

EXAM SYLLABUS

AIIMS CRE Radiographer Syllabus 2026

4 subjects · 40 topics · 90 min · 400 marks

AIIMS CRE Radiographer Syllabus 2026 covers X-Ray Physics, Radiation Physics, and Medical Physics. Know important topics, weightage, and recommended books for effective preparation.

WHAT TO STUDY FIRST

Begin your preparation with Radiation Physics, as it forms the foundational understanding for X-Ray Physics and Medical Physics. Focus on topics like X-ray production, interaction with matter, and radiation detection, as these are critical for a radiographer's role. Allocate significant time to these core areas, using the weightage of the domain-specific subjects to prioritize your study plan and ensure comprehensive coverage.

EXAM PATTERN

90 min · 100 questions · 400 marks · MCQ / Objective

Common Recruitment Examination (CRE) for Group B & C Posts

Marking: +4 marks for each correct answer; -1 mark for each incorrect answer. 80 questions are domain-specific, and 20 are from General Knowledge, Aptitude, and Computer Awareness.

Negative: Applicable; -1 for each incorrect answer.

General Knowledge, Aptitude & Computer Awareness

20 Q · 80 marks · 36 min

MCQ

Domain Specific (Radiography)

80 Q · 320 marks · 54 min

MCQ

- Computer-Based Test (CBT) mode.
- Exam is divided into 5 timed sections, each lasting 18 minutes.
- No revisiting or modification of answers allowed in previous sections.
- Questions are available in English for technical and mixed-qualification posts.
- A skill test may be applicable for certain posts after the CBT.

SUBJECT-WISE SYLLABUS

01 Radiation Physics

10 topics · 80% (Domain Specific)

RECOMMENDED BOOKS

- Textbook of Medical Physics by John R. Cameron and James G. Skofronick
- Radiologic Physics, Radiation Protection and Medical Management by S. Geetha
- NCERT Physics (Classes 11 & 12)

- 1 Nature and Properties of X-rays
- 2 Production of X-rays (Bremsstrahlung and Characteristic)
- 3 Interaction of X-rays with Matter (Photoelectric effect, Compton scattering, Rayleigh scattering)
- 4 Radiation Units and Quantities (Roentgen, Rad, Gray, Rem, Sievert)

- 5 Radiation Detectors (Ionization chambers, GM counters, Scintillation detectors)
- 6 Personnel Monitoring (TLDs, Film badges)
- 7 Radiation Shielding Principles
- 8 ALARA (As Low As Reasonably Achievable) Principle
- 9 Biological Effects of Ionizing Radiation
- 10 Radiation Protection Measures for Patients and Staff

02 X-Ray Physics

9 topics · Implied within Radiation and Medical Physics

RECOMMENDED BOOKS

- Clark's Essentials of Medical Imaging Physics
- The Essential Physics of Medical Imaging by H.K. Huang
- NCERT Physics (Classes 11 & 12)

- 1 Components of an X-ray Tube (Cathode, Anode, Glass envelope, etc.)
- 2 Thermionic Emission
- 3 Factors Affecting X-ray Beam Quality (kVp, mAs)
- 4 Factors Affecting X-ray Beam Quantity
- 5 Filtration and Collimation
- 6 Radiographic Image Receptor Systems (Film-screen, Digital Radiography - DR, Computed Radiography - CR)
- 7 Image Intensifiers
- 8 Artifacts in Radiography (Beam hardening, Motion artifacts, etc.)
- 9 Quality Assurance in Diagnostic Radiology

03 Medical Physics

9 topics · Implied within Radiation and X-Ray Physics

RECOMMENDED BOOKS

- Medical Physics by Brian E. Jones
- Principles of Medical Imaging by C.H. Hawes
- NTA Physics for NEET Exam by Subhash Chandra

- 1 Principles of CT Imaging
- 2 Principles of MRI Imaging
- 3 Principles of Ultrasound Imaging
- 4 Principles of Nuclear Medicine Imaging (SPECT, PET)
- 5 Radiation Therapy Physics (Linear accelerators, Brachytherapy)
- 6 Dosimetry in Radiotherapy
- 7 Quality Control and Assurance in Diagnostic Radiology

- 8 Medical Imaging Equipment Calibration
- 9 Patient Dose Estimation and Optimization

04 General Knowledge & Aptitude

12 topics · 20% (Common Section)

RECOMMENDED BOOKS

- Lucent's General Knowledge
- Arihant Experts' General Knowledge Compendium
- Verbal and Non-Verbal Reasoning by R.S. Aggarwal

- 1 Current Events (National and International)
- 2 Indian History
- 3 Indian Geography
- 4 Indian Polity and Constitution
- 5 Basic Economics
- 6 General Science
- 7 Logical Reasoning and Analytical Ability
- 8 Problem Solving
- 9 Basic Mathematical Skills
- 10 Computer Fundamentals
- 11 MS Office
- 12 Internet and Networking Basics

4 subject(s), 40 topics listed above. Verify critical details with the official exam notification before applying.