

Answer Key for M.Sc MRIT Entrance exam

1. B) Zygomatic arch
2. C) Croup (Laryngotracheobronchitis).
3. D) Avulsion fracture.
4. A) Contralateral shift of the mediastinum and depression of the hemi diaphragm.
5. C) Medial oblique (45-degree pronation) view.
6. C) Lower border of L1.
7. B) Defective mineralization of newly formed osteoid matrix due to vitamin D deficiency.
8. C) Right atrium.
9. C) Duodenal atresia.
10. B) Facial nerve (CN VII).
11. A) Nephron.
12. B) Lead-pipe appearance.
13. C) Peristalsis.
14. C) Inguinal ligament.
15. C) Ankylosing spondylitis.
16. C) Jejunum.
17. D) Posterior ethmoid air cells.
18. C) Ultrasonography.
19. C) 20 mSv.
20. B) Bremsstrahlung radiation.
21. B) Half-Value Layer (HVL).
22. B) Photoelectric absorption.
23. A) Optimization.
24. B) Optically Stimulated Luminescence (OSL) dosimeter.
25. A) A large actual focal spot and a small effective focal spot.
26. B) Inverse square law.
27. B) An off-center or tilted grid placement.
28. B) It measures voltage variations, with lower ripple indicating near-constant potential.
29. A) 1 mGy/hr.
30. C) Tungsten.
31. B) Harden the beam by removing low-energy, non-diagnostic X-ray photons.
32. A) 1.
33. B) Automatic Exposure Control (AEC).
34. B) Deterministic (Tissue) effect).
35. B) Cathode filament.
36. A) 1.5 mm of lead equivalent.
37. B) Minimizes magnification of the heart and reduces focal spot blur.
38. A) Orbitomeatal line (OML).
39. C) Tunnel view (Camp-Coventry or Holmblad method).
40. A) To prevent the contrast medium from flowing into the urinary bladder too quickly.
41. B) Lateral decubitus with the affected side down.
42. A) 45-degree posterior oblique.
43. B) Right Anterior Oblique (RAO).

- 44. B) 15 to 20 degrees cephalad.
- 45. C) Male urethra.
- 46. B) To image deep medial breast tissue from both breasts simultaneously.
- 47. B) Ulnar deviation with 10–15 degree cephalad central ray angle.
- 48. A) Sodium bicarbonate crystals.
- 49. B) Perpendicular.
- 50. B) Grashey method (AP Oblique).
- 51. C) Free spill of contrast medium into the peritoneal cavity.
- 52. B) Perform a horizontal beam cross-table lateral view without moving the patient's head or neck.
- 53. C) Rotated internally 15 to 20 degrees.
- 54. C) Direct cannulation of the common bile duct via an endoscope.
- 55. B) Plantar-dorsal axial projection.
- 56. B) Cervico-thoracic junction (C7-T1).
- 57. B) Linear attenuation coefficient relative to water.
- 58. C) Fourth generation.
- 59. C) Total beam collimation/width.
- 60. C) Inversion Recovery (e.g., STIR or FLAIR).
- 61. C) T1 relaxation time.
- 62. B) Aliasing or wrap-around artifact.
- 63. B) Direct Piezoelectric effect.
- 64. B) Lower than the transmitted frequency.
- 65. C) Fluorine-18 Fluoro-deoxyglucose (18F-FDG).
- 66. B) Thallium-activated Sodium Iodide [NaI(Tl)].
- 67. A) Chemical shift artifact.
- 68. C) Gadolinium-based contrast agents (GBCAs).
- 69. B) The image contrast or range of Hounsfield units displayed.
- 70. B) Acoustic shadowing.
- 71. B) To prevent external stray RF signals from corrupting the MR image data.
- 72. B) Reducing the slice thickness.
- 73. C) Collimator.
- 74. B) Long TR and Long TE.
- 75. C) Attenuation.

