of designing, constructing, maintaining and management of railways. Latest correction Slip No 15 of 23-10- 2023 for IRPWM June 2020 now incorporated in this book and being increase of number of questions from 2900 to 6200 now it has been divided into 2 volumes.

**Both VOLUME-I & VOLUME-II, has been consist of PROFESSIONAL SUBJECT & OTHER THAN PROFESSIONAL SUBJECT** respectively. **VOLUME-I, Professional Subject (Civil Engineering)** further divided three part 1-P-Way (17 chapters), 2-Bridges & Tunnels, 3-Work (18 chapters) and **VOLUME-II-Other than Professional Subject (for all Faculties i.e. ACM, AEE, AEN, AFA, AME, AMM, AOM, APO, ASTE, & JE)** divided in 5 parts 1-Establishment, 2-Finance, 3-Stores, 4-Rajbhasha, 5-GK & Computer. Various sections in A-to-Z sequence to ensure that the contents in the book are self-sufficient, easy to search by having A-to-Z arrangements of chapters, not requiring cross-referencing. The aim is that the not only Engineers but also other than engineers i.e for all Faculties Aspirants are equipped with the right knowledge, so that they can aspire and accomplish success in any competitive exam.

The author has accumulated an enormous number of intellectual debts from all departments of Indian Railways. Shri Brij Bhushan Garg XEN (PL) BH NDLS NR, Shri V Trinadh ADEN ECOR VSKP Shri Shree Dhar SSE ( Bridge ) SC SCR, Shri Dharmendra Kumar SSE (Works ) AGC NCR, Shri Gulshan Saili ( P-Way) NDLS NR, Shri SK Hardah SSE( C ) NDLS NR, Shri Manoj Singh SSE(P-Way) BH NDLS, Shri Sunder Ram Sr Instructor ZRTI TBM SR, Shri Deepankar Chatterji SSE(P-Way) DTC, Guwahati NFR, Shri A K Sinha SSE(Works ) CCG WR, Shri Mahothara Sarvana Pavan ADEN SR, Smt. Rekha Srinivas (DD) SC SCR, Shri Lallan Kumar Mishra SSE(TMC) Sini SER, Shri Abdul Rashid SSE(WKS) Construction Indore WR, Shri R.B Singh AOM Coaching SUR CR, Shri V.P Singh instructor IREEN NK, Shri Naresh Shinde APO (W/S) MMR CR Shri Hukum Singh Professor General services IREEN NK CR who had extended suggestions for this book popular over the years, for which the author also express his gratitude to all deserve all stream officials also express my thanks to all my well-wishers as well as those who helped me directly or indirectly including Shri Rahul TM and shri Ganesh TM for their cooperation.

The mistake which had crept in, has been eliminated in this edition. Every care has been taken to check mistakes and misprints, however it is difficult to claim perfection of any errors, if aspirants bring out omissions and suggestions for the improvement of this volume, gratefully acknowledged and incorporated in the next edition. We will appreciate my readers, who support me despite the digital invasion, I am fortunate to have so many readers who shower me with love and encourage me to do better.

My family is a pillar of support in my life and I am thankful to my wife Smt Shyama Devi Shevra and children Deep, Abhinav, Priya, Chhaya & Priya Nandini from the core of my heart.

I am extremely grateful to Shri A.K. Lahoti Ex Chairman & Chief Executive Officer RB New Delhi, Shri Atul B Khare PED (CE) Railway Board, New Delhi, Shri Ram Karan Yadav DG IRICEN Pune, Shri P Ravi Kumar ADG IRMEE ER, Shri HK Bhagoriya CE (Const,) SC SCR, Shri HS Verma DG IRITM, Shri Brijendra Kumar CFTM JBP WCR who had encouraged and appreciated for this publication by which this book is possible to come out.

Nashik Road,  
22 November 2023

**SURESH.K.SHEVRA**  
**FORMER EXECUTIVE ENGINEER CR**  
**AUTHOR INDIAN RAILWAY TECHNICAL BOOKS**

## PREFACE THIRD EDITION

As you would have observed from the book cover, you have just entered the portal of knowledge which will serve as a beacon of light throughout your professional life.

The response to earlier edition of this book "HOW TO BECOME RAILWAY OFFICER" had been encouraging because of more than 2900 Multiple Choice Objective questions with answers incorporated with latest correction slips of different Manuals due to which constant demand for this book from all the section of Civil Engineering officials of Indian Railways.

The book sets out to systematically provide a basic understanding of the many engineering aspects of designing, constructing and maintaining railways. Latest correction Slip No 10 of Nov 2022 for IRPWM June 2020 now incorporated in this book and logically divided into various sections in A-to-Z sequence to ensure that the contents in the book are self-sufficient, easy to search by having A-to-Z arrangements of chapters. not requiring cross-referencing. The aims that the Engineers are equipped with the right knowledge, so that they can aspire and accomplish success in any Engineering competitive exam.

I am extremely grateful to Shri A.K. Lahoti GM CR, IRICEN Pune, Shri Atul B Khare PED (CE) Railway Board, New Delhi, Shri Ram Karan Yadav CAO(Const.) Churchgate WR Shri HK Bhagoriya CE (Const.) SC SCR, Shri HS Verma CCM (FS) SWR, Shri Brijendra Kumar CCM WCR who had encouraged and appreciated for this publication by which this book is possible to come out.

The author has accumulated an enormous number of intellectual debts from Civil Railway Engineers Shri Brij Bhushan Garg XEN (PL) BH NDLS NR , Shri V Trinadh ADEN ECOR VSKP Shri Shree Dhar SSE(Bridge ) SC SCR , Shri Dharmendra Kumar SSE(Works ) AGC NCR , Shri Gulshan Saili( P-Way) NDLS NR, Shri Dushyant K Sharma SSE( PL) NDLS NR , Shri Manoj Singh SSE(P-Way) BH NDLS , Shri S. Muthalagan Sr Instructor ZRTI TBM SR , Shri Deepankar Chatterji SSE(P-Way) Gohati NFR , Shri A K Sinha SSE(Works ) CCG WR , , Shri Mahothara Sarvana Pavan ( P-Way) SR , Smt Rekha Srinivas (DD) SC SCR , Shri Sanjay Kumar Mishra SSE(TMC) LKO NR who had extended suggestions for this book popular over the years, for which the author also express his gratitude to all deserve engineers.

The mistake which had crept in, have been eliminated in this edition. every care has been taken to check mistake and misprints, however it is difficult to claim perfection any errors, if aspirants bring out omission and suggestions for the improvement of this volume, gratefully acknowledge and incorporated in the next edition. we will appreciate my readers, who support me despite the digital invasion, I am fortunate to have so many readers who shower me with love and encourage me to do better.

My family - a pillar of support in my life. My wife Smt Shyama Devi Shevra and children Deep, Abhinav, Priya, Chhaya & Priya Nandini for her constant support and encouragement, thank you for being there.

**Nashik Road,  
01 December 2022**

**SURESH.K.SHEVRA  
FORMER EXECUTIVE ENGINEER CR  
AUTHOR INDIAN RAILWAY TECHNICAL BOOKS**



## PREFACE SECOND EDITION

The response to earlier edition of this book had been encouraging because of more than 2700 Multiple Choice Objective questions with answers incorporated with latest correction slips of different Manuals due to which constant demand for this book from all the section of Civil Engineering officials of Indian Railways.

Up to correction Slip No. 7 of IRPWM 2020 incorporated in this book and logically divided into various sections in A-to-Z sequence to ensure that the contents in the book are self-sufficient, easy to search by having A-to-Z arrangements of chapters. not requiring cross-referencing. The aims that the Engineers are equipped with the right knowledge, so that they can aspire and accomplish success in any Engineering competitive exam.

The mistake which had crept in, have been eliminated in this edition. every care has been taken to check mistake and misprints, however it is difficult to claim perfection any errors, if aspirants bring out omission and suggestions for the improvement of this volume, gratefully acknowledge and incorporated in the next edition. we will appreciate my readers, who support me despite the digital invasion, I am fortunate to have so many readers who shower me with love and encourage me to do better.

I am extremely grateful to Shri A.K. Lahoti GM CR, Shri Santosh Kumar Agarwal D.G. IRICEN Pune, Shri O.P. Singh, AM (L&A) Railway Board, New Delhi, Shri Ram Karan Yadav CAO(Const.) Churchgate WR who had encouraged and appreciated for this publication by which this book is possible to come out.

The author has accumulated an enormous number of intellectual debts from Civil Railway Engineers Shri Pradeep Sharma SSE(P-Way) NZM NR , Shri Shree Dhar SSE(Bridge ) SC SCR ,Shri GM Agatkar SSE(Works ) IRICEN CR ,Shri RK Rajput SSE( Safety) NDLS NR, Shri Dushyant K Sharma SSE( PL) NDLS NR , Shri CM Rathore SSE(TMC) BSP SECR , Shri Shailendra Sr Instructor ZRTI UDZ NWR ,Shri Deepankar Chatterji SSE(P-Way) Gohati NFR , ,Shri V Trinadh SSE(Works ) ECOR VSKP , Shri Rahul Ramesh Sansare TMTR MMR CR who had extended suggestions for this book popular over the years, for which the author also express his gratitude to all deserve engineers.

My family -a pillar of support in my life. My wife Smt Shyama Devi Shevra and childrens for her constant support and encouragement, thank you for being there.

**Nashik Road,  
14 April 2022**

**SURESH.K.SHEVRA  
FORMER EXECUTIVE ENGINEER CR  
AUTHOR INDIAN RAILWAY TECHNICAL BOOKS**

## PREFACE FIRST EDITION

The author feels a great pleasure in presenting Book on “**HOW TO BECOME A RAILWAY OFFICER**” in the hands of Civil Railway Engineers preparing for departmental competitive examinations. The book, contains 25 chapters (including 5 subchapters) contained more than 2500 Multiple Choice Objective questions with answers. Focus has been kept on in-depth understanding of professional subjects at basic and advanced level of Civil Railway Engineering and nonprofessional subject through Part-1 & Part-2 respectively. The chapters have segregated topic-wise to disseminate all kind of exposure to engineers in terms of quick learning and performing in examinations to be get selected. The book is in line with recent examination scheme issued by the Railway Board.

The chapter of IRPWM 2020 logically divided into various sections in A-to-Z sequence to ensure that the contents in the book are self-sufficient, easy to search by having A-to-Z arrangements of chapters. not requiring cross-referencing. The aims that the Engineers are equipped with the right knowledge, so that they can aspire and accomplish success in any Engineering competitive exam.

Attempt has been made to bring out all kind of probable competitive examination questions asked over various Railways for the aspirants preparing for JE, SSE, ADEN, level LDCE/LGS Exams conducted by the Railways more over Part-2 has been designed in such a way which can be suitable for other department 's examination also. The book ensures threshold level of learning without external assistance. Wide range of MCQ practice questions provided which is very much essential to boost the confidence level during examinations, and ultimately to succeed. It has been ensured from objective books to have broad coverage of subjects as per COURSE OF STUDY(CH-20) at chapter level in a simple and effective way which can be understood even by a person not having formal Engineering Degree/Diploma.

Every effort has been made to make the entire book error free thus making the reading a pleasure because of clarity in printing and figures. We will appreciate, if aspirants bring out corrections required and, communicate by any media to the author. Author will be obliged to receive comments, suggestions and opinions from readers to enhance the utility of the book.

I am extremely grateful to Shri Santosh Kumar Agarwal, D.G IRICEN Pune, Shri O.P. Singh, A.M (L&A) Railway Board ,New Delhi ,Shri Ram Karan Yadav CAO (Const.) Gorakhpur NER who have encouraged and appreciated for publication of this edition by which this book possible to come out

The author has accumulated an enormous number of intellectual debts from Civil Railway Engineers Shri Pradeep Kumar Sharma SSE /Track NZM NR, Shri Vilas G Dethe SSE/P-Way /Divisional Training Centre SUR CR, Shri Rahul Ramesh Sansare MMR CR who had extended suggestions for this book preparation over the years, for which the author also express his gratitude to all deserve engineers.

The author also wishes to record his gratitude to his wife Smt. Shyama Devi Shevra for her constant support and encouragement without which this book could not come out for publication of this first edition.

Nashik Road,  
14 April 2021

**SURESH.K.SHEVRA**  
**FORMER EXECUTIVE ENGINEER CR**  
**AUTHOR INDIAN RAILWAY TECHNICAL BOOKS**

## INDEX HBRO 2024 VOLUME-1 (PROFESSIONAL SUBJECT)

Sr No	Chapter No	Subject	Question QTY	Page from-to
<b>PART-A (P-WAY)</b>				
1	1	All Permanent way officials Duties	52	01-08
2	2A	Rail, Sleepers & their components	113	09-24
3	2B	USFD	40	25-30
4	2C	Ballast. & Formation	59	31-39
5	3A	Aluminothermic, Flash Butt & ARC Welding's	69	40-49
6	3B	CWR, LWR, SWR, SEJ & Insulated joints	134	50-69
7	4A	Maintenance of Curves	82	70-81
8	4B	Maintenance of Points & Crossings	123	82-99
9	5	Track monitoring & tolerances	82	100-111
10	6	Track Maintenance Manual & Mechanised	179	112-137
11	7	Permanent way renewals	47	138-144
12	8A	Protection, working of Dolly, Trolley, M-trolley	110	145-162
13	8B	Working of Material, Ballast trains & Track Machine	71	163-173
14	9	Level crossings and Gateman	65	174-183
15	10	Patrolling of the Railway line	59	184-192
16	11	Accidents, Breaches, Monsoon precautionary measures	61	193-202
17	12	TMS, CRS sanction & Training	25	203-206
<b>PART-B (BRIDGE ,TUNNEL)</b>				
18	13	Bridge and track structure	495	207-273
<b>PART C (WORKS)</b>				
19	14	Duties of SSE/JE/Works	14	274-275
20	15	Inspection & Maintenance of Buildings	85	276-287
21	16	Maintenance of Sanitary & Hygienic conditions in Stn Bldgs, yards & Colonies	3	288-288
22	17	Passenger Amenities	90	289-300
23	18	Water Supply Engineering	62	301-309
24	19	Drainage & Sewerage	24	310-313
25	20	Garden, Plantations, and other natural Products	4	314-314
26	21	Acquisition, Management & Disposal of land	11	315-316
27	22	Storage & Use of explosives	6	317-317
28	23	Preparation of Plans	15	318-319
29	24	Police Jurisdiction and security of Railway materials	6	320-320
30	25	Construction & Building Maintenance	83	321-331
31	26	Building Material:	49	332-338
32	27	Cement Concrete and R.C.C.	109	339-353
33	28	Soil Mechanics	49	354-360
34	29	Surveying	72	361-371
35	30	Engineering Surveying & Project Report	30	372-376
36	31	Schedule of Dimensions	43	377-382
37	32	Syllabus and model papers	280	383-414