

Question Booklet: Radio-Diagnosis

Respiratory System and CVS:

1. Role of imaging in a newborn with respiratory distress. (19, 16)
2. Describe the imaging findings of aortic aneurysm, rupture and dissection. (19, 17, 10)
3. Scimitar Syndrome (19)
4. Pancoast Tumor (19, 15)
5. Describe the imaging features and the differential diagnosis of Silicosis. (19)
6. Imaging of PDA (19)
7. What is SVC Syndrome? Enumerate the causes of SVC Syndrome with the respective imaging features. (16, 19)
8. Classify the different types of Emphysema. Discuss the role of HRCT in evaluation of types of Emphysema. (19, 16)
9. Discuss the role of a radiologist in a case of Pleural Effusion. (19)
10. Mitral Stenosis- Etiology and Radiographic findings. (19)
11. Enumerate the causes of massive hemoptysis. Discuss the role of intervention radiology in management of massive hemoptysis. Describe the process of bronchial artery embolism in a case of intractable hemoptysis. (19, 16)/ Role of DSA in massive hemoptysis. (14)
12. Discuss the advantages and pitfalls of Cardiac MRI. (19, 15)
13. Briefly discuss the radiological divisions of Mediastinum with their contents. (19, 16, 07)
14. Discuss the merits and demerits of Coronary CT Angiography, (18, 10)
15. Describe HRCT findings of ILD (18)/ Classify ILD (11)/ HRCT protocol for ILD (11)
16. Ebstein's Anomaly (18,10)
17. Discuss the advantages and disadvantages of Cardiac CT. (18)
18. Discuss the anatomy of Coronary arteries and role of MDCT in coronary artery disease. (17)
19. Enumerate the causes if Rib Notching with pathophysiological explanation. (17,09, 07)
20. Discuss the developmental details of Lung Sequestration and its radiological features. (17, 14)
21. What is Eisenmenger Syndrome? Enumerate the conditions that may produce this syndrome. Describe its key radiological features. (17)
22. Discuss various Pleural pathologies in light of various radiological techniques. (17)/ only X-Ray (15)/ CT (12)
23. Discuss the scintigraphic and MDCT evaluation of pulmonary embolism. (16)
24. Discuss the imaging of Aorto-arteritis. (16)
25. What is Carney Triad? Discuss the imaging features of Bronchogenic Ca and hamartomas. (16)/ role of CT in Bronchogenic Ca. (09)
26. FDG-PET in Bronchogenic Ca. (16)
27. Discuss the various radiological features of Bronchiectasis. (15)
28. Discuss the radiological features of Coarctation of Aorta. (15)
29. Role of CT in posterior mediastinal mass lesion. (15)

30. SN on; Round atelectasis, TAPVD, Diaphragmatic Hernia, Crazy paving appearance (14)
31. Technique of Cardiac MRI. Evaluation of IHD and cardiomyopathy by cardiac MRI. (14)
32. Role of PET-CT in Lung Secondaries (14)
33. SN; Spring-water cyst (14), Thymoma (10)
34. Common investigations in a patient of hemoptysis with detail findings. (12)
35. Describe radiological anatomy of Bronchopulmonary Segments with diagram. (12)
36. Discuss the radionuclide imaging in cardiac lesions. (12,10)
37. Discuss the radiological findings of various chest infections in immunocompromised patients. (11)
38. Aspergillus infection of lung. (10)
39. Assessment of cardiac size and Left Atrial Enlargement on CXR. (10)
40. Techniques and indications of HRCT lung. (10)
41. Anterior mediastinal mass (09)
42. Vanishing Lung Tumor (09)
43. Enumerate the cause of Coin Lesion In Lung. Discuss its radiographic and CT evaluation. (09)
44. Enumerate the causes of intracardiac and extracardiac left to right shunts. Describe radiological findings of ASD. (07)
45. Describe the anatomy of Aorto-pulmonary window and its importance in diagnostic imaging. (07)
46. Discuss anatomy of diaphragm and diagnostic pitfalls in normal cross sectional imaging. (06)
47. Imaging findings of Kaposi sarcoma and Pneumocystis carini pneumonia. (06)
48. Imaging finding of CAM and HMD. (06)
49. Enumerate the causes of pulmonary plethora with cyanosis. Describe the hemodynamics of TGA. (06)
50. SN on; Bronchogenic cyst (06), Left atrial masses (04)
51. Discuss the physiology of pulmonary circulation and describe radiological changes in acute and chronic heart failure. (05)
52. Discuss mechanism of Lung collapse. Discuss the radiological findings of Left Upper lobe collapse. (05)
53. MRI of pericardium [anatomy and pathology]. (05)
54. SN on; Pulmonary hemosiderosis (05), Pulmonary Alveolar Proteinosis (05)

Hepatobiliary System and Pancreas:

1. Briefly state the anatomic variations of Pancreatico-Biliary Tree with suitable diagram. (19)
2. Discuss the techniques and indications of MRCP. Discuss the MRCP findings of Primary Sclerosing Cholangitis. (18)
3. Discuss the role of imaging in a suspected case of Acute Pancreatitis. (12, 07, 18)
4. Discuss the role Tri-phasic CT in evaluation of Hepatic Mass (18)/ Liver Nodule (16)
5. SN on; Annular pancreas (18), Development of pancreas (05)
6. Discuss the role of MRCP in Biliary Tract anomaly. (17)
7. Discuss the role of various imaging in Liver Transplantation. (16, 12)
8. SN; ERCP vs MRCP (16, 09)
9. Classification of Choledochal Cyst. Describe Choledochal Cyst with diagnostic criteria. (15, 07, 10, 04)
10. Describe Portal Circulation and discuss the role various imaging techniques in assessment of Portal Hypertension. (15)
11. Role of Dual-phase CT in preoperative evaluation of pancreatic malignancies. (15)
12. SN on; Caroli's Disease (14), PAIR technique in management of Hydatid Cyst (12)
13. Enumerate the contrast agents used in ultrasonography of Focal Hepatic Lesions. Discuss the principle of contrast enhancement. (12, 06)
14. SN on; TIPS (12), Budd-Chiari syndrome (05)
15. Discuss the MDCT protocol for imaging of Pancreas. Discuss the imaging findings of Pancreatic Ca. (11)
16. Discuss the Segmental anatomy of Liver and its importance. (10)
17. Discuss the Interventional procedures in Portal Hypertension. (09, 07)
18. Describe the Isotope Studies of Biliary Tree and Liver. (09)
19. SN on; Pneumobilia (09), Percutaneous Transhepatic Cholangiography (07)
20. Trans-gastric Drainage of Pseudocyst Pancreas (07)
21. Describe the principle, technique and complication of Radiofrequency Ablation of HCC. (06)
22. Discuss about diagnostic sensitivity and specificity of different imaging modalities in Obstructive Jaundice. (06)
23. Causes and C/F of Haemobilia. Discuss the diagnostic protocol. (06)
24. Discuss the imaging of Benign Hepatic Neoplasm. (05)

GIT:

1. Enumerate the common causes of Epigastric disorder in a young adult mentioning the various imaging procedures to come to a diagnosis. (19)
2. Enumerate the types of Perianal Fistula with their imaging findings. (19)
3. Imaging findings of Crohn's Disease (19, 14, 12)
4. Describe the common Anorectal Anomalies with their imaging findings. (18)
5. Draw a labeled diagram of GE Junction with brief discussion. Mention the radiological findings of Hiatus Hernia. (18)
6. Discuss the indications and advantages of Endoscopic USG. (18)
7. What are the abdominal lymphatic malformations? Discuss the spectrum of imaging findings. (18)
8. SN; Hirschprung Disease (18)
9. Discuss the differentiating points between Benign and Malignant gastric ulcers in Barium meal studies of upper GIT. (18)
10. Enumerate the causes of Subacute Bowel Obstruction in adults. Describe the features of small and large bowel obstruction in plain radiograph and CT. (17)
11. Describe the AAST Grading of Splenic injury. Discuss the role of MDCT and interventional radiology in its management. (17)
12. Etiology, characteristics and imaging findings of Retroperitoneal Fibrosis. (17, 10, 07)
13. Role of USG and CT in a case of Blunt Trauma Abdomen. (17)/ only USG (16)
14. Discuss the procedure and role of PET-CT Enterocolysis and PET-CT Colonography in diagnosis of IBD. (17)
15. What is Seldinger Technique? Role of Embolisation in treatment of Hypersplenism. (17)
16. Enumerate various causes of Upper GI Bleed. Discuss the role of relevant radiological investigations in diagnosis. (14)/ Role of intervention in management. (16)
17. What are the Motility Disorders of Esophagus? Describe Achalasia Cardia. (16, 10)
18. Discuss the role of Double Contrast Barium Study in Duodenal and Para-duodenal lesions. (16)/ Stomach (05)
19. Role of radiology in diagnosis of Neonatal Abdominal Lump.
20. Discuss various peritoneal pathologies in the light of various radiological techniques. (16)
21. SN; Small Bowel Enema (15)
22. Ultrasonographic evaluation of infants with frequent vomiting. (15)
23. Imaging of Abdominal Tuberculosis. (15)
24. Enumerate the causes of RIF pain. Role of USG and CT in a case of RIF Pain. (14, 07)
25. How do you evaluate retroperitoneal tumors both in adults and children? (14)
26. USG in Appendicular pathologies. (12, 09)
27. Discuss the role of Nuclear Medicine in GI Bleeding. (12)
28. Role of USG in Intestinal Obstruction. (11, 06)
29. SN on; SMA Syndrome (09, 07), Mallory-Weiss tear (09), CHPS (09, 07)
30. Selective angiography for GI Bleed. (09)
31. Describe different types of Diaphragmatic Hernia. Describe the anatomy of lower 3rd of Esophagus. (09)
32. X-Ray findings in Acute Abdomen. (07)
33. SN on; Necrotizing Enterocolitis (07, 05), Meckel's Diverticulum (07)
34. What is GIST? Describe C/F and imaging findings of GIST. (07)

35. Describe the Peritoneal spaces with schematic diagram. (06)
36. USG and CT findings of Gossypiboma. (06)
37. A young male with pain abdomen, palpable lump and hematemesis. Steps to diagnosis. (06)
38. Describe different methods of Enterocolysis. What is the role of Enterocolysis in evaluation of small bowel lesions of Crohn's Disease and Tuberculosis? (04)
39. SN on; Bezoars (04), Sigmoid Volvulus (05), Zenker's Diverticulum (05)
40. How will you investigate a case of Congenital Duodenal Atresia? Discuss the radiological features. (05)
41. Discuss the radiological features of Carcinoid. (05)

MRS rad

Uro-Genital:

1. Describe the imaging findings in non-tubercular renal infections. (19)
2. Discuss the imaging modalities of renal neoplasms with special reference to PET scan. (19)
3. What are the common types of renal artery dysplasia? Discuss with clinical and radiological findings. Discuss the angiographic features of FMD.
4. Discuss the role of IVU in diagnosis of posterior urethral valve. (19)
5. Staging of renal cell carcinoma. (04)
6. USG features of renal transplant and role of imaging in post renal transplant status. (19, 17, 11)
7. Discuss the role of sonography in various scrotal pathologies. (17)
8. Discuss the anatomy of male urethra and the principle and procedure MR urography. (18, 07)
9. Discuss the role of USG, CT and MRI in imaging of pelvic lesions in a female. (18)
10. Imaging of urinary bladder neoplasm with staging. (18)
11. Role of imaging in renal trauma. (18, 09)
12. Role of imaging in congenital anomalies of uterus. (07)
13. SN on Retrograde pyelography (09, 07), Neurogenic bladder (07, 05), MCU (07)
14. Discuss the role of imaging in diagnosis of renal colic. (17)
15. SN on Prune belly syndrome (17, 12)
16. Discuss the indications and procedure of PCN (17)
17. Discuss the role of interventional radiology in abnormal uterine bleeding. (17)
18. Describe the indications and procedure of sono-hystero-salpingo-graphy. (17, 10)
19. Role of elastography in prostatic lesion evaluation. (17)
20. Role of fusion CT in imaging of prostate. (16)
21. SN on Isotope scanning after renal transplantation (07), Nephro-calcinosis (09)
22. Role of imaging in painless hematuria. (16)
23. Discuss the types of PUV and how will you investigate a suspected case of PUV. (16)
24. SN on Embryological development of kidney (15), Renal osteodystrophy (06)
25. Discuss the role of colour Doppler in testicular torsion. (14)
26. Imaging in VUR. (14)
27. Imaging in ambiguous sex. (14)
28. Radio-nucleotide studies in renal lesions. (14)
29. Role of imaging in assessment of patients with post-menopausal bleeding. (12)
30. SN on Wilms tumor (12), Neuroblastoma (12).
31. Role of imaging in donor selection in renal transplant. (12)
32. Discuss the indications and procedure of USG guided renal biopsy. (11)
33. Discuss the pathogenesis and imaging findings of genito-urinary tuberculosis. (10)
34. Discuss the causes of unilateral small kidney. Discuss the imaging features of renal artery stenosis. (07)
35. SN on Emphysematous pyelonephritis (06, 05), PCKD (05), PCOD (04), Peyronies disease (04).
36. Renal mass in a child- D/D and imaging findings. (06)
37. Classify ovarian tumors and discuss different radiological features. (06)
38. Describe the radiological anatomy of uro-genital tract with common congenital anomalies. (05)
39. Discuss the anatomy of prostate and USG of normal prostate. (05)
40. Role TRUS in prostate pathologies.

41. Role of embolotherapy in uterine fibroid. (05)

MRS Rad

MSK & Spine:

1. MRI of ACL and PCL anatomy and ligament tear. (19, 17, 16)
2. CT and MRI findings of recurrent dislocation of shoulder. (19, 16)
3. SN on Single dense vertebrae (19), Chamberlan & Mcgregor's line (19)
4. Enumerate the metabolic and endocrine disorders affecting bones & discuss the radiological findings of hyperparathyroidism. (19, 12)
5. Role of imaging in a case of slipped disc. (19)
6. Role of sonography in painful shoulder. (18)
7. Techniques of shoulder USG. (11)
8. Briefly describe Vit-D metabolism and mention the radiological features of rickets and osteomalacia. (18, 15)
9. Discuss a systematic approach for bone marrow lesions and the latest imaging methods for diagnosis bone marrow metastasis. (18)
10. Imaging features of Paget's disease and its complications. (18, 06)
11. Enumerate the causes of charcot joint and discuss the imaging features of diabetic foot. (18)
12. SN on Periosteal reaction. (18)
13. MRI findings of tuberculosis and rheumatoid arthritis of knee joint. (17)
14. USG evaluation pediatric hip joint. (17)
15. SN on DDH (09, 07)
16. Discuss the diagnostic possibilities that you can arrive from the skiagram of hand including wrist. (16)
17. Pathogenesis and radiological features of osteomyelitis. (16)
18. Imaging features of Perthe's disease. (16, 10)
19. Describe the radiological features of meniscus injury (15, 12, 10)
20. Discuss the radiological anatomy of knee joint with diagram. (15)
21. SN on USG in wrist pathologies (15), Synovioma (15), Impingement of supraspinatous tendon (15)
22. Radiological features of mucopolysaccaroidosis. (15)
23. Recent onset genu valgum with difficulty in walking- D/D with radiological findings. (15)
24. Imaging evaluation of carpal tunnel syndrome. (14)
25. X-ray features of Cretinism. (12)
26. Lytic lesions of mandible. (12)
27. Imaging findings in RA. (12)
28. SN on Achondroplasia (11), Rotator calf injury (11)
29. Procedures of measurement of bone density. (11)
30. Radiographic views of ankle. (10)
31. USG evaluation of fracture healing. (09)
32. SN on Fibrous dysplasia (09, 06), Arachnodactyly (07).
33. Skeletal effects of pituitary and thyroid dysfunction. (09)
34. Imaging of chondrosarcoma. (05)
35. Clinical & radiological features of osteochondritis. (05)
36. SN on Lymphoma bone (05), Synovial osteochondromatosis (05), Pigmented vilonodular synovitis (05).
37. Discuss the imaging protocol in traumatic injury of dorsal spine causing paraplegia. (19)
38. How will you investigate a case of sudden onset paraplegia? (17)

39. Mention various causes of vertebral collapse with imaging importance. (18)
40. Classify spinal tumors with radiological findings. (18)
41. Mention the causes and various imaging findings of syringomyelia. (16)
42. SN on Vertebroplasty (14), Vertebral hemangioma (14).
43. Role of MRI in degenerative disease of disc. (10)
44. SN on Chordoma (05), Single collapsed vertebrae (05).
45. MRI features of intramedullary lesions. (05)
46. Describe the anatomy of IVD with diagram. (14)

MRS Rad

Brain:

1. SN on CT perfusion in acute ischemic stroke. (19)
2. Discuss the principle of MRS. (10)
3. Role of MRS in various pathologies. (16)
4. Role of MRS in leukodystrophy and infectious disease. (19)
5. Discuss the role of interventional radiology in the management of intracranial aneurysms and AVM.
6. DSA of brain- indications and procedure.
7. Diagnostic criteria of NF-2 with imaging features. (19, 16). Enumerate phacomatosis. (16)
8. Briefly discuss the venous circulation brain with diagram. (19, 16)
9. CT findings of acute head trauma. (18, 16)
10. Elaborate the radiological stroke protocol. (18)
11. Role of USG in neonatal brain imaging. (18)
12. Classify neural tube defects. Discuss the Arnold-Chiari malformations with imaging findings. (18)
13. Discuss the pathophysiology of brain abscess with imaging findings. (17)
14. Role of DW MRI in white matter disease. (17)
15. Role of imaging in various CNS infections in HIV. (17)
16. Imaging findings of ICA aneurysms. (17)
17. Rim enhancing brain lesions- D/D and imaging findings.
18. Enumerate the common brain tumors with their common MRI findings.
19. Role of dynamic CT perfusion study in evaluation of intracranial lesions. (16)
20. SN on Role of USG in neonatal GMH. (15)
21. Imaging in HSV encephalitis. (15)
22. Cranial USG in neonatal HIE. (14)
23. Imaging of corpus callosum and its usual anomalies. (14)
24. Radiological features of meningioma. (14, 05)
25. Intravascular thrombolysis in stroke management. (14)
26. MR evaluation of sellar neoplasm. (11)
27. Pathways and characteristics of CSF circulation with diagram. (07)
28. Describe the Dandy walker malformations. (12)
29. Discuss the different stages of brain development. (11)
30. Techniques of trans-fontanellar USG of brain. (10)
31. Holoprocencephaly.
32. Discuss the pathophysiology of cerebral stroke and role of radiologist in diagnosis and management. (10)
33. Role of imaging in evaluation epilepsy. (09)
34. Describe the angiographic anatomy of brain. Enumerate the schematic diagram of different natures of brain hemorrhage. (09)
35. SN on Circle of Willis (07), VHL syndrome.
36. What is Apert syndrome? Role of radiology in diagnosis, management and follow up of cases of craniosynostosis. (07)
37. Tuberous sclerosis. (07)
38. Describe the causes of cerebral atrophy with radiological features. (06)
39. CT v/s MRI in cerebral hemorrhage. (06)
40. fMRI brain. (06)
41. Describe GCS with its relevance in radiological imaging. (06)

42. Classify pituitary tumors with radiological features and differential diagnosis. (04)
43. Imaging features of oligodendroglioma. (05)
44. Imaging features of tubercular meningitis. (05)
45. D/D of intracranial calcification with radiological findings. (05)
46. D/D of midline posterior fossa mass with imaging findings. (05)
47. NCC (05)
48. Imaging features of hemangioblastoma. (05)

MRS Rad

Head & Neck:

1. SN on Pseudotumor of orbit (18), Osteomeatal complex (18), Radiological anatomy of PNS (15), Posterior ethmoidal air cells (05), Trilateral retinoblastoma (10).
2. Discuss the lymph node status of neck in cross sectional imaging. (18)
3. 10 years old boy presenting with proptosis- D/D with imaging findings. (17)
4. Unilateral proptosis. (16)
5. Describe with diagram the infrahyoid neck spaces. Imaging features of pathologies of carotid space. (17)
6. Role of HRCT temporal bone in a case of glomus tumor. (16)
7. Imaging findings of carotid body tumor. (16, 09)
8. Discuss the anatomy of optic nerve and the newer imaging methods of optic nerve. (16)
9. Role of carotid artery Doppler in patients presenting with TIA and stroke. (15)
10. Discuss the radiological anatomy of CV junction. Describe the common CV junction anomalies with their imaging features. (14, 11)
11. Imaging of nasopharyngeal angiosarcoma. (14, 09)
12. Imaging of retinoblastoma. (14)
13. Enumerate the causes of unilateral PNS opacification with imaging features. (12)
14. Techniques of orbital sonography. (12, 09)
15. Radiographic views of mastoid. (11)
16. Imaging features of pulsatile exophthalmos. (07)
17. Intervertebral foramina. (04)
18. Anatomy of glottic and supraglottic space. (05)

Obstetrics:

1. SN on PNDT act (19, 04), Role of colour Doppler in IUGR (19, 15, 12, 09)
2. Fetal circulation. (11)
3. Fetal anomaly scan. (11)
4. USG in placenta previa. (10)
5. Fetal biophysical profile. (09)
6. Role of USG in ectopic pregnancy. (07)
7. Role of radiologist in a case of SFD fetus. (06)
8. Discuss the USG correlation between fetal maturity and placental morphology with special reference to IUGR. (04)
9. Role of USG in infertility. (04)
10. Role of USG in first trimester pregnancy. (05)
11. Anencephaly. (05)

Others:

1. Classify adrenal tumors with their radiological features. (19, 11)
2. CT features of focal adrenal SOL. (18)
3. Role of USG and colour Doppler study in differential diagnosis of thyroid diseases. (19)
4. SN on Pheochromocytoma (19), Adrenal metastases (07), Angiomyolipoma (15).
5. Discuss various pathologies of thyroid gland with diagnostic approach. (12)
6. Role of radionuclide imaging thyroid disorders. (12, 09)
7. Thyroid ophthalmopathy. (07)
8. SN on Lymphangitis carcinomatosa (18, 11), Elastography in breast lesion (17).
9. Discuss the role of various imaging modalities in carcinoma of breast. (17, 09)
10. Mammographic characterization of different types of breast calcification. (15)
11. How will you investigate a patient presenting with breast lump? (14, 11)
12. Mammographic features of benign breast lesions. (12)
13. BIRADS classification of breast lesions. (12)
14. Role of mammography in breast carcinoma. (10)
15. Role of Doppler imaging in varicose vein. (16)
16. Discuss the pathophysiology of calcifications in soft tissue with examples. (14)
17. Role of DSA in peripheral vascular disease. (12)
18. Trans-arterial chemoembolization. (11)
19. Tumor ablation. (07)
20. Procedures of CT guided biopsy. (06)
21. Neonatal cyanosis. (05)
22. Imaging in scleroderma. (05)
23. Discuss the clinical and radiological features of hemophilia. (11)
24. What are the causes of acute venous thrombosis? Describe the colour Doppler findings of acute venous thrombosis. (05)

Radio-physics:

1. SN on TLD badge. (19, 14, 12, 10)
2. Ultrasound contrast agents. (19)
3. Radiographic intensifying screen. (19, 10)
4. How will you manage a patient with acute radiographic contrast media reactions? (19)
5. Briefly outline the evolution of present-day CT scanner citing the key specific changes in different generations.
6. SN on CT scan generations (15), Basic principles of CT (07).
7. Write in brief the basic principle and application of various MR sequences. (19)
8. SN on DWI MRI (11, 09, 06), Eco-planner imaging in MR (18, 15), f-MRI (19, 11, 09, 12)
9. Basic principle and application of PET. (18)
10. What are the basic principles of radiation protection? Briefly mention the measures taken for radiation dose protection to staff and patients. (18, 16, 14)
11. Fusion imaging. (18)
12. Radiofrequency ablation and its importance. (18)
13. Discuss how safety risk of MRI can be minimized in your department. (18)
14. Discuss the procedure and principles of MR Mammography. (18)
15. Principles and clinical significance of Dual energy CT. (17)
16. Difference between CR and DR. (17, 14)
17. Principle of BOLD imaging with its utility and limitations. (17, 06)
18. Techniques of dose reduction in MDCT. (17, 06)
19. How mammography tubes are different from conventional X-ray tubes? (17)
20. Classify adverse reaction of contrast agents. Management of acute life-threatening non-renal adverse reaction. (17)
21. SN on e-LORA and Gd. (17)
22. Enumerate advantages and disadvantages of superconducting magnet. (17)
23. Principles of ultrasound elastography. (17)
24. Describe in details the properties of GRID and its application. (12)
25. Permanent magnet MR v/s Superconducting magnet MR. (10)
26. SN on SPECT, Dermatological & ocular effects of radiation, Steady state GRE sequence in MR, Half-value layer, Fourier transformation, Broadband multifrequency transducer. (10, 15)
27. What are the different interactions of radiation with matter? What do you mean by linear attenuation coefficient and mass attenuation coefficient? (15)
28. SN on X-ray film v/s imaging film, Stochastic effects of radiation, Composition of fixers, Construction of rotating anode X-ray tube. (15)
29. SN on MR tractography, DTI (15)
30. SN on Mammography unit, PACS, Seldinger's technique, LOCM. (11, 14)
31. What is fluoroscopy? How fluoroscopy images are obtained? (14)
32. Advantages and disadvantages of 3T over 1.5T MR. (14)
33. Interaction of X-ray with body tissue. (12)
34. Filmless radiography. (12)
35. Composition of X-ray films. (12)
36. RF pulse. (12)
37. Artifacts of CT and its solutions. (11, 12)
38. Advantages of 3D and 4D ultrasonography. (12)
39. Advantages of sono-elastogram. (12)

40. Advantages of HR USG in various vascular lesions. (12)
41. Emergency drugs with doses to be available in radiology department. (11)
42. Compton scattering. (10)
43. Techniques of DCBE with its utility. (10)
44. Radionucleotide transmit test. (10)
45. CT angiography v/s MR angiography. (09)
46. Describe various types of contrast media with their merits and demerits. (09, 07)
47. X-ray developer and fixer. (09)
48. Harmonic imaging. (09)
49. Heel effect. (07)
50. Sole light of dark room. (07)
51. Technique of film screen mammography. (07)
52. Describe the principle of action of IV contrast media used in MRI. (06)
53. Describe the major components of ultrasound transducers. (06)
54. Point of opposite pulsation. (05)
55. Photoelectric effect. (05)
56. Detector and detector arrays in CT scanner. (05)
57. What is dry processing? Write its principle and different techniques and advantages over chemical processing. (05)