



# GOVERNMENT OF INDIA MINISTRY OF RAILWAYS RAILWAY RECRUITMENT BOARD



## CENTRALIZED EMPLOYMENT NOTIFICATION CEN NO. 04/2024



**ANNEXURE - C****Syllabus for Various Posts of Para-Medical Categories, CEN No. 04/2024**

S.N.	Cat. No.	Post	Syllabus
1	19	Audiologist & Speech Therapist	Speech and Language development & disorders, Basic Anatomy & Physiology related to Speech & Hearing, Diagnostic & Rehabilitation Audiology, Psychology related to Speech & Hearing, Basic Acoustic, Pathology of Hearing and Hearing System, Phonetics + Phonology electives, Speech Language diagnostics and therapeutics, Paediatric Audiology, Management of the Hearing Impaired, Voice & Laryngectomy, Hearing Conservation, Aural Rehabilitation & Its Instrumentation.
2	2	Cardiac Technician	General Anatomy & Physiology (Cytology, Histology, Osteology and basics of all organ systems of body), basics of relevant Pathology, Pharmacology & Microbiology, Basic Physics related to cardiology, Detailed Cardiovascular system's Anatomy & Physiology (Heart & Blood vessels), Basics of Vital monitoring, ECG, TMT, Echo- Cardiography, Hand hygiene & prevention of cross infection, Basic Life Support (BLS) & Cardiopulmonary resuscitation (CPR)
3	3	Clinical Psychologist	(i) PSYCHOCIAL PERSPECTIVES OF MENTAL DISORDERS:-Clinical Psychology & Mental Health, Models of Mental Disorders, Family influences, Social Pathology, Psychopathology of specific conditions, Disability, Rehabilitation(ii)COUNSELING AND THERAPY:- Psychotherapy and Counseling, Interviewing, Behavior Modification and Therapy, Cognitive Therapies, Crisis Intervention, Family Counseling/Therapy, Therapy with children and special conditions(iii)PSYCHIATRY:- Nomenclature, Psychoses, Neurotic, Stress-related and Somatoform disorders, Disorders of personality and behavior, Organic mental disorders, Behavioral, emotional and developmental disorders of childhood and adolescence, Mental health policies and legislation.
4	16	Dietician (Level 7)	Introduction to Human Biology and Body Functions, Nutrients (Role and Significance), Understanding Nutrition (Basic diets for normal conditions/RDA) , Advanced Nutrition, Introduction to Nutraceuticals, Introduction to Special Conditions and Diet Therapy, Introduction to Clinical Nutrition, Food Microbiology, Recommend Approaches to Disease and Nutrition, Nutritional Biochemistry, Research Method Statistics, Medical Nutrition management, Path Physiology and Metabolism in Disease, Public Nutrition and Health, Pediatric and Geriatric Nutrition, Food Allergies and Diet Management
5	1	Nursing Superintendent	Anatomy, Physiology, Nutrition, Biochemistry, Nursing Foundations, Psychology, Microbiology, Sociology, Pharmacology, Pathology, Genetics, Medical-Surgical Nursing , (Adult including Geriatrics)-I, Community Health Nursing, Child Health Nursing, Mental Health Nursing, Midwifery and Obstetrical Nursing, Nursing Research & Statistics, Management of Nursing Services and Education
6	15	Dental Hygienist	Dental Hygiene AND Oral Prophylaxis, Community Health Dentistry, Operative Room Technique and Chir Side Assistance, Dental Ethics and Jurisprudence, Dental Materials, Anatomy (General & Dental), Physiology (General & Oral), Pharmacology (General & Dental), Pathology & Bacteriology (General & Dental), Dental Radiology
7	12	Dialysis Technician	Anatomy, Biochemistry & Pharmacology, Physiology, Introduction to Kidney diseases, Principles and practice of Dialysis
8	6	Health & Malaria Inspector Gr III	Food & Nutrition, Environmental Sanitation and Sanitary Engineering, Communicable and Non-Communicable Diseases (Prevention and Control), Health and Death Statistics
9	14	Laboratory Superintendent	Sociology & Psychology, PHYSIOLOGY, Basic Chemistry and Biochemistry, General Methodology, PHYSICS, Histopathology and cytology techniques, Clinical pathology & basic haematology, PARASITOLOGY & ENTOMOLOGY, Clinical biochemistry, Coagulation & transfusion medicine, Immunohaematology, VIROLOGY, MYCOLOGY, ADVANCED SEROLOGY
10	13	Optometrist	Physical and Geometrical Optics, General Anatomy and General Physiology, Ocular Anatomy and Ocular Physiology, Basic Biochemistry, Nutrition, Principles of Lighting, Hospital Procedures, Optometric Optics, Ocular Diseases, Visual Optics, Pharmacology, Pathology and Microbiology, Optometric Instruments, Clinical Examination of Visual System, Clinical Psychology, Clinics, Binocular vision, Glaucoma, Low Vision Aids, Dispensing Optics, Pediatric Optometry and Geriatric Optometry, Contact Lens , Law & Optometry and Occupational Optometry, Systemic Diseases , Epidemiology and Bio Statistics, Public Health and Community Optometry
11	8	Perfusionist	Basics of Anatomy, Basics of Physiology, Basics of Biochemistry, Basics of Bio-statistics, Basics of Pathology, Basics of Blood Banking, Basics of Microbiology, Basics of Central Sterilization Services, Hospital Awareness, Familiarization of different tables/tubes in surgical department, Surgical Awareness, preparation of patient for surgery, Patient related services, Anatomy, Physiology, Basics of Diagnostic techniques, Angiography, Oxygenators, Theory of Blood Pump, Gross Anatomy and Structural Features of Heart, Oxygenation, Monitoring, Instrumentation and measurements, Patho Physiology and Pharmacology & Perfusion Techniques, Adequacy of Perfusion, Applied Perfusion Technology, Introduction to Perfusion Technology, Perfusion Equipments, Biomedical Electronics, Perfusion problems during radio pulmonary bypass, Cardio Pulmonary By-Pass, Clinical Application of Bypass Techniques, Occupational Aspects of Perfusion, Postoperative Intensive Care unit Management, Instrumentation Study, Instrument Measurement & Critical Care equipment.
12	9	Physiotherapist Grade - II	Psychology & Sociology, Anatomy, Physiology, Applied Physiology, Basic and Applied Physics for Physiotherapy, Basic Nursing & First Aid, Orientation to Physiotherapy, General Medicine/General Surgery/Paediatrics/ Geriatrics, Bio-mechanics, Applied Anatomy & Kinesiology, Exercise Therapy, Microbiology and Pathology, Electrotherapy(low & medium frequency), Electrotherapy (high freq & Actinotherapy), Community Medicine, Clinical Orthopaedics, Clinical Cardio-Respiratory Diseases, Bio Statistics & Research Methodology, Physical Modalities Maintenance, PT in Orthopaedics, PT in Neurology, Pt in Cardio Respiratory Conditions, Rehabilitation Medicine, Advanced Physiotherapeutics, Physical Education
13	11	Pharmacist (Entry Grade)	Human Anatomy and Physiology, Pharmaceutical Analysis, Pharmaceutics, Pharmaceutical Inorganic Chemistry, Remedial Biology/Remedial Mathematics, Pharmaceutical Organic Chemistry, Biochemistry, Pathophysiology, Computer Applications in Pharmacy, Environmental sciences, Physical Pharmaceutics, Pharmaceutical Microbiology, Pharmaceutical Engineering, Medicinal Chemistry, Pharmacology, Pharmacognosy and Phytochemistry, Industrial Pharmacy, Pharmaceutical Jurisprudence, Herbal Drug Technology, Biopharmaceutics and Pharmacokinetics, Pharmaceutical Biotechnology, Quality Assurance, Instrumental Methods of Analysis, Pharmacy Practice, Novel Drug Delivery System, Biostatistics and Research Methodology, Social and Preventive Pharmacy, Pharma Marketing Management, Pharmaceutical Regulatory Science, Pharmacovigilance, Quality Control and Standardization of Herbals, Computer Aided Drug Design, Cell and Molecular Biology, Cosmetic Science, Experimental Pharmacology, Advanced Instrumentation Techniques, Dietary Supplements and Nutraceuticals
14	10	Radiographer X-Ray Technician	Human Anatomy & Physiology, Radiology Physics, General Physics, Radiation Physics & Physics of Diagnostic Radiology, X-Ray Machines & Accessories, Maintenance, X-ray Film / Image processing Techniques (Dark Room Techniques), Clinical Radiography-Positioning, Medical Ethics and patient care, Principles of Medical Emergencies, Equipments, Techniques of modern Imaging Modalities, Contrast & Special Radiography procedures, Quality Control at Radiology & Radiation Safety

15	20	Speech Therapist	Sound and Hearing, Anatomy and Physiology of ear, Hearing loss, Evaluation of hearing, Early identification and prevention, Speech & Language Pathology, Anatomy and physiology of speech mechanism, Disorders of speech and language, Assessment of speech disorders, Assessment of language disorders, Hearing aids and earmolds, Auditory learning, Speech reading, Education of children with hearing impairment, Rehabilitation, Disability issues, Management of speech disorders, Management of language disorders, Educational issues, General issues in management
16	4	ECG Technician	Anatomy, Physiology, Biochemistry, Pharmacology, Introduction to Cardiovascular Diseases, Basic Cardiovascular Investigations, Advanced Cardiovascular Investigations
17	7	Laboratory Assistant Grade II	Anatomy, Physiology, Biochemistry, Fundamentals of Medical laboratory Technology, Microbiology, Clinical biochemistry, Pathology & Histopathology, Haematology and Blood and bank
18	5	Field Worker	Physiology of Conception, Contraception–various methods, National Immunization Schedule, Nutrition, Antenatal and Postnatal Care, Target groups for Family Planning, Incentives for accepting small family norm–Special, Personal Hygiene, Communicable and Non-Communicable Diseases, HIV/AIDS, Vital Statistics–Birth Rate, Death Rate, etc., Organizational Chart for Family Welfare Branch and the Medical Department, Record Keeping–Maintenance of Various records viz. registers, Health cards, Reports.
19	18	Occupational Therapist	FUNDAMENTALS OF Occupational Therapy: Human Anatomy, Musculoskeletal system, Human Physiology related to CNS / Respiratory System. Cardiovascular System / Neuromuscular function, Physiology of exercise & Acclimatization, Occupational Therapy, Human development and its Activities of daily living Occupational therapy as Diagnostic & prognostic procedure, Steps involved in preparing the client for return to work / Prevocational evaluation/ Evaluation of work capacity, Evaluation of physical capacity/ Evaluation of functional capacity, Different types of tools & equipment & their uses in Occupational Therapy, General principles of splinting, describe material used. Hand function & evaluation methods, Physiology of Exercise & Work in relation to different organ functions, Disability prevention and rehabilitation.
20	17	Cath Laboratory Technician	Cardiac Catheterization, Equipment and Technology, Catheterization Procedures, Patient Preparation and Care, Safety and Infection Control, Clinical Skills and Practice, Professional and Ethical Issues.

**Common for all posts:**

Sl. No	Subject	Syllabus
1	General Arithmetics	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
2	General Intelligence and Reasoning	Analogies, Alphabetical and Number Series, Coding and Decoding, Mathematical operations, Relationships, Syllogism, Jumbling, Venn Diagram, Data Interpretation and Sufficiency, Conclusions and Decision Making, Similarities and Differences, Analytical reasoning, Classification, Directions, Statement – Arguments and Assumptions etc.
3	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.
4	General Science	Physics, Chemistry and Life Sciences (up to 10th Standard CBSE syllabus).