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ABDOMEN

1. Differential diagnosis of mass in right iliac fossa. [JUL 98]
2. Describe the role of CT in acute abdomen. [JUL 99, 02]
3. Role of USG in acute abdomen. [02]
4. Superior mesenteric artery syndrome.
5. Sonographic findings in abdominal tuberculosis.
6. Retroperitoneal fibrosis.
7. Describe imaging in a 5 years old child presenting with lump in right lumbar region. [JAN 01]
8. Imaging in blunt abdominal trauma. [02]
9. Prune belly syndrome. [DEC 02]
10. MDCT application in abdomen. [02]
11. CT in Acute abdomen. [DEC 03]
12. Abdominal trauma . [JUN 04]
13. Imaging of Retroperitoneum . [DEC 05]
14. MRI-imaging of Retroperitoneum. [JUN 06]
15. Imaging in retroperitoneal fibrosis. [JUN 07]
16. Role of plain radiography in acute abdomen.
17. Imaging in 9 year old girl presenting with right lower quadrant pain. [09]
18. Draw of neat line diagram of perinephric spaces including its relationship with other spaces. Write CT features of perinephric abscess and urinoma. [June 2008]
19. Enumerate various causes of Para vertebral masses and their imaging features. [Jul 10]
20. Enumerate causes of pain in right iliac fossa i 20 yr old married female. Discuss the role of USG and CT scan in evaluation in this case [June 2011]
21. Enumerate the causes of mechanical small bowel obstruction in an adult.
Describe the differentiating features of small and large bowel obstruction on plain

radiography. Briefly discuss the role of CT in mechanical small bowel obstruction.

[Dec 2012](3+2+5)

22. Briefly describe the etiopathology and imaging findings of ileocecal tuberculosis.

Discuss the features that are useful to differentiate it from Crohn's disease. [Dec

2012](3+2+5)

23. Enumerate various causes of acute pancreatitis. Briefly discuss various terms

used in description of imaging findings of acute pancreatitis and indicating its

severity. [Dec 12](2+6+2)

24. Briefly discuss the development of midgut. Describe the imaging findings of

midgut malformation and midgut volvulus on various imaging modalities.

[3+3+4 Dec 12]

25. A 40 year old male presents with a lump in the RIF. What would be your approach

as a radiologist to help come to a diagnosis? Discuss the characteristic radiological

features of any 3 pathologies, presenting with right iliac fossa lump. [1+9 Jun 13]

26. Discuss the DD in a 38 year old male presenting with RIF lump, lassitude and

altered bowel habits. Depict the conventional imaging findings in intestinal TB. [4+6

Dec 13]

27. Briefly describe the role of imaging in the following: a) Neuroendocrine tumors of

pancreas

b) Small bowel lymphoma. [5+5 Dec 13]

28. Enumerate the causes of a palpable lumbar mass in a 5-yr-old child. Discuss the

algorithmic approach you would use to arrive at diagnosis in this case. [2+8 June 14]

Enumerate the causes of pneumoperitoneum with peritonitis in a 30 yr old male patient.

Describe the findings which can be seen in supine abdominal radiograph in a case of

pneumoperitoneum. Discuss the CT findings which may be seen in bowel ischemia due

to acute superior venous thrombosis. [2+2+6 June 14]

29. A 10 yr old female child presents to the emergency department with acute onset RIF

pain. Enumerate possible causes. Discuss the radiological work up highlighting imaging

findings in 2 common conditions. [2+8 June 14]

31. A 27 yr old married woman presents to emergency room with sudden onset of severe

pelvic pain. Enumerate possible causes. Discuss the role of imaging in this case. Describe

the findings in 2 common conditions which may cause above symptoms. [2+2+4 June 14]

32. Abdominal radiograph shows pneumointestinalis in a 55 yr old male patient. Enumerate various causes. Describe the role of MDCT and imaging features in 2 such conditions. [2+8 Dec 14]

33. Imaging evaluation in a 13 year old girl presented with acute right lower quadrant pain. [10 Dec 15]

34. Causes and CT features of small bowel obstruction [10 Dec 2017]

35. 26 year male presents emergency with abdominal trauma 2+(4+4) Dec 2017

- a. Enumerate the various causes.
- b. Discuss the role of imaging in any two organs.

36. A 9 year old girl presents with acute right lower quadrant abdominal pain: [2+4 + 4 June 2017]

- a. Enumerate the likely causes.
- b. Imaging features of the two most common conditions.

37. Role of imaging in a patient with suspected splenic trauma. [10 June 2017]

38. Discuss the physical principle of magnetic resonance cholangio- pancreatography. Describe the various anatomical variants of the biliary tree. [3 + 7 June 2018]

39. Describe the role of conventional radiography and computed tomography in the evaluation of a suspected case of acute large bowel obstruction [5+5 December 2018]

40. What are the causes of an acute abdomen in neonate? What are imaging features of necrotizing enterocolitis? [4 + 6 June 2019]

41. What are the sites of physiological indentation of the esophagus? Discuss radiological diagnosis of achalasia cardia and its complications. What is the role of radiological intervention.? [2 + 5 + 3 June 2019]

42. A 36 year old male presented to emergency department with blunt abdominal trauma. [5+5 December 2019]

- a) Describe in brief imaging findings requiring urgent intervention.
- b) Discuss MDCT findings in hepatic injury.

ADRENALS

1. CT features in adrenal tumours. [JAN 97]
2. Pheochromocytoma. [JUL 97, JUN 04]
3. Total evaluation techniques for adrenal disease . [JUN 06]
4. Classify adrenal tumors and role of CT and MRI in evaluating them. [DEC 07/09]
5. CT and MRI anatomy of Adrenal glands and normal variants. [09]
6. a) What are the various causes of b/l adrenal masses? b) Characteristic features in different imaging modalities in two such causes. [2+2+4 June 15]
7. Enumerate the causes of adrenal enlargement in an adult of 40 years. Discuss the imaging features of adrenal adenoma. [4+6 December 2017]
8. What are the sites of origin of pheochromocytoma? Describe the imaging features of this tumour and its differentials. [3 + 4 + 3 June 2019]

ANATOMY

1. Anatomy of urethra. [Jan 97]
2. Segmental anatomy of liver and its importance. [JUL 97]
3. Cross-Sectional labeled diagram of Peritoneal Spaces at level of renal hila. [JUL 98]
4. Cross Sectional Anatomy of Supra Renal level. Enumerate the hormones elaborated by zones of the Supra renal glands.
5. Anatomy of Maxillary sinus and classification of various pathologic diseases.
6. Radiological anatomy of Mediastinum.
7. Anatomical boundaries of Ant. mediastinum – Role of CT in detection & diagnosis of anterior Mediastinal Masses.
8. Radiological anatomy of Sella turcica and imaging features of suprasellar masses. [JUL 99/Dec 2010]
9. Describe the anatomy of Gastro-oesophageal junction and imaging of hiatus hernia. [JAN 00]
10. Segmental anatomy of Lungs. [JAN 01, 02,10]

11. Orbit [DEC 02]
12. Temporal bone and Internal Auditory Canal.
13. Middle ear.
14. Neck space CT anatomy. [JUN 04]
15. CSF pathways.
16. Blood brain barrier. [DEC 05]
17. Describe normal Anatomy of Knee as seen on MRI. [09]
18. Describe the normal anatomy of coronary arteries and discuss the role of MDCT in coronary artery diseases. [09]
19. Lymphatic drainage of Lungs.
20. Embryology of Gastrointestinal Tract.
21. Embryology of Genitourinary Tract.
22. Embryology of Diaphragm.
23. Radiological anatomy of Larynx and Pharynx.
24. Anatomy and lesions of parapharyngeal spaces.
25. Radiological anatomy of duodenum and relations.
26. Radiological anatomy of pancreas.
27. Peritoneal ligaments and mesenteries (pathways of intra-abdominal disease spread).
28. Blood supply of large intestine.
29. Radiological anatomy of carotid artery and branches.
30. Anatomy of the Biliary tree and investigations for evaluation.
31. Anatomy of the Circle of Willis with Diagram. Enumerate the causes of Subarachnoid Hemorrhage. [2010]
32. Describe the Embryology and development of pancreas. Describe the imaging features of any one important congenital anomaly of pancreas. [2010]
33. Draw a labeled diagram of Bronchopulmonary segments on CHEST PA and Lateral radiograph of LEFT LUNG. [Dec 10]
34. Describe anatomical variations in Circle of Willis with the help of a diagram. Enumerate the sites of intracranial aneurysm. [Dec 2010]
35. Describe the basis of Hepatic segmental anatomy. Draw a diagram to depict various hepatic segments. [Dec 2010]

36. Describe the embryogenesis of human urinary system using labelled diagram. briefly discuss the basis of any 3 congenital defects of kidney. [June 11]
37. Describe with help of labeled diagram-vascular anatomy of testes. Explain briefly its clinical relevance in imaging of testicular malignancies. [June 11]
38. Draw a neat line diagram of perinephric space including its relationship with other spaces. Write CT features of perinephric abscess and urinoma. [4+3+3 June 13]
39. Briefly discuss with diagram the anatomy of Circle of Willis. What are the cause of Sub Arachnoid hemorrhage?. Discuss the role of imaging in a case of SAH. [3+3+4 June 13]
40. Describe with suitable diagram(s) the anatomy of peri and paranephric spaces. Enumerate tumors of perinephric spaces. Describe imaging features in any one of these. [4+2+4 Dec 13]
41. Draw a neat diagram showing the anatomy of retroperitoneum. What are various conditions affecting perinephric space. Describe the imaging features in three such conditions. [2+2+6 Dec 14]
42. a) Delineate the boundaries of the middle cranial fossa. [4+6 June 2017]
b) Enumerate the anatomical structures found in the middle cranial fossa.
43. a) Boundaries and contents of the carotid space of the neck. [6 + 4June 2017]
b) Imaging findings of vagal schwannoma.
44. Draw a line diagram to defend the radiological anatomy of mediastinum. Discuss the differential diagnosis of anterior mediastinal masses bases on computed tomography examination findings. [4 + 6 December 2018]
- 45.a) Imaging in esophageal motility disorder. [5+5 December 2018]
b) Imaging in post operative stomach.
46. Enumerate the various causes of strictures in the small intestine. Describe the imaging findings in Crohn's disease of the small intestine. [5+5 December 2018]
47. a) Describe the anatomy of retroperitoneum on imaging. [4 + 6 December 2019]
b) Describe the radiological findings of 2 common non tumour conditions occurring in the retroperitoneum.

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BREAST

1. Breast Masses. [DEC 02]
2. Indications of X-ray mammography, Sonography and MRI of Breast. [02]
3. Discuss the recent advances in Mammography. [02]
4. Mammographic features of Carcinoma Breast. [02]
5. Sonography in solid breast masses. [June 08]
6. Benign breast disease . [JUN 04]
7. MRI in malignant breast lesions. [09]
8. Conventional mammography techniques.
9. X-ray Mammographic tube and Breast mammographic views. [DEC 06]
10. Mammography. [DEC 05, JUN 06]
11. Mammographic Tube & Mammography equipment. [JAN 00, DEC 04, JUN 09]
12. Discuss about mammography X-ray unit. [09]
13. Recent developments in mammography X-ray tube. [09]
14. Computer aided detection (CAD) in Mammography. [09]
15. Screening mammography — Current status. [09 and *repeated on Dec 14*]
16. Describe BIRADS classification. [09]
17. Ultrasound Elastography in Breast lesions. [09]
18. Describe imaging features of Breast cancer on Mammography, US and MRI. Briefly outline approach (by flow chart) in BIRADS 4 lesion. [June 2011]
19. Discuss the current indications of MRI in breast cancer evaluation. Discuss MRI features of breast cancer. [5+5 Dec 11]
20. Describe the various mammographic techniques in brief, types of mammographic equipments available & current recommendations for its use for routine screening. [4+3+3 Dec 11]
21. Briefly describe diffusion protocol for MRI breast & characterization of benign and malignant breast lesion. [2x2x4 Dec 11]
22. Briefly describe the components of BIRADS system used for reporting of mammograms. Describe the indications and findings of various breast lesions on

MRI. [4+2+4 Dec 12]

23. Describe imaging features of Breast cancer on Mammography, US and MRI. Briefly outline approach (by flow chart) in BIRADS 4 lesion. [Dec 14] (*repeat from June 11*)
24. a) BIRADS classification. b) Imaging features of Phyllodes tumour on mammography, ultrasound and MRI. [4+(2+2+2) Dec 15]
25. Role of MRI in the evaluation of breast masses. [10 Apr 16]
26. Draw labelled diagram(s) of the suprahyoid neck spaces. [10 June 2018]
27. A middle aged lady presents with a breast mass. What are the possibilities? Discuss the specific mammographic characteristics which can help distinguish between the benign and malignant breast lesions [2 + 8 June 2018]
28. What you understand by the term BIRADS. Enumerate the indications of magnetic resonance mammography. Explaining the technique of magnetic resonance mammography [3 + 2 + 5 December 2018]
29. Describe the BIRADS lexicon pertaining to MR mammography. Describe the MR mammography findings in a BIRADS – 5 Breast lesion.
30. A 45 year old came with a lump in unilateral breast. How will you evaluate this patient on imaging?
 - B) Describe BI – RADS classification used for reporting of mammogram.

BIOSTATISTICS

1. Write short notes on: [4+2+2+2 Jun 12]
 - A. What is p value? What is its significance & clinical applications in research?
 - B. Sensitivity
 - C. Specificity
 - D. Positive and negative predictive value.
2. a) Sensitivity, specificity, positive predictive value and negative predictive value of a diagnostic test. [5+5 June 2017]
 - b) Quote an example using these values for any radiological test.
3. Define the statistical terms “accuracy”, “positive predictive value” and “negative predictive value”, citing their clinical usefulness. [3+4+3 June 2018]

4. a) Kappa measures (In terms of statistical analysis of medical data). [5+5 Dec 2018]
b) the receiver operating characteristics (ROC curve).
5. a) What is P value? What is its significance and clinical application in research?
b) What is sensitivity, specificity, positive predictive value. [3 + 7 December 2019]

CARDIOVASCULAR SYSTEM

1. Doppler ultrasound versus MR angiography of carotid vessels. [JAN 97]
2. Cardiac and pericardial calcification.
3. Role of plain skiagram chest in the diagnosis of pulmonary Hypertension. [JUL 97]
4. Scimitar syndrome. [JUL 97, DEC 06/07]
5. Pathogenesis of ASD. [JUL 97, 98]
6. Atrial myxoma. [JUL 98]
7. Amyloid heart diseases. [98]
8. Imaging of the extracranial carotid arteries.
9. Pathogenesis and classification of Dissecting Aneurysm of Aorta.
10. Coarctation of aorta. [JUL 99; DEC 02,03]
11. Role of doppler study in lowest extremity arterial disease.
12. Imaging in aorto-arteritis. [JAN 00, DEC 02]
13. Causes and imaging features of pericardial effusion. [JAN 01]
14. Abdominal aortic aneurysm.
15. Role of Doppler in peripheral arterial diseases.
16. MRI in cardiac disease. [DEC 02]
17. Tetralogy of Fallot. [02]
18. Pulmonary Stenosis. [02]
19. Imaging in ischaemic heart disease. [DEC 03]
20. Aortic Dissection. OR Imaging and Intervention in Aortic dissection [DEC 02/03/09]
21. Chest X-ray in CHD. [JUN 04]
22. Plain X-ray cardiomyopathy
23. MRI in Cardiac Imaging [DEC 04/09]
24. Pathophysiology & imaging of Mitral valve disease. [DEC 04, JUN 05]
26. Congenital anomalies of aortic arch and major branches.

27. Coronary imaging.
28. Aortic aneurysm and interventions. [JUN 05, DEC 05/06]
29. Superior Vena Cava obstruction.
30. Total anomalous pulmonary venous drainage. [DEC 02/05/07]
31. Doppler evaluation of deep veins of leg.
32. Takayasu's disease or Non-specific aortoarteritis. [JUN 05/06/07]
33. Left to right shunts/Extracardiac Left to Right shunts.[05/06]
34. Enlarged Left atrium. [06]
35. Ebstein's anomaly. [JUN 07, DEC 09]
36. Radiological approach in Cyanotic heart disease. [DEC 07]
37. Describe the normal anatomy of Coronary arteries and discuss the role of MDCT in coronary artery disease. [June 2008]
38. Causes & imaging features of constrictive pericarditis. [DEC 09]
39. Enumerate congenital anomalies of IVC. Comment on role of MR I in their diagnosis. [09]
40. MRI of cardiac tumors. [09]
41. Enumerate various types of transposition of great vessels. Describe imaging features of total anomalous pulmonary venous drainage. [09]
42. Interventional management of deep vein thrombosis. [09]
43. Imaging in Intermittent claudication of Lower limb. [02]
44. Imaging in 14 years old with hypertension. [09]
45. Describe diagnostic features on chest radiograph which can help in evaluation congenital heart disease. [09]
46. Imaging of PDA. [09]
47. Assessment of correctness of positioning of various catheters and tubes as seen on chest radiographs. [09]
48. Cardiac CT. [09]
49. Discuss the role of MR in evaluation of pericardium and its pathologies. [June 2008]
50. What are the causes of pulmonary venous hypertension? Describe plain X-ray findings in pulmonary venous hypertension. [09]

51. Radiological approach in Acyanotic heart disease. [09]
52. Total Anomalous Pulmonary Venous drainage. [09]
53. Imaging features on chest radiograph of various acyanotic congenital heart diseases. [2010]
54. Classify peripheral vascular malformation. Describe sonographic color doppler, MRI and angiographic features of venous malformation. Mention suitable embolic material for their interventional management. [Dec 2010]
55. Enumerate various tumors of heart. Describe the imaging features of myxoma of heart. [Dec 2010]
55. Describe the venous anatomy of lower limb with the help of a diagram. Describe the technique of color doppler imaging of lower limb veins and imaging features of deep Vein thrombosis. [Dec 2010]
56. Describe the radiological findings of Coarctation of aorta on plain radiograph, barium contrast study, DSA and MRI . Briefly describe role of interventional radiology in it. [June 2011]
57. Describe plain radiographic findings in Rheumatic heart disease in Mitral Stenosis. Mitral regurgitation with mitral stenosis & Aortic stenosis. [June 2011]
58. Classify aortic dissection. Describe the role of CT angiography in diagnosis and management of aortic dissection. [2+5+3 Dec 11]
59. Enumerate causes of acute chest pain in an elderly patient. Briefly describe CT findings in 3 common likely conditions. [1+3+3+3 Dec 11]
60. Classify congenital cardiac abnormalities. Briefly discuss abnormalities of Situs and Looping (or topology) with their imaging features. [2+4+4 Jun 12]
61. Define truncus arteriosus. Mention its types and characteristic features of its various types. Briefly describe its chest radiographic, echocardiographic and MRI findings. [2+2+2+2+2 Jun 12]
62. Enumerate causes of unilateral and bilateral inferior rib notching. Describe chest radiographic, CT chest and angiographic findings in Coarctation of Aorta. Briefly discuss role of interventional radiology in management of Coarctation of Aorta. [2+(2+2+2)+2 Jun 12]
63. How will you radiologically investigate a 60 year old hypertensive & diabetic

female presenting with severe chest pain of acute onset? Briefly discuss imaging features of the most common cause for it. Also describe role of radiology in its complications. [3+5+2 Jun 12]

64. Classify right sided aortic arch abnormalities. Draw suitable diagrams to describe these anomalies. Discuss imaging features in dysphagia lusoria. [2+5+3 Jun 12]

65. Enumerate causes and briefly describe the role of imaging in diagnosis and management of thoracic aortic aneurysm in a patient below the age of forty years. [2+4+4 Dec 12]

66. Enumerate the radiographic features of enlarged right atrium and enlarged left atrium. Briefly describe lung field changes in case of mitral stenosis [2+3+5 Dec 12]

67. Briefly describe the anatomy of the pericardium. List various causes and imaging findings in a case of constrictive pericarditis. [2+2+6 Dec 12]

67. Describe the arterial anatomy of carotid vascular system with the help of labeled diagrams. Discuss the role of ultrasound & color Doppler imaging in evaluation of extra cranial carotid occlusive disease. [2+2+6 Dec 12]

68. Enumerate the indications of MDCT coronary angiography. Describe the methods to reduce the radiation dosage to patients during performance of MDCT coronary angiography. [2+8 Dec 12]

69. Enumerate the causes of left atrial enlargement. Discuss its findings on chest radiograph. What other imaging techniques will be useful in making the diagnosis? Briefly highlight the significance of each. [2+3+2+3 Jun 13]

70. What is Eisenmenger Syndrome? Enumerate the conditions that may produce this syndrome. Discuss its key radiological features. [2+2+6 Jun 13]

71. Enumerate any four clinical conditions which produce a left to right cardiac shunt. Discuss the key radiological features in any two. What would be the radiographic signs of the possible hemodynamic complications, if the condition remains untreated?. [2+3+3+2 Dec 13]

72. Enumerate the radiologically-evident pericardial affections on a chest radiograph. Describe their key radiological findings. (2+8 Dec 13)

73. Discuss the diagnostic approach in a 7 year old boy presenting with a progressive

pulsatile swelling in the right forearm. Describe the imaging findings with Doppler and MRI. [3+3+4 Dec 13]

74. Discuss the pathophysiology of venous incompetence in lower extremity. What are common locations of perforators? Describe technique & imaging features in Doppler examination of venous incompetency in lower extremity. [2+3+5 Dec 13]

75. What are the indications of coronary CT angiography? Describe the techniques of performing coronary CT angiography. What do you understand by Calcium score and what is its clinical relevance? [2+5+3 Dec 13]

76. Enumerate the causes of Aortic aneurysm in a 30 yr old male patient. How will you differential b/w these various causes? Discuss the findings & information you shall highlight in a case which is to be managed using an aortic stent graft. [2+5+3 June 14]

77. Enumerate the various causes of bilateral weak femoral arterial pulsations in a 20 year old female patient. Describe the imaging findings in any two important causes. [2+4+4 June 14]

78. Define and enumerate causes of restrictive cardiac diseases. Discuss the role of various imaging modalities along with imaging features in two such diseases. [1+2]+[3+4 Dec 14]

79. A 50 yr old male patient in emergency with acute chest pain. Discuss the likely causes and approach to diagnose such patients. Discuss the role of CT angiography in these patients. [5+5 Dec 14]

80. a) Doppler assessment of AV fistula of hemodialysis access. b) Role of MDCT in cyanotic heart disease [5+5 Dec 14]

81. a) Vascular compression syndromes in abdomen and pelvis [5 Dec 14]

82. a) Role of different imaging modalities in evaluation of a case of limb ischemia. b) Role of interventional procedures in these patients. [5+5 June 15]

83. a) Enumerate causes of thoracic aortic aneurysm. b) Role of CT angiography in the diagnosis and management of aortic dissection. [June 15]

84. a) Define pulmonary hypertension b) Enumerate its causes and describe the imaging findings [June 15]

85. a) Venous anatomy of lower limb with the help of a diagram. b) Technique of colour doppler imaging of lower limb veins and imaging features of DVT [June 15]

86. a) Enumerate various heart diseases with cyanosis and increased pulmonary circulation b) Imaging features in any two such diseases. [June 15]
87. Imaging features and interventions in vein of Galen aneurysmal malformation. [5+5 Dec 15].
88. a) What is truncus arteriosus? b) Its classification, imaging features on chest X-ray echocardiography and MRI. [2+(2+2+2+2) Dec 15]
89. a) Enumerate the causes of SVC obstruction. b) Its pathophysiology and imaging features. [3+(3+4) Dec 15]
90. a) Pathophysiology of venous incompetence in lower extremity. b) What are common locations of Perforators? c) Colour Doppler findings and interventions of venous incompetency in lower limb. [2+2+(3+3) Dec 15] [*Repeat from Dec 2013*]
91. a) Role of ultrasound in the evaluation of a suspected vascular malformation. b) Role of interventional radiology in low flow vascular malformations. [5+5 Apr 16]
92. Enumerate the different types of Aortic Aneurysm, their sites and interventional management. [2 + 4 + 4 Dec 2017]
93. Imaging features of: [5+5 June 2017]
- a) Tetralogy of Fallot (TOF)
 - b) Ebstein's anomaly
94. Colour Doppler flow imaging of carotid artery. [10 June 2017]
95. a) Indications and technique of CT coronary angiography. [5+5 June 2017]
- b) Imaging features of lymphangitis carcinomatosa.
96. a) Enumerate causes of thoracic aortic aneurysm in a patient below the age of 40. [December 2019]
- b) Briefly describe the role of imaging in the diagnosis of these patients.
97. a) Describe the normal anatomy of coronary arteries. [4 + 6 December 2019]
- b) Discuss the role of MDCT in coronary artery diseases.
98. a) Enumerate various tumours of heart. [5+5 December 2019]
- b) Describe the imaging features in myxoma of heart.
99. a) Discuss the differential diagnosis in a 7 year old boy presenting with a pulsatile swelling of the right forearm

- b) Describe the imaging findings with Doppler and MRI. [4 + 6 December 2019]
100. a) Venous anatomy of lower limb with the help of a diagram. [5+5 December 2019]
- b) Technique of color Doppler imaging of lower limb veins and imaging features of deep venous thrombosis.
101. a) Myocardial viability imaging.
- b) chest radiograph findings mitral valve disease [5+5 December 2018]
102. a) imaging features and tetralogy of fallot. [5+5 December 2018]
- b) imaging features and partial anomalous pulmonary venous drainage
103. a) Enumerate various causes of hemolytic anemia. [2 + 5+3 December 2019]
- b) Describe the imaging findings in a case of thalassemia major. How will you differentiate it from sickle cell disease on imaging?

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CHEST

1. Describe briefly the pathophysiology of Pulmonary Embolism. Give in detail the imaging modalities for diagnosis of this entity and their relative merits and demerits. [JAN 97]
2. Wegner's granulomatosis [JAN 97, JUN 07]
3. Pathogenesis and imaging of pulmonary sequestration. [JAN 97, DEC 02, JUN 06, 10]
4. Role of imaging in bronchogenic carcinoma. [JUL 97]
5. Discuss in brief the differential diagnosis of mediastinal masses and their radiological appearances.
6. Alveolar Proteinosis. [98]
7. Anterior mediastinal mass lesions. [02]

8. Anterior mediastinal masses in children. [09]
9. Imaging of posterior mediastinal masses. [JUL 99, DEC 03]
10. Pleural tumours. [JUL 98]
11. Diagnosis of pulmonary infarction.
12. Pulmonary oedema. [JUL 99, 02]
13. Adult Respiratory Distress Syndrome (ARDS). [JUL 99, DEC 02]
14. Sarcoidosis. [JUL 99, DEC 04]
15. Differentiating features of intra and extralobar sequestration of lung. [JAN 00]
16. Pulmonary plethora and its distinctive features.
17. MRI in bronchogenic carcinoma.
18. What are clinical applications of CT in evaluation of non-neoplastic lung diseases? [JAN 01]
19. Pan-acinar Emphysema. [02]
20. Tracheoesophageal fistula. [DEC 02]
21. Evaluation and DD of Hilar Mass. [02]
22. Solitary Pulmonary nodule. [02]
23. Metastatic tumors of Lung. [02]
24. Silicosis. [02]
25. Bronchopulmonary Aspergillosis. [02]
26. Ground glass opacity HRCT- Significance and DD. [DEC 02, 03]
27. Unilateral opaque hemithorax. [02]
28. Unilateral Hyperlucent hemithorax. [06]
29. Pulmonary thrombolism. [DEC 03, JUN 06]
30. Imaging in acute chest trauma. [02]
31. Lung lesions in AIDS. [98]
32. Atypical Pneumonia. [JUN 03]
33. HRCT in ILD . [JUN 04]
34. Pulmonary lesions in AIDS .
35. Eventration of diaphragm . [DEC 04]

36. Pulmonary Aspergillosis .
37. Hyaline membrane disease. [DEC 05]
38. Imaging in central bronchogenic carcinoma .
39. Radiology of primary pulmonary Koch's. [02, JUN 05,06]
40. Salient features of radiology of pulmonary metastases .
41. Raised left Dome of Diaphragm.
42. Radiological feat. in Congenital Cystic Adenomatoid Malformation of the lung. [JUN 07]
43. Role of chest radiograph and CT chest in AIDS. [DEC 07/09]
44. Anterior mediastinal masses in children.
45. Anterior Mediastinal Masses. [02]
46. Azygos lobe.
47. What are the causes of pulmonary venous hypertension?. Describe plain X-ray findings in pulmonary venous hypertension. [June 08]
48. Discuss pathophysiology and imaging features in respiratory distress in newborn. [June 08]
49. Imaging in pulmonary the thrombo-embolism. [09]
50. MDCT & Scintigraphic evaluation of pulmonary embolism. [09]
51. Enumerate causes of usual interstitial pneumonitis. Describe HRCT Endings in idiopathic pulmonary fibrosis.
52. Discuss in detail imaging features of thoracic lymphoma. [June 08]
53. CT features of Thoracic Lymphoma. [09]
54. Imaging of extra nodal presentations of non Hodgkin lymphomas. [09]
55. Role of imaging in a new born with respiratory distress. [06,09]
56. Discuss pathophysiology and imaging features in respiratory distress in newborn. [09]
57. HRCT in Diffuse lung disease. [06]
58. HRCT in occupational lung diseases. [09]
59. HRCT in pulmonary tuberculosis. [09]
60. Role of chest radiography in emergency situations. [June 2008]
61. DD and imaging features of para-vertebral shadow. [2010]
62. Describe the role of MDCT in staging of carcinoma of lung. [2010]

63. Imaging findings in germ cell tumor of the mediastinum and discuss in brief the DD.
[2010]
64. Radiological findings of the Pulmonary complications of HIV infections. [2010]
65. Describe the chest radiograph and HRCT findings in Sarcoidosis. [09, Dec 10]
66. Describe etiopathogenesis, common causes, plain film and CT features of lymphangitis carcinomatosa. [June 2011]
67. Describe plain radiographic and CT findings of rt. upper lobe pulmonary collapse.
[June 11]
68. Discuss the role of CT and MRI in staging of lung cancer. [June 2011]
69. Describe the radiological findings of pulmonary complications in pts infected with HIV. [June 11]
70. Classify diaphragmatic hernias. Describe the radiological means to establish the diagnosis with relevant imaging findings. [June 11]
71. Enumerate various germ cell tumors of mediastinum. Discuss their imaging features. [3+7 Dec 11]
72. Enumerate the causes of Acute Respiratory Distress Syndrome. Give in detail and management of aortic dissection. [3+7 Dec 11]
73. Discuss the etiopathogenesis, imaging features & DD of silicosis. [3+4+4 Dec 11]
74. Define pulmonary sequestration. Describe its types & discuss CT findings and role of angiography in it. [2+1+4+3 Dec 11]
75. Enumerate causes of unilateral hyper-translucency on chest radiograph. Briefly describe plain radiographic and CT findings in a 5 year old child presenting with repeated chest infection and detected to have unilateral hyper-translucency on chest radiograph. [2+4+4 Jun 12]
76. Classify pleural tumours. Briefly discuss chest radiographic & CT findings of malignant mesothelioma. [3+3+4 Jun 12]
77. Enumerate various diseases caused by inhalation of inorganic dust. Briefly describe chest radiographic and CT findings of two most common such diseases.
[2+4+4 Jun 12]
78. How do pulmonary arteriovenous malformation present clinically? Discuss their chest radiographic, CT chest and angiographic findings. Briefly mention role of interventional radiology in their treatment. [2+(2+2+2)+2 Jun 12]

79. A 25 year old male presented with life threatening haemoptysis. Draw an algorithm to outline management of such a case. Discuss in brief role of chest radiograph, CT scan (with newer advances) and role of interventional radiology. [2+(2+4+2) Jun 12]
80. Enumerate the causes of superior vena cava syndrome in an adult. Briefly describe the role and findings of various imaging modalities in a case of central bronchogenic carcinoma. [2+8 Dec 12]
81. Describe various HRCT lung findings seen in interstitial lung disease with the help of diagrams. Describe HRCT features of usual interstitial pneumonia. [6+4 Dec 12]
82. Enumerate various causes of respiratory distress in a new born. Briefly describe imaging findings in congenital lobar emphysema and pulmonary sequestration. [2+4+4 Dec 12]
83. Enumerate the causes of hemoptysis in an adult patient. Briefly discuss the indications, techniques and complications of radiological interventions in this conditions. [2+2+4+2 Dec 12]
84. Define pulmonary edema. What is its pathophysiology? Enumerate its causes. Describe the plain radiographic findings in pulmonary edema. [1+2+3+4 Jun 13]
85. Write imaging findings of the following: a) Bronchial Carcinoid b) BOOP c) McLeod's Syndrome.
86. Define Sarcoidosis. What are the various stages of thoracic Sarcoidosis? Discuss the radiological manifestations of thoracic Sarcoidosis [2+2+6 Jun 13]
87. What do you understand by the term extra medullary hematopoiesis? Enumerate its causes. Discuss its plain film and cross sectional imaging findings. [2+2+3+3 Jun 13]
88. Discuss briefly the pathophysiology of pulmonary embolism. Give in detail the imaging modalities for diagnosis of this entity & their relative merits & demerits. [4+4+1+1 Jun 13]
89. State the radiological basis of differentiating a mediastinal mass from an intrapulmonary mass. How would you localize the compartment of a mediastinal lesion? Discuss briefly the differential diagnosis of mediastinal lesions in anterior

compartment. (2+3+5 Dec 13)

90. A 65 year-old chronic smoker presents with hemoptysis. The chest radiograph shows a well- defined cavitating intrapulmonary mass with spiculated margins in the left upper zone. How would you further evaluate this patient and determine the extent of disease?

What would be the signs you would look for to decide if the lesion is operable? [8+2 Dec 13]

91. Describe the changes on a chest radiograph in collapse of different lobes in both lungs. [10 Dec 13]

92. Radiological findings in: a) Sequestration of lung b) Pulmonary hypertrophic osteoarthropathy. [5+5 Dec 13]

93. Define SPN. Enumerate its causes. Discuss the radiological work up of a solitary nodule highlighting the features which enable to differentiate b/w benign and malignant nodules. [1+2+7

June 14]

94. A 30-yr-old female patient presented with h/o cough and one episode of hemoptysis. Her chest radiograph showed a cavitary lesion measuring 3 cm in left mid zone. Enumerate the possible causes. How will you proceed with radiological evaluation in this case? [2+8 June 14]

95. Name the anatomical structures which contribute to the hilar shadow seen on a frontal chest radiograph. Enumerate the causes of unilateral large hilum in a 50 yr old male. Describe the imaging findings in any 2 pathological causes. [2+2+3+3 June 14]

96. A 20-yr-old female with history of fever showed an anterior mediastinal and right hilar mass on chest radiograph. Enumerate the causes. Discuss the radiological finding which shall help you in formulating your differential diagnosis. Describe in brief features which are useful in differentiating Hodgkin's disease and non-Hodgkin's lymphoma. [2+6+2 June 14]

97. Describe the radiological anatomy of diaphragm. Enumerate various types of diaphragmatic hernias. Discuss the imaging findings in any two hernias which can be seen in a 40 yr old patient. [3+1+3+3 June 14]

98. Enumerate causes of cystic mediastinal lesions. Describe imaging features of any 2 conditions. [2+4+4 Dec 14]

99. a) Castleman's disease b) Role of Dual energy CT in pulmonary embolism. [5+5 Dec 14]

100. Enumerate causes of solitary pulmonary nodules. Discuss the role of various newer imaging techniques in assessment of these lesions. [2+8 Dec 14]

101. Discuss various chest complications in a post-operative patient. Describe in detail imaging features in any two conditions. [4+3+3 Dec 14]

102. A 55 yr male patient presents with left opaque hemithorax. Enumerate the likely causes and discuss the imaging features in two common conditions. [2+4+4 Dec 14]

103. Discuss various types of aortic aneurysms. Describe various modalities to investigate such patients with advantages and disadvantages of each. Discuss briefly role of interventional procedure. [2+6+2 Dec 14]

104. a) Takayasu's arteritis b) Role of RFA in chest tumors. [5+5 Dec 14]

105. Etiopathogenesis, clinical forms, complications and radiological features of

silicosis. [June 15].

106. a) Causes of mediastinal lymphadenopathy. b) Role of imaging in their differentiation. [June 2015]

107. An adult male presents with recurrent chest infections and a cavitating lung lesion in left lower zone in a chest radiograph. Discuss the differential diagnosis and imaging features in two most likely causes. [June 2015]

108. Causes of pleural masses and their imaging features. [June 2015]

109. a) Anatomic location and patterns of diaphragmatic rupture. b) Role of imaging in its evaluation. [June 2015]

110. a) Enumerate pulmonary manifestations in patients with HIV. b) Chest X-ray and CT features in *Pneumocystis carinii* pneumonia. [3+(3+4) Dec 15]

111. Radiological features of: a) McLeod's Syndrome b) Vanishing Lung Syndrome c) Scimitar syndrome. [3+3+4 Dec 15]

112. Pathophysiology, imaging features, complications and differential diagnosis of Respiratory Distress Syndrome of New born. [2+3+2+3 Dec 15]

113. Role of CT and MRI in staging of lung cancer. [5+5 Dec 15] [Repeat from June 11]

114. a) Antenatal diagnosis of congenital diaphragmatic hernia. b) Imaging findings in gestational trophoblastic disease. [5+5 Dec 15]

115. a) Enumerate various pathologies which can be found in posterior mediastinum. b) Imaging findings of posterior mediastinal tumors in children. [3+7 Apr 16]

116. a) Chest radiographic findings of pulmonary edema. b) Radiological differences between cardiogenic and non-cardiogenic pulmonary edema. [6+4 Apr 16]

117. a) Enumerate etiologies of diffuse cystic lesions of lung. b) Radiological findings in any two of them. [2+4+4 Apr 16]

118. a) Enumerate the causes of hemoptysis. b) Role of interventional radiology in its management. [2+8 Apr 16]

119. Causes and imaging findings in a neonate presenting with respiratory distress. [10 Apr 16] (*Repeat from Dec 15*)

120. a) Define solitary pulmonary nodule and enumerate its causes. b) Role of dynamic CT in the evaluation of solitary pulmonary nodule. [1+4+5 Apr 16]

121. Role of MRI in lung cancer staging. 10 [December 2017]
122. Etiology and radiological finding in acute respiratory distress syndrome. 10 Mark (December 2017)
123. Technique of High Resolution Computed Tomography (HRCT) of the lung. [3+4 +3 June 2017]
- b) Radiological features of usual interstitial pneumonia.
 - c) How does it differ from non-specific interstitial pneumonia?
- 124 a) Imaging algorithm in a 40 year old man with hemoptysis. [5+5 June 2017]
- c) Role of interventional radiology in this case.
125. Enumerate the causes of bilateral upper lobe fibrosis. Discuss the HRCT findings in intrathoracic sarcoidosis. [5+5 December 2018]
126. Enumerate the various lines and tubes encountered on chest radiographs in patients admitted to the intensive care unit (ICU). Discuss the imaging findings in pulmonary edema. [5+5 December 2018]
127. a) Describe the technique of multidetector CT pulmonary angiography in the suspected patient of acute pulmonary thromboembolism.
- b) discuss the false positive and false negative CT pulmonary angiography findings which can influence the assessment of such a patient suspected with pulmonary thromboembolism
128. Discuss the various imaging features of trauma to the chest. What are the imaging findings in broncho pleural fistula? [10 June 2019]
129. Classify interstitial lung disease and give the relevant HRCT findings in each. [10 June 2019]
130. a) Describe anatomy of lung on high resolution computed tomography. [3 + 3 + 4 December 2019]
- b) What of the common patterns of the imaging features seen in various interstitial lung diseases?
 - c) Describe HRCT features of usual interstitial pneumonia
131. A 25 year old presented with life-threatening haemoptysis [2 + 4 + 4 December 2019]
- B) Draw again algorithm and radiological management of this case.
 - C) discuss in brief imaging features on conventional radiology, CT scan and MRI and

role of intervention radiology

132. a) Enumerate the causes of acute respiratory distress syndrome [5 + 5 December 2019]

b) given in detail radiological management of aortic dissection.

CONTRAST MEDIA

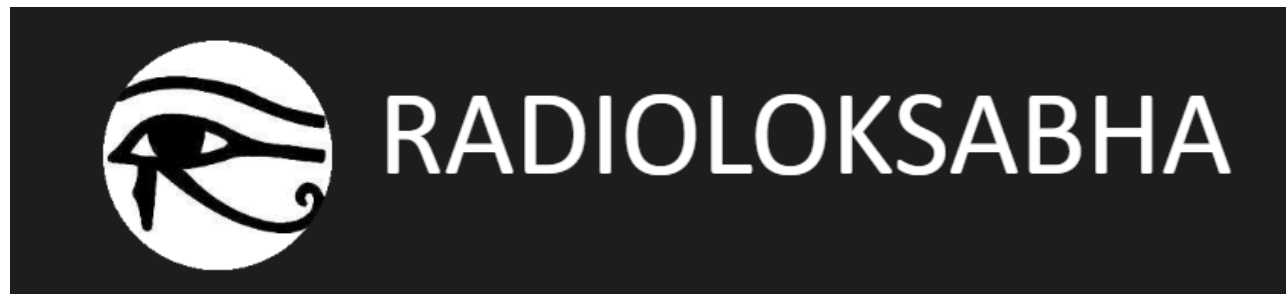
1. MR contrast media. [JAN 97, DEC 04, JUN 05]
2. Discuss about various MR contrast media and their mechanism of action. [08]
3. Low osmolar contrast media. [JUL 97]
4. Adverse drug reactions caused by I.V. Contrast media. [JAN 01]
5. Classify idiosyncratic reactions resulting from contrast media administration. Describe the management of life threatening adverse reactions. [08]
6. Non-ionic contrast media. [DEC 05]
7. Management of adverse contrast reactions. [JUN 05]
8. Recent contrast media used in USG. [JAN 00]
9. Role of Ultrasound Contrast Agents in gastro-intestinal diseases. [JUL 98, DEC 04]
10. Ultrasonography contrast media. (OR) Echo enhancing agents. [JUN 06, 09]
11. Contrast induced nephropathy. [09]
12. MR contrast media in Hepato biliary system/MR contrast agents for Hepatic Imaging. [06/09]
13. Emergency drugs with doses that should be available in radiology department. [09]
14. Adverse reactions of MR contrast media. [2010]
15. Enumerate various ultrasonic contrast media. Describe their principle and clinical application in evaluation of Hepatic mass lesion. [Dec 2010]
16. Write short notes- a. Management of severe contrast reaction. b. Nephrogenic systemic fibrosis. [5+5 Dec 12]
17. Define contrast nephropathy. Who are the patients at risk? What is the mechanism at work?
Outline its time course. What are the key recommendations to check its occurrence? [2+2+2+2+2 Jun 13]

18. Discuss the role of contrast enhanced MRI and Organ specific MR contrast media.
[3+7 Jun 13]
19. Management of acute idiosyncratic contrast reactions.[June 15]
20. a) What is the principle of MR contrast enhancement. b) Describe any two organ specific contrast agents and their clinical applications. [June 15]
21. a) Define contrast induced nephropathy (CIN). b) Conditions predisposing to CIN and the precautions to be taken to avoid CIN. [1+(5+4) Dec 15]
22. a) Iso-osmolar contrast agents. b) Classify MR contrast agents. c) Nephrogenic systemic fibrosis. [3+3+4 Apr 16]
23. a) Describe MR contrast media for liver imaging. [4 + 3 + 3 December 2019]
b) What is contrast induced nephropathy (CIN)?
c) What will you do to prevent CIN?

ENT

01. Laryngeal carcinoma. [DEC 03, JUN 04]
02. Imaging of temporal bone/Petrous bone. [DEC 05, JUN 06]
03. Describe the imaging features of juvenile nasopharyngeal angiofibroma. Discuss the role of radiological intervention in its management. [6+4 Dec 12]
04. Enumerate the infrahyoid neck spaces. Discuss the imaging features of pathologies of the carotid space. [4+6 June 14]
05. How would you evaluate a patient of hyperparathyroidism on imaging?
Enumerate the findings on plain films, CT and Scintigraphy. [4+2+2+2 June 14]
06. Staging and imaging features of juvenile nasopharyngeal angiofibroma. [10 June 15]
07. a) Enumerate the infrahyoid spaces b) Imaging features of carotid body tumour
[2+8 Dec 15]
08. a) Draw a diagram of cross sectional anatomy of inner ear.
b) Imaging workup in a child presenting with congenital sensorineural hearing loss.
[3+7 Apr 16]
09. Enumerate masses of developmental origin in neck. Discuss imaging features in each.
3+7 Dec 2017

10. a) Anatomy of osteomeatal unit, any two variants. [3+2+5 June 2017]
b) Radiological features of fungal sinusitis on CT & MRI.
11. a) computed tomographic and magnetic resonance imaging findings in mycotic sinusitis.
B) Imaging features of orbital involvement in neurofibromatosis type I. [5+5 December 2018]
12. Depict the anatomy of maxillary sinus single labelled diagram. Discuss the role of imaging in the diagnosis of mucocoele of maxillary sinus [5+5 December 2018]
13. a) explain the role of the HRCT temporal bone and MRI in the workup of a case of congenital sensorineural hearing loss for a possible cochlear implant .
b) Write the key CT imaging features which must be commented upon from the perspective of a surgeon about to undertake a cochlear implant. [4 + 6 December 2018]
14. Describe the anatomy of larynx with the help of diagrams. How does radiology help to assess staging of laryngeal malignancy? [5+5 June 2019]
15. a) Draw a labelled diagram of neck spaces. [6 + 4 December 2019]
b) Enumerate lesions of Parapharyngeal spaces.



GASTROINTESTINAL SYSTEM

1. Radiologic features of gastric malignancies. [JAN 97]
2. Describe in brief the pathology, role of imaging & radiological features in GI tract lymphomas. [JUL 97, 98]
3. Necrotising enterocolitis. [JUL 98]
4. Carcinoid tumours. [JUL 99]
5. Role of Radiology and Imaging in intestinal ischemia. [JAN 00]

6. Radiological profile of ulcerative colitis. [JAN 01]
7. Imaging in a Vomiting infant. [02]
8. Intervention in upper GI bleeding. [DEC 02]
9. Imaging in postoperative stomach.
10. Anorectal Malformations. [02]
11. Intussusception. [02]
12. Gastric lymphoma . [DEC 02/03/06/07]
13. Malabsorption syndrome. [02]
14. Gastrointestinal lymphoma. [JUN 04]
15. USG in appendicitis.
16. Non-tubular inflammatory bowel disease. [DEC 05, 06]
17. Critical appraisal on role of small bowel enema, CT & MRI enteroclysis. [JUN 07]
18. Colonic strictures – etiology and role of imaging in diagnosis of structures. [DEC 07]
19. Role of CT in Epiploic Appendicitis.
20. Internal Hernias.
21. Imaging of Acute Appendicitis.
22. Enumerate causes of lower gastrointestinal bleeding. Mention current imaging techniques in

- their evaluation Describe the role of MDCT in its evaluation. [09]
23. Imaging features of small bowel abnormalities in newborn. [09]
 24. CT vs MR enteroclysis for assessment of small bowel diseases. [09]
 25. Describe imaging of low intestinal obstruction in a neonate. [09]
 26. CT & Endoscopic ultrasound staging of Esophageal carcinoma. [09]
 27. Radiological evaluation of suspected Small Bowel obstruction. [09]
 28. Describe the technique and ultrasound features in acute appendicitis. Also describe ultrasound features of conditions mimicking acute appendicitis. [June 2008]
 29. Discuss various causes and imaging features in stricture of lower end of esophagus. [June 2008]
 30. Describe imaging features in a case of intestinal perforation. [2010]
 31. Describe the clinical features, sonographic and CT appearances in acute Appendicitis. [Dec 2010]
 32. Discuss the role of plain radiograph , barium studies , USG & CT abdomen in diagnosis of gastrointestinal TB. [2+3 + 2+3 June 2011]
 33. Describe in brief the role of plain radiography , enteroclysis, USG, CT and MRI in evaluation of small bowel obstruction. [June 2011]
 34. Enumerate causes of mesentric ischaemia. Briefly discuss plain radiographic, USG, CT findings and the role of intervention in this condition. [2+2+2+2+2 Dec 11]
 35. Name the various motility disorders of esophagus. Discuss pathophysiology and imaging features of cardiac imaging. [2+3+5 Dec 11]
 36. Enumerate causes of multiple nodular filling defects in small bowel. Discuss the imaging features of small bowel lymphoma. [3+7 Dec 11]
 37. Name the diseases associated with H. pylori infection. Briefly discuss barium meal features of benign and malignant gastric ulcer supported by suitable diagrams. [2+4+4 Jun 12]
 38. Enumerate various infections & neoplasms affecting gastrointestinal tract in AIDS. Briefly describe barium meal follow through and CT features of AIDS lymphoma. [3+7 Jun 12]

39. Classify polypoidal lesions of the colon. Mention radiological differences between benign and malignant polyps. Discuss salient imaging features of various types of adenomatous polyps. [2+3+5 Jun 12]

40. Enumerate causes of malabsorption syndrome. Describe imaging features in tropical sprue. Briefly discuss its complications. [2+6+2 Jun 12]

41. Describe technique of MDCT and imaging findings in an 80 year old male presenting with lower gastrointestinal bleeding. Briefly discuss its therapeutic implications. Draw a suitable algorithm outlining role of investigative modalities. [3+5+2 Jun 12]

42. Describe normal gastroesophageal junction with the help of suitable diagram. Label various rings and lines visualized on double contrast barium swallow. Discuss imaging features of Schatzki's ring. [6+2+2 Jun 12]

43. Enumerate the normal and abnormal extrinsic impressions on the cervical & thoracic parts of the esophagus during Barium swallow examination. Discuss the possibilities in a 56-year-old woman presenting with dysphagia. Describe briefly the key radiological findings in any 3 conditions. [2+2+2+2+2 Dec 13]

44. A 70 year old man presented with lower GI bleed. Mention various causes of lower GI bleed and briefly describe role of contrast studies, CT scan imaging & intervention in it. [2+2+2+2+2 Dec 13]

45. Describe the technique of MR Enterography. Compare its benefits & limitations vis-a-vis

conventional contrast studies and CT enteroclysis. [5+5 Dec 13]

46. Enumerate various imaging techniques employed for radiological evaluation of small bowel pathologies. Discuss the merits and demerits of each technique. Discuss in brief, CT findings in a case of ileocecal T.B. [2+5+3 June 14]

47. Enumerate various conditions associated with polypoidal lesions in the large bowel. How will you distinguish b/w benign and malignant polyps on imaging? Discuss the merits and demerits of virtual CT colonoscopy in a case of suspected familial polyposis coli. [2+4+4 June 14]

48. Technique to evaluate the stomach and imaging features of stomach malignancies.[June 15]

49. Pathophysiology and imaging features in small bowel lymphoma. [10 June 15]

50. a) Characteristic pathological features of gastrointestinal stromal tumors along with the imaging findings. b) Management options and post treatment follow up of these tumors. [(3+3)+(2+2) Dec 15].

51. a) Pathophysiology and imaging features in inflammatory bowel disease (IBD). b) Role of CT enteroclysis in IBD. [(3+4)+3 Dec 15]

52. a) Differential diagnosis of multiple colonic polyps. b) Role of double contrast barium enema in its evaluation. [4+6 Apr 16]

53. a) Radiological differences between gastric carcinoma and lymphoma. b) Role of imaging in the staging of gastric carcinoma. [5+5 Apr 16]

54. a) Based on the anatomic location of the bleeding site, how is gastrointestinal bleeding typically categorized? [2 + 8 June 2017]

b) How does multi-detector computed tomographic angiography help in the localization

and characterization of acute gastrointestinal bleeding?

55. Role of contrast enhanced ultrasound in the imaging of nodules in a cirrhotic liver, and the algorithm of how it can be integrated to be a part of a multimodality imaging approach.

[5+5 June 2017]

56. a) Enumerate the venous tributaries constituting the portal venous system and the sites of portosystemic anastomoses. [1+ 2+ 4+3 Dec 2017]

b) Sonographic and CT imaging features of portal hypertension.

57. a) Multi-detector computed tomography (MDCT) features of acute intestinal ischemia.
[4+6 June 2017]

b) How does MDCT contribute to appropriate treatment planning and provides important prognostic information?

58. CT imaging features of acute pancreatitis along with the revised Atlanta system of classification. [5+5 June 2017]

59. Enumerate the causes of acute intestinal obstruction. Describe the role of a radiologist in its diagnosis. [4 + 6 June 2018]

60. Define the role of imaging in the evaluation of a patient with perianal discharge. Draw a labelled diagram of coronal section of anorectal junction region, depicting the internal and external sphincter, and portraying the types of anorectal fistulae. [4 + 6 June 2018]

61. Enumerate the types of congenital malrotation of gut. Describe the embryological basis of their occurrence. [3 + 7 June 2018]

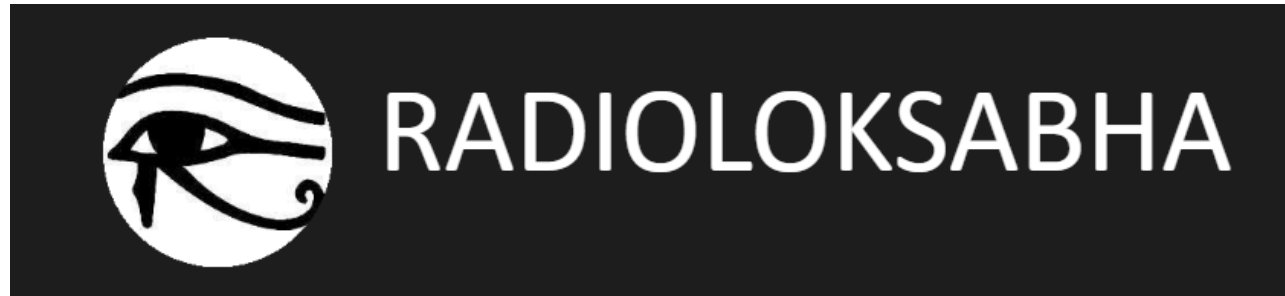
62.a) Name the disease associated with H pylori infection. [4 + 6 December 2019]

b) Briefly discuss barium meal features of benign and malignant gastric ulcers supported by suitable diagram.

63 a) Enumerate causes of gastroduodenal artery bleed. [3 + 3 + 4 December 2019]

b) Mention current imaging techniques for its diagnosis.

c) Describe interventional radiology techniques used in its management.



GENITOURINARY SYSTEM

1. Differentiation of Renal Cyst and Renal tumour by I.V.P. [JAN 97]
2. Diagnosis of Urinary Bladder's Tumours. [97,02]
3. Discuss the role of imaging in Renal trauma.
4. Polycystic disease of kidneys. [JAN 97, JUN 04]
5. Posterior urethral valves. [JUL 97, JUN 06]
06. Epispadias extrophy complex.
07. Pathology of renal neoplasms in the paediatric age group.
08. Acute scrotum [JUL 99, 02]
09. Cystic diseases of the kidney.
10. Child with UTI. Provide a protocol for imaging and mention their features. [JAN 00]
11. How will you investigate a case of painless hematuria? What is role of Radiologist in its management?
12. Imaging of prostate. [JAN 00, JUN 04]
13. Prostatic tumors. [JUN 03]
14. Testicular germ cell tumors. [JAN 01]
15. Radiological diagnosis of congenital lesions of kidney.
16. Interventions in upper urinary tract obstruction. [01]
17. Imaging in renal malignancies. [04]

DNB RADIODIAGNOSIS - SYSTEM WISE QUESTIONS

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18. Role of Doppler in testicular tumor. [DEC 04]
19. Vesicoureteric reflux. [DEC 04/09]
20. Nephrocalcinosis. [02,04,06]
21. Imaging in renal malignancies.
22. Renal tuberculosis. [Dec 05/07/09, Jun 07,Dec 14]
23. Ureterocele. [02, 05]

24. Discuss the pathology of renal hypertension & radiological investigations for the same. [JUL 98]
25. Discuss the pathophysiology of renovascular HTN and role of imaging. [02]
26. Diagnosis of renal hypertension – present day approach . [JUN 05]
27. Imaging in evaluation of renovascular hypertension in a ten year old male. [09]
28. Discuss the role of various imaging modalities in a suspected case of renovascular hypertension. [June 2008]
29. Imaging of unilateral scrotal swelling.
30. Diagnosis of non malignant prostatic enlargement .
31. Angiomyolipoma of the kidney . [JUN 06]
32. Neurogenic bladder .
33. Unilateral large kidney in a child .
34. Renal Cell Carcinoma. [JUN 04]
35. Emphysematous pyelonephritis.
36. Doppler evaluation in male impotence.
37. Classify cystic diseases of kidney and discuss role of ultrasound in these lesions. [JUN 07]
38. Enumerate causes of unilateral small kidney, Describe the role of imaging in its diagnosis. [DEC 09]
39. Mention ultrasound and Doppler findings in varicocele. Describe the role of intervention in its management. [09]
40. Enumerate the causes of Varicocele. Write US technique and US and color Doppler features in Varicocele. [June 2008]
41. MR staging of prostate carcinoma. [09]
42. Penile doppler. [06]
43. Discuss imaging of erectile dysfunction. [09, 10]
44. Color Doppler evaluation of erectile dysfunction. [June 08]
45. Imaging in Transplant kidney. [02]
46. Enumerate various investigative modalities for the transplanted kidney & give the normal findings in each of them. [JUL 99]
47. Doppler in renal transplant [DEC 02/09, JUN 04]

48. Role of color Doppler and ultrasound in post renal transplant patient. [09]
49. How would you evaluate donor kidney for renal transplant. Discuss role of US and Scintigraphy in various types of renal graft dysfunction. [June 2008]
50. Imaging in Non tubercular renal infections [December 2008]
51. Non vascular Interventions in upper urinary tract. [09]
52. Embryology, clinical significance and imaging of undescended Testis. [2010]
53. Indications, imaging features and limitations of imaging in erectile dysfunction. [2010]
54. Describe the blood supply of testes with the help of diagram. Enumerate various types of testicular torsions. Describe imaging findings in each. [Dec 2010]
55. Discuss the etiopathogenesis and radiological features of renal tuberculosis. [Dec 2010]
56. Enumerate the indications and describe the techniques of color doppler in Renovascular hypertension. [Dec 2010]
57. Enumerate various complications of Renal transplant and discuss their imaging findings. [Dec 2010]
58. Enumerate causes of hypertension in 10 yr old male child . Outline radiological approach in such a case. Role of MDCT and intervention in renal hypertension. [June 2011]

59. What is vesico-ureteric reflux. Discuss its causes and grading . Briefly describe role of imaging in this condition. [June 2011]
60. Enumerate causes of unilateral small Kidney. Discuss role of imaging in establishing the diagnosis. [June 2011]
61. Discuss the role of imaging in uraemia, citing the specific role and limitations of conventional radiography, US, CT, MRI and renal scintigraphy. [June 2011]
62. Discuss the grading of renal trauma. Describe the role of imaging in its evaluation. [4+6 Dec 11]
63. Briefly describe the penile arterial flow physiology. Discuss the technique and utility of duplex sonography in evaluation of erectile dysfunction. [3+4+3 Dec 11]
64. Describe venous drainage of testis. Discuss imaging features & interventions in varicocele. [3+4+3 Dec 11]
65. Enumerate various vascular complications in renal transplant. Briefly discuss the role of color doppler, CT, MRI and intervention in these conditions. [1+3+2+2+2 Dec 11]
66. Briefly describe MRI and MRS findings in prostatic carcinoma and its staging. Discuss role of TRUS biopsy. [4+4+2 Dec 11]
67. What are common causes of medially placed ureters? Discuss various associations. IVU, CT & MRI findings of retroperitoneal fibrosis. [2+2+2+2+2 Jun 12]
68. Enumerate causes of urethral strictures. Briefly discuss role ascending urethrogram in strictures due to trauma. Name common complications of urethral strictures. [3+5+2 Jun12]
69. Enumerate various ovarian tumors of stromal origin. Briefly discuss imaging features of serous and mucinous cystadenocarcinoma and cystadenoma. [3+2+2+3 Jun 12]
70. Describe technique of TRUS guided biopsy of prostate. Briefly mention role of contrast imaging in investigation & biopsy of a prostatic lesion. [8+2 Jun 12]
71. Enumerate the causes of hematuria in a 50 yr old male patient. Briefly discuss the role of various imaging modalities in diagnosis and staging of renal cell carcinoma. [2+4+4 Dec 12]

72. Discuss the role of imaging in uremia, citing the specific role and limitation of conventional radiography, sonography, CT, MR & renal scintigraphy. [5+2 Dec 12]
73. List the anatomical sites which may become afflicted in renal TB. Discuss their radiological features in brief. [2+8 Jun 13]
74. A 24 year old with presenting features of low grade fever, lassitude and aseptic pyuria is referred to you for radiological work up. What is the likely diagnosis?. How would you investigate this patient?. Describe the key radiological signs, specifying the changes in early, intermediate & late stages of the disease. [1+3+6 Dec 13]
75. A 38 year old RTA victim is brought to you from the casualty with history of frank hematuria. How would you evaluate this patient?. Discuss the possibilities with their key radiological findings. [4+6 Dec 13]
76. Describe penile circulation. What are the causes of male impotence? Discuss the role of Color doppler imaging in impotence. [4+2+4 Dec 13]
77. A 40yr-old-female pt. presented with complaints of vague right lumbar pain. An USG revealed a cystic lesion in right kidney. She was advised to undergo CT scan by the radiologist for further evaluation. Enumerate possible causes. Discuss the CT protocol & findings in various lesions. [2+2+6 June 14]
78. What are the causes of painless hematuria in a 50 yr old male patient? Discuss the imaging features and role of interventional radiology in two such pathologies. [2+4+4 Dec 14]
79. a) Renal tuberculosis. [5 Dec 05/07/09, Jun 07, Dec 14]

80. A young adult male presents with painless testicular mass. What is the differential diagnosis and imaging features in the most common cause? [June 15]
81. a) Pathogenesis and imaging features of xanthogranulomatous pyelonephritis. b) Imaging features of abdominal lymphangioma. [5+5 June 15]
82. a) Classify renal injuries. b) Imaging features and interventions in them. [2+(4+4) Dec 15].
83. Important differential diagnosis in a child with acute scrotum and their imaging features. [2+8 Dec 15]
84. a) Bosniak classification of renal cysts. b) Imaging features of renal lymphoma. [5+5 Dec 15]
85. MR imaging of normal prostate: Technique, zonal anatomy. b) Role of MR imaging in staging of carcinoma prostate. [3+3+4 Dec 15]
86. Role of imaging in a post renal transplant patient. [10 Apr 16]
87. Role of imaging in a young male presenting with acute scrotal pain. [10 Apr 16]
88. Imaging manifestations of renal lymphoma and its differential diagnosis. [6+4 Apr 16]
89. Classify the renal injuries and describe briefly the relevant interventional procedures in renal injuries.[4 + 6 Dec 2017]
90. What is testicular torsion? Discuss briefly the different types of torsion and diagnostic Imaging features? [2 + 2 + 6 Dec 2017]
91. Role of Color Doppler in: 5+5 December 2017
- (a) Renal hypertension
- (b) Acute limb ischemia.
92. A 52 year old road traffic accident victim is brought to you from the casualty with history of frank haematuria. [3 + 7 June 2017]
- a) How would you evaluate this patient?
- b) What are the possibilities with their key radiological findings?
93. A 66 year old patient has undergone a renal transplant. Enumerate the potential complications that may occur in this patient. What is the role of Colour Doppler and ultrasound in the imaging of these complications? [3 + 7 June 2017]
94. Enumerate the possible acute complications which may occur in a renal transplant

recipient. Define the role of a radiologist in their diagnosis. [2 + 8 June 2018]

95. Pathogenesis of genito –urinary tuberculosis and its imaging findings in CT scan. [3 + 7 June 2019].

96. Etiology and characteristic imaging findings of retroperitoneal fibrosis. [3 + 7 June 2019]

97. a) Enumerate causes of painless hematuria in a 55 year old patient. [4 + 3 +3 December 2019]

b) Discuss the imaging features and role of interventional radiology in any two pathologies.

98. a) what are the causes of vesico – ureteric reflux? . [5 + 5 December 2019]

b) Describe the imaging in vesico- ureteric reflux along with its grade with well labelled diagrams.

HEPATOBIILIARY SYSTEM

01. Choledochal cyst. [JAN 97, JUL 98, DEC 02/05]

02. Discuss the etiology, Classification, imaging features and complication of choledochal cyst. [June 2008]

03. Budd-chiari syndrome. [JAN 97, DEC 04]c

04. Ultrasonography features in cirrhosis liver with portal hypertension. [JUL 98]

05. Role of imaging in obstructive jaundice. [JUL 99]

06. Hepatobiliary intervention in Obstructive jaundice. [JUN 03]

07. Non-Invasive evaluation Of Portal Hypertension. [02]

08. Discuss Portal Hypertension: its radiological diagnosis and interventional therapy. [JAN 00, DEC 02, 03,05; JUN 06, 09]

09. Neonatal jaundice. [02]

10. MRCP in obstructive jaundice . [DEC 02]
11. Cystic lesions of liver . [DEC 04]
12. Benign lesions of the liver. [DEC 05, JUN 06]
13. Therapeutic interventions in liver tumors. [JUN 05]
14. Triple phase Portography. [JUN 06]
15. Doppler in hepatic cirrhosis. [DEC 07]
16. Colour Doppler and CT features in portal hypertension. [09]
17. Interventions in Hepatic tumors. [DEC 06]
18. Interventional management of Hepatocellular carcinoma. [09]
19. MRI features of hepatic hemangioma. Briefly discuss role of radiology in treatment of hepatic haemangioma. [09]
20. Radio frequency ablation of hepatic neoplasm. [09]
21. Describe CT features of liver trauma and discuss role of intervention in this. [June 2008]
22. Enumerate the causes of obstructive Jaundice. Describe technique of MRCP and its role in obstructive Jaundice. [Dec 2010]
23. What is the role of diagnostic imaging modalities in Cholangio.Ca. Discuss the morphological findings and the significance of various modalities in management of the disease. [Jun 11]

24. Enumerate the causes of SOL in liver . Describe the USG features in any 3 of them.

[Jun 11]

25. Mention the various interventional techniques used in HCC. Briefly discuss indications and technique of two commonly employed techniques. Outline protocol for follow up in a case of HCC. [1+8+1 Dec 11]

26. Enumerate the most common cause of a 6 year old male presenting with hepatomegaly, ascites & features of portal hypertension. Discuss imaging modalities employed to investigate such patients along with various imaging features. Briefly mention role of interventional radiology in its management. [1+7+2 Jun 12]

27. A 15 day old infant has presented with prolonged conjugated hyperbilirubinemia accompanied by non pigmented stools. Name the possible etiology. Describe imaging features and various associations that may be seen in such a case. [1+6+3 Jun 12]

28. Enumerate benign hepatic masses. Describe imaging features (USG, CT, & MRI) of two commonly encountered such lesions. [2+4+4 Jun 12]

29. Describe the segmental anatomy of liver in cross sectional imaging. Discuss the role of triple phase CT in differentiating focal lesions in cirrhotic liver. [4+6 Dec 12]

30. Enumerate the common causes of obstructive jaundice. Discuss the role of various imaging modalities in its diagnosis. [2+8 Jun 13]

31. Describe etiopathogenesis of biliary atresia. Discuss the role of ultrasound, MRI and scintigraphy in assessment of biliary atresia. [2+3+2+3 Dec 13]

32. Describe pre-transplant imaging in a liver donor. What are common complications after liver transplant? Discuss the role of intervention in treating complications. [3+2+5 Dec 13]

33. What are various interventional techniques available to treat hepatic malignancies? Discuss the role of chemoembolization and radioembolization in hepatic malignant lesion. [3+4+3 Dec 13]

34. Describe the anatomy of portal venous system. What are the causes of portal hypertension? Describe the role of intervention in portal hypertension. [4+2+4 Dec 13]

35. Enumerate the causes of arterial phase enhancing focal lesions in the liver. Discuss the role of MDCT and MRI in DD of these lesions. [2+4+4 June 14]

36. a) Von Meyenburg complex. b) Imaging features of fibrolamellar HCC. [5+5 Dec 14].

37. US examination of a cirrhotic patient shows a solitary nodule in right lobe of liver. How would you investigate such a patient? Discuss in detail the role of CT, MRI and interventional radiology in such a case. [2+3+3+2 Dec 14]
38. Imaging techniques and findings in a case of Budd Chiari synd. [June 15]
39. a) Enumerate the causes of obstructive jaundice in adults. b) Role of USG & MRI in the evaluation of obstructive jaundice. [2+(4+4) Dec 15]
40. a) Enumerate the various causes of nodules in a cirrhotic liver. b) Role of Imaging in differentiating them. [3+7 Dec 15]
41. Imaging features of: a) Carolidisease b) Biliary atresia [5+5 Dec 15].
42. Indications. imaging evaluation and technique of Transjugular Intrahepatic Portosystemic Shunt (TIPS). [2+4+4 Dec 15]
43. a) Segmental anatomy of liver-Labeled diagram. b) Role of MRI in evaluation of a nodule in cirrhotic liver. [3+7 Apr 16]
44. Name the hepatic interventions done through transjugular route. Discuss the indication, technique and complications of transjugular liver biopsy.[2 + 2 + 3 + 3 Dec 2017]
45. Causes of obstructive jaundice and role of imaging in them along with therapeutic Interventions. [3 + 5+ 2 Dec 2017]
46. Describe the ultrasound and Doppler evaluation of a suspected case of portal hypertension. Outline the indications and procedure of trans jugular intrahepatic porto-caval shunt. [5+5 December 2018]
47. a) Role of magnetic resonance imaging in the evaluation of hemochromatosis and iron overload states.
b) Role of sonographic and Doppler evaluation in a patient of portal hypertension. [5+5 December 2018]
48. Describe the technique of multiphasic CT scan study of liver. Discuss the imaging findings of hepatoma. [4 + 6 December 2018]
49. Draw a diagram of the hepatic segments. Described the role of radiology in the work up of a liver transplant. [5+5 June 2019]
50. Mention causes of solitary hepatic space occupying lesions. How can MRI help in differentiating them? [4 + 6 June 2019]

51. Tabulate the grading of liver trauma. What are the important delayed complications of injury to the liver?

MUSCULOSKELETAL SYSTEM

01. Thoracic skeletal changes associated with cardio-vascular diseases. [JAN 97]
02. Radiological features in nutritional rickets.
03. Differential diagnosis of expanding lesions of mandible. [JAN 97, JAN 01]
04. Pyknodysostosis.
05. Radiological features of spinal tuberculosis. [JUL 97, JUL 98]
06. Radiological features of congenital syphilis.
07. Neurophatic joints.
08. Radiological features of Osteosarcoma. [98]
09. DD of generalized decrease in Bone Density. [98]
10. Differential diagnosis of expanding lesions in metaphysis of long bones. [JUL 98]
11. Cleido-cranial dysostosis.
12. Pancoast tumour. [JUL 98, DEC 02,03]
13. Hypertrophic pulmonary osteoarthropathy. [JUL 98, JUL 99]
14. Enumerate the causes of Osteoporosis and use of CT in Bone Mineral Studies. [JUL 98]
15. Differential diagnosis of metaphyseal lucent lesions. [JUL 99]
16. Renal osteodystrophy.
17. Pathophysiology of renal rickets. [JAN 00]
18. Psoriatic arthritis.
19. Pathophysiology of Hyperparathyroidism. [02]
20. Radio-diagnosis of hyperparathyroidism. [JAN 00, DEC 03, JUN 04/09]
21. Radiology of Rheumatoid disease. [JAN 01]
22. Cystic jaw lesions . [DEC 02, DEC 03]
23. Perthe's disease. [02]
24. Expansile lytic lesion at upper end of Tibia. [02]
25. Hand: an index of the disease. [DEC 02, DEC 03]
26. Neurofibromatosis. OR Osseous spectrum in neurofibromatosis. [DEC 02/07/09, JUN 04]
27. Role of Skeletal Radiography in estimation of age. [02]
28. Bone age estimation [DEC 03]
29. Osteogenesis imperfecta .

30. Solitary dense vertebra. [02]
31. Imaging of Low Back pain. [02]
32. Role of MRI in bone tumors . [DEC 04]
33. Radiology of CARDIO-VASCULAR SYSTEM soft tissues . [DEC 05, JUN 06]
34. Secondary hyperparathyroidism. [JUN 05]
35. Osseous lymphoma.
36. Plain film features of Acromegaly. [02]
37. Techniques for evaluation of Acromegaly . [JUN 06]
38. Basilar invagination . [JUN 05/06]
39. Radiology of a Limping Child. [DEC 06]
40. Imaging features in Mucopolysaccharidosis. [DEC 06, JUN 07]
41. Periosteal Reactions (DD). [DEC 02, 06]
42. Imaging in Tuberous Sclerosis and its associations.
43. Sickle cell disease – radiological appearances. [JUN/DEC 07]
44. Discuss causes of diffuse skeletal sclerosis and role of imaging in it.
45. Sero-negative Spondyloarthropathy. [DEC 07]
46. Differential diagnosis of radiological appearance of absorption of terminal phalanges.

47. MR Imaging of Traumatic knee. [DEC 06]
48. Imaging in Meniscal tear of knee. [09]
49. Role of plain X rays and USG in Congenital Dislocation of Hip jt. [02]
50. MRI in congenital dislocation of hip joint. [09]
51. MRI in SLAP lesions of shoulder. [09]
53. Rib Notching. [JUN 03]
54. Enumerate various causes of Para vertebral masses and their imaging features. [June 2008]
55. Mention causes of inferior RIB notching. Discuss imaging features of 2 common causes. [09]
56. Describe ossification of bones of elbow. [09]
57. Imaging and associations of Fibrous dysplasia. [09]
58. Briefly discuss imaging of pre-sacral masses in children. [09]
59. Ozone therapy for backache. [09]
60. Imaging findings in Plasma Cell Tumors. [09]
61. Evaluation of Skeletal Dysplasias in utero. [09]
62. Imaging in Rotator cuff lesions. [09]
63. What are round cell tumors of bone? Discuss in detail differentiating imaging features in these. [June 2008]
64. Describe radiological features, complications and differential diagnosis of Paget's disease. [June 2008]
65. Discuss the techniques, imaging features & limitations of sonographic evaluation of the rotator cuff [June 2008]
66. Describe different types and imaging features of fractures. What are the complications of fracture? [2010]
67. Define Stress fracture. Enumerate various sites and predisposing factors of stress fracture. Describe various imaging features of stress fractures. [Dec 2010]
68. Describe in brief various imaging features of Osteoid osteoma. Discuss its differential diagnosis. [Dec 2010]
69. Describe the life cycle of hydatid disease causative organisms. Enumerate sites of affection in human beings. Describe imaging features of Musculoskeletal hydatidosis.

[Dec 2010]

70. Enumerate causes of Hypertrophic osteoarthropathy. Discuss its DD & describe its imaging findings on plain radiograph. [Jun 2011]

71. Discuss the radiographic and sonographic features of developmental dysplasia of Hip. [Jun 2011]

72. Describe the MR anatomy of the knee joint. Briefly state the MR sequences you would employ to delineate a suspected medial meniscus tear. [June 2011]

73. Enumerate different varieties of Osteosarcoma. Discuss their imaging features. [3+7 Dec 11]

74. Describe etiopathogenesis of Osteomyelitis. Discuss role of imaging in acute osteomyelitis. [4+6 Dec 11]

75. Discuss the clinical associations of Hypertrophic Osteoarthropathy. Briefly describe its radiological findings, Differential diagnosis & role of Nuclear medicine. [3+4+2+1 Dec 11]

76. Classify scoliosis. Discuss imaging features of plain radiographic, CT and MRI in neurofibromatosis of spine. Discuss Cobb's angle and draw a diagram illustrating its measurement. [2+5+2+1 Jun 12]

77. Mention causes of periosteal new bone formation. Briefly discuss characteristic radiological features of osteomyelitis affecting infants, children & adults. [2+8 Jun 12]

78. Mention differential diagnosis of 15 year boy presenting with localized pain and swelling of

2 months duration in right lower thigh. Discuss conventional radiographic, CT and MRI features of the commonest primary malignant bone tumor in this age. [1+3+3+3 Jun 12]

79. Classify cysts of jaw. Describe briefly imaging features of each type of cyst. Draw suitable diagrams to describe various types. [2+6+2 Jun 12]

80. Discuss differential diagnosis and imaging features of painless expansile lesion involving single rib in an adult. [3+7 Jun 12]

81. List the causes of posterior scalloping of vertebrae. Describe skeletal changes seen in von Recklinghausen's disease. [2+8 Dec 12]

82. Enumerate various causes of hemolytic anemia. Describe the imaging findings in a case of Thalassemia major. Briefly discuss its DDs from sickle cell anaemia. [2+5+3 Dec 12]

83. Briefly discuss the pathophysiology of osteomalacia. Describe the radiological findings in renal osteodystrophy. Enumerate the findings that help in differentiating from primary hyperparathyroidism. [3+4+3 Dec 12]

84. What is Osteoporosis? Enumerate causes of osteoporosis. Discuss any 3 imaging modalities currently in vogue for assessment of bone mineral density. [2+2+6 Jun 13]

85. What are the key clinical features, common sites & radiological findings in Ewing's sarcoma? Discuss its differential diagnosis in brief. [2+2+4+2 Jun 13]

85. The Child Welfare Board has referred an accused to you for estimation of age. Being a radiologist, how would you carry out this assignment?. Discuss in brief the variables that can affect the estimated age. [6+4 Jun 13].

86. Enumerate causes of painful limp in a child unable to bear weight. Briefly discuss the role of plain X-ray, arthrography, US, CT, MRI and scintigraphy in arriving at diagnosis. [2+2+1+1+1+2+1 Jun 13]

87. Discuss the role of plain X-ray, CT and MRI in cases of lower cervical spinal trauma. [3+4+3 Jun 13]

88. Describe the MR anatomy of the shoulder joint. Briefly state the MR sequences you would employ to delineate various lesions of the shoulder joint. [4+6 Jun 13]

89. a. Ossification of elbow joint and its clinical significance. b. Fusion imaging. [5+5 Jun 13]

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90. Enumerate any 5 morphological patterns of periosteal reaction and state their clinical significance. [2+2+2+2+2 Dec 13]
91. Discuss the pathophysiology of osteomalacia. Describe imaging features in primary hyperparathyroidism. [5+5 Dec 13]
92. Enumerate the hematopoietic disorders which causes marrow changes. Discuss the MRI findings of any two of these marrow disorders. [2+4+4 June 14]
93. Discuss the imaging features of avascular necrosis of the hip and its DD. [7+3 June 14]
94. What are the causes and imaging features of hypertrophic osteoarthropathy [3+7 June 14]
95. A 10-yr-old child has presented with swelling of the mandible. Enumerate the causes and discuss the imaging findings of any two. [2+2+6 June 14]
96. Enumerate the causes of hypertrophic osteoarthropathy. Briefly describe its radiological findings, DD and role of Nuclear medicine. [2+4+2+2]
97. Enumerate various causes of hemolytic anemia. Describe the imaging findings in a case of Thalassemia major. Briefly discuss its DDs from sickle cell anaemia. [2+5+3 Dec 14] (*this question was repeated from Dec 12*)
98. List the causes of posterior scalloping of vertebrae. Describe skeletal changes seen in von Recklinghausen's disease. [2+8 Dec 14] (*repeat from Dec 12*)
99. Enumerate causes of painful limp in a child unable to bear weight. Briefly discuss the role of

plain X-ray, arthrography, US, CT, MRI and scintigraphy in arriving at diagnosis. [2+2+1+1+1+2+1 Dec 14](*exact repeat from June 13*)

100. Classify cysts of jaw. Describe briefly imaging features of each type of cyst. Draw suitable diagrams to describe various types. [2+6+2 Dec 14](*exact repeat from June 12*)

101.a. Ossification of elbow joint and its clinical significance. b. Fusion imaging. [5+5 Dec 14] (*exact repeat from Jun 13*)

102. a) Enumerate different varieties of osteosarcoma. b) Imaging features of various surface osteosarcomas. [5+5 June 15].

103. a) Pathophysiology of different types of hyperparathyroidism. b) Imaging features of primary HPT [5+5 June 15].

104. a) MRI anatomy of knee joint. b) Role of MRI in evaluation of meniscal injuries.

105. Various osseous changes in NF. [June 15]

106. Causes of paravertebral shadow in lumbar region and their differential diagnosis. [June 15]

107. a) Enumerate causes of periosteal new bone formation. b) Imaging features of acute osteomyelitis and infantile cortical hyperostosis. [3+(4+3) Dec 15]

108. Various radiological findings in Battered Baby Syndrome and their mimickers. [6+4 Dec 15]

109. Radiological findings in: a) Dermatomyositis. b) Lipoma arborescens. [5+5 Dec 15]

110. a) Role of skeletal radiography in determination of bone age in a male likely to be between 12-18 years of age. b) Factors affecting bone growth and remodeling. [6+4 Dec 15]

111. a) Radiological features of osteopenia on a plain radiography. b) Various imaging modalities used in the assessment of bone mineral density. [3+7 Apr 16]

112. Various radiological findings in multiple myeloma and its differential diagnosis. [6+4 Apr 16]

113. Radiological findings in primary hyperparathyroidism. [10 Apr 16].

114. a) Enumerate the various mucopolysaccharidosis. b) Radiographic findings in Morquio syndrome. [2+8 Apr 16]

115. Radiological evaluation of skeletal maturity for bone age estimation. [10 Apr 16].

116. Role of plain X-ray of wrist in determining the age of child in medicolegal cases. [10m DEC 2017]

117. Define stress fracture. Enumerate the common sites. Discuss the role of imaging in early diagnosis. 2 + 2+ 06 Dec 2017

118. What are the varieties of osteosarcoma? Enumerate the imaging features. 2 + 8 December 2007

119. What are the clinical features in a patient with rheumatoid arthritis? Describe the various imaging characteristic in rheumatoid arthritis? 4 + 6 Dec 2017

120. Radiological findings in: [5+5 June 2017]

- a) Chance fracture
- b) Lunate and perilunate dislocations.

121. A 40 year old man on high dose steroids for interstitial lung disease presents with pain in the right hip with inability to walk: [2 + 3 +5 June 2017]

- a) What possibilities would you consider?
- b) What imaging protocol would you adopt for this patient?
- c) Enumerate the key imaging findings for the likely entity.

122. a) How would you evaluate a bone tumour on a plain radiograph? [7 + 3 June 2017]

b) Radiological features of chondroid tumours on plain radiograph.

123. A 45 year old lady presents with bone pain, renal calculi, weakness and psychiatric symptoms. X-Ray hand shows subperiosteal resorption in middle phalanx: [1+3+6 Jun 2017]

- a) What possibilities would you consider?
- b) How will this patient be investigated radiologically further.
- c) Enumerate key imaging findings of the likely entity.

124. a) Differences between pyogenic and tubercular osteomyelitis. [5+5 June 2017]

b) Imaging findings of tubercular spondylitis in MRI.

125. State the age of appearance and fusion of various epiphyses around the elbow joint on plain

radiographs in a male subject. Discuss how radiography can help in gender

determination in an adult

subject. [5+5 June 2018]

126. Enumerate the cystic lesions of jaw. Outline the radiological algorithmic approach towards the

diagnosis of such a lesion. [4 + 6 June 2018]

127. Enumerate the various labral injuries of shoulder. Describe the magnetic resonance imaging

findings in any two such injuries. [2 + 4 + 4 June 2018]

128. Enumerate the causes of periosteal reaction in childhood. Discuss the radiological approach towards

its diagnosis [3 + 7 June 2018]

129. Enumerate the causes of osteoporosis. Discuss the role of plain radiography in the evaluation of

skeletal manifestation of hyperparathyroidism. [4 + 6 December 2018]

130. a) Explain the role of plain radiography in various disease of the joints.

b) What is role of ultrasound of joints in the evaluation of a case of rheumatoid arthritis?

[5+5 December 2018]

131. What are the various form of Langerhans cell histiocytosis ? Describe the radiological feature of the imaging spectrum.[june 2019]

132. Describe the various techniques of cartilage imaging. Describe the common sites and imaging featrues of osteochondral lesions. .[june 2019]

133. Which are the common sites for occurrence of brown tumous ? How will you evaluate the patient to detect the underyling abnormality? .[june 2019]

134. Role of imaging in short stature .[10 june 2019]

135. a) what do you understand by the term extramedullary haematopoiesis? [2 + 3 + 5 December 2019]

b) Enumerate its causes.

c) Discuss the plain film and cross sectional imaging findings

136. a) State the distinguishing features of intramedullary, extramedullary- intradural and extradural spinal lesions on MRI. [6 + 4 December 2019]

b) discuss briefly the differential diagnosis of intramedullary spinal lesions.

137. a) Describe the brief anatomy of the shoulder joint. [4 + 6 December 2019]

b) Briefly state various MR sequences and planes used to evaluate shoulder joint on magnetic resonance imaging

138. a) what of the causes of hyperparathyroidism? [4 + 6 December 2019]

b) Enumerate the findings on plain film, CT and scintigraphy of primary hyperparathyroidism.

139. A 15 year boy presents with localized swelling and pain of 2 months duration involving right lower thigh. [4 + 6 December 2019]

a) What will be its differential diagnosis?

b) Discuss conventional Radiographic, CT and MRI features of the commonest primary malignant bone tumour in this age.

NEURORADIOLOGY

01. CT in Neurotuberculosis. [JAN 97]
02. Discuss the role of computed tomography in cerebrovascular accidents.
03. Arnold-Chiari malformations. [JUL 97, JUN 04]
04. Ring lesions on computed tomography of brain.
05. Neurosonography. [JUL 97, JUN 05]
06. Discuss the role of computed tomography in infective lesions of brain. [JUL 98]
07. Radiology and Imaging in Acoustic Neuroma. [98]
08. Radiological diagnosis of extra-dural spinal masses.
09. Enumerate the various neurocutaneous syndrome & describe imaging in any 2 of these. [JUL 99]
10. C.T. versus M.R.I. in brain tumours.
11. Imaging in congenital lesions of the spine and spinal cord. [JAN 00]
12. Radiology and Imaging of Meningiomas. [JAN 00, JUN 04]

13. Imaging in stroke.
14. Imaging in Acute stroke. [DEC 06]
15. CT and MRI in Intervertebral disc Prolapse. [02]
16. Discuss the anatomy and anomalies of the Cranio-Vertebral region. How will you assess it Radiologically. [02]
17. White matter disorders OR CT and MRI in white matter diseases OR MRI in CNS white matter disease of Brain. [DEC 02, 03, JUN 04]
18. 4th Ventricular Ependymoma. [JUN 03]
19. Migrational anomaly. [JUN 04]
20. Role of DWI in brain . [DEC 04]
21. Sub Arachnoid space anatomy and SAH. [DEC 02, JUN 03]
22. Radiological investigation in SAH.
23. Intervention in SAH. [DEC 06]
24. Endovascular management of intra-cranial aneurysm. [DEC 05, JUN 06]
25. Imaging of cerebral ischaemic infarct. [JUN 05]
26. Posterior fossa neoplasms of childhood. [02]
27. Lateral ventricular masses. [05]
28. Radiology of brain tumors. [05]
29. Role of Imaging in Leukodystrophies. [DEC 06]
30. Carotico-Cavernous Fistula. [DEC 06]
31. Imaging and Intervention in Intracranial AVM. [JUN 07, DEC 09]
32. Imaging and intervention in spinal anterior-venous malformation.
33. MRI in Alzheimer's disease.
34. Radiological features in diffuse axonal injury. [DEC 07]
35. Central pontine myelinolysis.
36. Vein of Galen malformation.
37. Glutaric Aciduria Type I.
38. DD of ring enhancing lesions in brain in an immunocompromised patient. [DEC 09]
39. Intramedullary neoplasms of spinal cord. [09]
40. MRI in intramedullary neoplasms of spinal cord. [09]
41. Clinical applications of Diffusion Tensor imaging. [09]

42. CT and MR findings in acute stroke. [09]
43. CT versus MRI in stroke. [97]
44. Embolization in management of acute hemorrhage. [09]
45. Imaging in dementia. [09]
46. Role of imaging and intervention in Dural Arteriovenous Fistula. [09]
47. Neuro-imaging in AIDS. [DEC 02/06]
48. Radiological features in Neurological Complications of AIDS. [09]
49. Discuss CT and MR features of neurological complications of AIDS. [June 2008]
50. Functional imaging of Brain. [09]
51. Enumerate CP angle tumors and discuss their differentiating features on CT and MRI. [June 2008]
52. Describe MR anatomy of pituitary gland. Discuss in detail MR techniques and features to diagnose pituitary adenomas. [June 2008]
53. Define Spinal Dysraphism. Describe briefly the MR sequences you will use for diagnosis of spinal dysraphism. [2010]

54. Define Infective Discitis. Describe CT, MRI and Isotope imaging features of discitis. [2010]
55. Enumerate various causes of Supra-sellar masses. Describe imaging features in Craniopharyngioma. [2010]
56. Describe MR Imaging features in intra-cerebral Hematoma and techniques of Volume calculation in such a case. [2010]
57. Classify neural tube closure defects. Describe various Chiari malformation and their imaging features. [Dec 2010]
58. Classify brain tumors of children. Describe the imaging features of Primitive Neuroectodermal tumors. [Dec 2010]
59. Describe MR anatomy of Pituitary fossa with diagram. Describe the radiological diagnosis of Pituitary adenoma. [Dec 2010]
60. Describe the clinical features and MR imaging features of Multiple Sclerosis. [Dec 10]
61. Describe imaging features and intervention in vein of galen malformation. [June 11]
62. Describe the grading , imaging features and differential diagnosis of Glioblastoma multiforme. [June 11]
63. Describe the CT and MRI features of Neurocysticercosis of brain. How would you differentiate from other granulomatous lesions. [June 11]
64. Define acute cerebral stroke. What are its types. Discuss the role of CT and MR imaging in patients with acute stroke, enumerating the techniques that you shall employ and the characteristic findings you would expect. [June 11]
65. Discuss the role of CT in evaluation of patients with acute head injury, staging the types of injury, possible complications and their long term sequelae. [June 11]
66. Enumerate the clinical uses of MR spectroscopy in disorders and diseases of brain . Briefly discuss its role in evaluation of brain tumors. [June 11]
67. Enumerate the cause of SAH. Discuss the role of CT in its evaluation. [2+8 Dec 11]
68. Enumerate causes of demyelinating diseases of spinal cord. Discuss their imaging features and DDs. [2+5+3 Dec 11]
69. Discuss clinical presentation, imaging findings on USG, CT & MRI in Vein of Galen malformation. Briefly discuss its interventional management. [2+2+2+2+2 Dec 11]

70. Enumerate causes of normal intracranial calcifications. Discuss imaging features of pathological intracranial calcifications secondary to infections & infestations. [3+7 Jun 12]
71. Enumerate causes of spinal canal stenosis. Mention normal CT measurement of spinal canal at various levels. Describe plain radiographic, CT & MRI features of spinal canal stenosis. [2+2+2+2+2 Jun 12]
72. Enumerate various causes of suprasellar lesions in adults and children Describe plain radiographic, CT and MRI features of Craniopharyngioma. [4+6 Jun 12]
73. Enumerate the causes of cerebral venous thrombosis. Describe CT & MR findings of cerebral venous thrombosis. [2+4+4 Dec 12]
74. Enumerate the causes of enlarged jugular foramen. Describe the imaging findings and role of interventional radiology in management of Glomus Jugulare tumor. [2+5+3 Dec 12]
75. Enumerate the causes of ring enhancing lesions of brain parenchyma in MRI. Discuss the role of DWI and MR spectroscopy in differentiation of various lesions. [2+4+4 Dec 12]
76. Classify neural tube closure defects of brain. Briefly described types of Arnold Chiari malformation and discuss their imaging findings. [2+2+6 Jun 13]
77. Discuss the etiology and characteristic imaging findings in —ring enhancing lesions of the brain. [3+7 Jun 13]

78. What are the common sellar and parasellar lesions?. Describe the key radiological findings in craniopharyngioma on skull radiographs, CT & MRI. [4+2+2+2 Jun 13]
79. A 38 year old man, who has been throwing epileptic seizures, is found to have ring lesions on MRI of brain. Discuss the differential diagnosis. Describe the specific MRI features of any 4 clinical entities which may present with these clinikoradiological findings. [2+2+2+2+2 Dec 13]
80. State the distinguishing features of intramedullary, extramedullary, intradural and extradural spinal lesions on MRI. Discuss briefly the DD's of intramedullary spinal lesions. [6+4 Dec 13]
81. How would you differentiate between an extra-axial and intra-axial mass lesion on cranial MRI? Describe the radiological findings in the most common extra-axial lesion found in middle aged patients. [4+6 Dec 13]
82. Discuss the types and classification of gliomas. Describe the imaging features of various types of gliomas. Discuss the role of perfusion imaging in gliomas. [3+5+2 Dec 13]
83. What is the basic difference b/w NF type I and II? Discuss the imaging findings in NF-II. Briefly describe extra skeletal manifestations and associations of Neurofibromatosis. [4+3+2+1 June 14]
84. Describe with a diagram the cerebral venous system. Briefly discuss the causes and imaging features of cortical venous thrombosis. [3+2+5 June 14]
85. A 40-yr-old female has presented with loss of vision and instability in gait. Discuss the DD and MRI findings in the most probable cause. What is the role of diffusion tensor imaging in this patient. [2+6+2 June 14]
86. Discuss the grading, imaging features on MRI and differential diagnosis of GBM. [3+5+2 Dec 14]
87. Classify neural tube closure defects of brain. Briefly described types of Arnold Chiari malformation and discuss their imaging findings. [2+2+6 Dec 14] (*repeat from June 13*)
88. Embolization in management of acute hemorrhage. [5 Dec 14](*repeat from 09*)
89. Causes of demyelinating lesions of spinal cord and their imaging features. [10 June 15]

90. a) Enumerate various neurocutaneous syndromes. b) Etiopathogenesis imaging features and associations of Sturge-Weber syndrome. [June 15]
91. Cystic lesions of posterior fossa and their differential diagnosis. [June 15]
92. a) Enumerate the causes of epilepsy. b) Distinguishing features of cortical lesions associated with epilepsy [5+5 Dec 15]
93. a) Classify spinal dysraphism. b) Pathology and imaging features of diastatomyelia. [2+(3+5) Dec 15]
94. a) Radiological anatomy of Sella turcica. b) Imaging evaluation of a suspected pituitary tumor. [3+7 Apr 16].
95. a) Enumerate the various neurocutaneous syndromes. b) Various imaging findings in a case of neurofibromatosis II [3+7 Apr 16].
96. a) Enumerate various spinal dysraphism. b) Pathology and imaging findings in diastatomyelia. [2+8 Apr 16] [*Repeat from Dec 15*]
98. Indications, contraindications and technique of intra-arterial thrombolysis for acute stroke. [3+3+4 Apr 16]
99. a) Role of CT perfusion in hepatic tumors. b) Role of CT perfusion in pancreatic tumors. [5+5 Apr 16]
100. Discuss the role and imaging features of MRI in multiple sclerosis. 4+6 December 2017
101. What are causes of hypoxic Ischemic encephalopathy in children and adults? Enumerate imaging features. 2+8 December 2017
102. A 26 year old female presents with intractable epilepsy and is being worked up for possible surgery: [5+5 June 2017]
- a) Epilepsy protocol for imaging this patient.
 - b) Radiological features of hippocampal sclerosis.
103. A 30 year old man who has HIV and at present has low CD4 count presents with gradual cognitive impairment and is referred for imaging: [4+6 June 2017]
- a) What are the likely possibilities?
 - b) Radiological findings in progressive multifocal leukoencephalopathy
104. A 54 year old man presents to the hospital with history of sudden severe

headache. There is no history of trauma or intoxication: [2+4+4 June 2017]

- a) What possibilities would you consider?
- b) Imaging features for the most likely diagnosis in this patient.

Radiological intervention that may be required for this patient

105. a) Magnetic resonance imaging findings in a patient suspected to have acute ischemic cerebral stroke.

[6 + 4 June 2018]

c) Endovascular treatment in acute ischemic cerebral stroke as per the current evidence

106. Enumerate the various types of primary traumatic lesions in head injury. State the indications for computed tomography (CT) and that for magnetic resonance imaging (MRI) in head trauma. [3 + 7 June 2018]

107. Enumerate the possible causes of a jugular foramen mass. Describe the magnetic resonance imaging features in any two such lesions. [2 + 4 + 4 June 2018]

108. Enumerate the various magnetic resonance imaging (MRI) sequences which can help in the evaluation of a cerebral tumour. Describe the key MRI features of a high grade glioma highlighting the significance of each of these sequences. [2 + 8 June 2018]

109. Mention the various causes of bilateral T2 hyperintense lesions in basal ganglia. Describe the imaging findings in Wilson disease [4 + 6 December 2018]

110. a) Role of magnetic resonance imaging in head injury.

b) of diffusion-weighted imaging in intracranial infections. [5+5 December 2017]

111a). Draw a labelled diagram of the coronal section through the cavernous sinus.

c) Discuss the differential diagnosis of cavernous sinus lesions [5+5 December 2018]

112. What are the CNS infections in HIV? Discuss their neuroimaging characteristics. [2 + 8 June 2019]

113.a) Describe in brief revised WHO classification of brain tumours. [7 + 3 December 2019]

b) Enumerate primitive neuroectodermal tumors of brain.

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NUCLEAR MEDICINE

01. Radio nuclide imaging of the C.N.S. [JAN 97]
02. Radio isotope scanning in thyroid disease.[JUL 97, 02]
03. Isotope imaging of the Parathyroids. [02]
04. Radio nuclide imaging of urinary tract.
05. Isotopes in Myocardial ischaemia OR Scintigraphy in ischaemic Heart disease OR Role of nuclear medicine in ischaemic heart disease. [JUL 98, DEC 02/ 05]
06. ^{99m}Tc labeled N – substituted Imino-diacetic acid (HIDA) Scan.
07. Role of scintigraphy in liver diseases. [JUL 99]
08. Radio-isotope scanning in cardiac lesions. [JAN 01]
09. Nuclear medicine in liver imaging [DEC 02]
010. Clinical application of radionuclide Renography. [02]
11. Renogram. [DEC 03]
12. Bone scan. [DEC 05]
13. GI Scintigraphy. [JUN 05]
14. Outline of radio-isotopes available. [JUN 06]
15. Radioisotopes in Cardiac imaging. [09]
16. Radionuclide bone Scintigraphy in infective disorders. [09]
17. Application of DMSA Scintigraphy. [09]
18. Scintigraphy evaluation of Gastro-intestinal bleeding. [09]
19. Fusion imaging. [09]
20. PET [DEC 04, JUN 05]
21. Principles and role of PET in clinical radiology. [June 2008]
22. Describe Radiopharmaceuticals used in PET CT with their clinical applications. [09]
23. Radionuclide scanning in a bony lesion. [09]
24. Enumerate various radio-isotopes used in Hepato-Biliary system. Describe the imaging features and techniques in Biliary atresia. [Dec 2010]
25. Describe the role of scintigraphy in cardiac imaging with emphasis on myocardial perfusion and viability. [June 2011]
26. Enumerate the indications of scintigraphic evaluation in GI bleed. Briefly discuss technique, radioisotopes used & interpretation of results. [2+4+2 Dec

11]

27. Enumerate indications and radio-isotopes used for radionuclide scanning of lungs. Briefly describe 3 techniques of isotope imaging of lung with their clinical implications.

[(2+2)+(2+2+2) Jun 12]

28. List the indications of hepatobiliary scintigraphy in children and adults. Describe briefly the principle, technique & findings on scintigraphy in a case of neonatal jaundice.

[2+2+2+4 Dec 12]

29. Briefly describe the etiopathogenesis of choledochal cyst. Enumerate various types of choledochal cyst. Discuss the role of imaging in Caroli's disease. [2+3+5

Dec 12]

30. a. Radio isotope scanning of the skeletal system. b. Clinical applications of 3D and 4D ultrasound. [5+5 Jun 13]

31. Discuss the role of scintigraphy in cardiac imaging with special emphasis on myocardial perfusion and viability. [10 Jun 13]

32. What is the principle of PET scanning? Briefly discuss the role of FDG-PET scanning and importance and clinical utility of two non-FDG molecules of PET scanning. [2+4+4 Dec 13]

33. a) Renal isotope scanning b) Tomosynthesis in mammography. [5+5 June 14]

34. a) Classification of choledochal cyst.

b) Enumerate its various complications and the role of imaging in their diagnosis.

[2+2+6 Apr16]

35. Role of radionuclide imaging in renal disorders. [10 Apr 16]
36. Enumerate the benign cardiac tumours and discuss their imaging features. [3+7 December 2017]
37. Imaging features of: [5+5 December 2017]
- (a) Co-arctation of Aorta.
 - (b) Total Anomalous Pulmonary Venous Connections (TAPVC).
38. Enumerate the causes of anterior mediastinal masses and discuss their imaging features. [3+7 December 2017]
39. Discuss the CT features of: 5+5 December 2017
- (a) Silicosis
 - (b) Pulmonary embolism
40. Discuss the causes of pneumothorax with their imaging features. [3+7 December 2017]
40. Enumerate the causes of bilateral lung cysts in an adult and discuss the role of HRCT in differential diagnosis. [5+5 December 2018]
41. Enumerate the causes of lobar collapse. Describe the various chest radiographic findings of left upper lobe and left lower lobe collapse.
42. Enumerate the benign pulmonary tumors and discuss their differential diagnosis. [4 + 6 December 2018]
43. Outline the following using an algorithmic sequence: [5+5 December 2018]
- A) Imaging approach in a patient with blunt trauma to chest.
 - B) Imaging approach in a patient with blunt trauma to abdomen.
44. What are the indications for cardiac evaluation of “delayed hyper enhancement (DHE) in MRI? Which MRI sequences are usually needed for DHE assessment? Describe the cardiac MRI features of hypertrophic obstructive cardiomyopathy (HOCM). [10 December 2018]
45. Describe the common variations in anatomy of aortic arch branches? [10 December 2018]
46. a) describe the arterial anatomy of the carotid system with the help of a labelled

diagram. [4 + 6 December 2019]

b) Discuss the role of ultrasound and colour Doppler imaging and evaluation of extracranial carotid occlusive disease

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OBSTETRICS AND GYNAECOLOGY

01. Imaging of Intra Uterine Foetal Death. [JAN 97]
02. Discuss the role of imaging in uterine lesions. [JUL 97]
03. Endometriosis. [JUL 98, DEC 04, JUN 07]
04. Ectopic Pregnancy. [JUL 99, DEC 05]
05. Alimentary tract lesions diagnosable in-utero
06. Role of Sonography in I.U.G.R.
07. Imaging of the placenta [JAN 00]
08. Write in detail US features of placental evaluation. [June 08]
09. Sonographic diagnosis of ectopic pregnancy. [JAN 01]
10. PCOD. [02]
11. Imaging in Infertility . [DEC 02, 03]
12. Endometrium in USG. [JUN 03]
13. Biophysical score . [DEC 03, JUN 04]
14. Uterine interventions . [DEC 05]
15. PNDT [DEC 05/06/07]
16. MRI in gynecologic imaging.
17. Cystic lesions of ovaries. [JUN 05]
18. Sonography of cystic ovarian masses. [09]
19. Doppler evaluation in IUGR . [JUN 05,06]
20. Radiological evaluation of delayed milestones. [JUN 06]
21. Role of USG in assessment of prenatal genitourinary tract. [DEC 06]
22. Antenatal detection of Vein of Galen malformation. [06]
23. Antenatal MRI. [JUN/DEC 07]

24. Sonography of cystic ovarian masses.
25. CT – Pelvimetry.
26. Enumerate markers of chromosome abnormality on antenatal ultrasound. Briefly discuss their sonographic features. [09]
27. Transvaginal scan in female infertility. [09]
28. USG in female Infertility [December 2008]
29. Uterine artery embolisation. [December 2008]
30. Describe the sonographic findings favouring the diagnosis of ectopic pregnancy and its DD. [2010]
31. Enumerate the vascular and structural abnormalities of the Umbilical cord. Describe the velocity waveform changes seen in the umbilical artery Doppler. [2010]
32. Enumerate the causes of infertility. What is the role of imaging in assisted reproduction. [Dec 2010]
33. Define fetal hydrops. Enumerate its causes. Describe sonographic and color doppler findings noted in this condition. [Dec 2010]
34. Discuss the sonographic techniques and criteria used in evaluation of uterine cervical incompetence. [Dec 2010]
35. Enumerate the common locations of ectopic pregnancy in order of frequency. Discuss the

sonographic findings of ectopic pregnancy. [Dec 2010]

36. Describe the role of imaging in recurrence of ovarian malignancy after surgery. [Dec 2010]

37. Enumerate conditions under which the revised PNDT act 2010, permits you to conduct prenatal diagnostic techniques . What steps would you take in clinical USG practice to comply with the act. [June 2011]

38. Outline the diagnostic imaging approach in a pt. with Ovarian malignancy. Describe imaging features, staging & impact of cross sectional imaging in ovarian cancer. [June 2011]

39. Define abnormal endometrial thickening. Enumerate its causes and discuss their imaging features. [2+2+6 Dec 11]

40. List various causes of female infertility. Discuss the role of HSG and MRI in their evaluation. [2+4+4 Dec 11]

41. List various causes of bleeding in first trimester. Discuss their sonographic features. [2+8 Dec 11]

42. Enumerate various color doppler parameters used in IUGR. Briefly discuss their role in IUGR. Mention the significance of aortic isthmus index. [2+6+2 Dec 11]

43. Describe measurement technique & normal values of nuchal translucency. Briefly discuss its role in Trisomy 21 and other chromosomal anomalies. [4+2+2+2 Dec 11]

44. Describe various fetal Doppler parameters used to assess fetus at risk of IUGR. Discuss recent advances as regards their significance in predicting fetus at risk. [6+4 Jun 12]

45. List various indications of MRI examinations in obstetrics. Outline various sequences used along with their rationale. Briefly describe MRI findings in two conditions presenting obstetric emergencies. [2+4+4 Dec 12]

46. List the causes of post menopausal bleeding. Briefly describe the role of various imaging modalities highlighting their advantages and pitfalls. Describe the MRI findings in a case carcinoma cervix. [2+4+4 Dec 12]

47. Enumerate various causes of female infertility. Describe the role of HSG & MRI in their diagnosis. [2+4+4 Dec 12]

48. Write short notes on: [5+5 Dec 12]

A. PC-PNDT Act

B. Conventional lead apron and zero lead apron.

49. What is 'placenta accreta'? What are its types? Which imaging modalities would be useful in its diagnosis? Briefly describe the imaging features of each imaging modality?[1+1+2+6 Jun 13]

50. Enumerate the factors that enhance the risk of ectopic pregnancy. What would be its classic clinical signs? Discuss the role of USG in its diagnosis highlighting the key imaging features. [2+2+6 Jun 13]

51. A 19 year old girl is referred with complaint of primary amenorrhea from the Department of Gynecology. As a radiologist, how would you evaluate her? Enlist the radiological investigations that might be beneficial to her, enumerating the precise entities you might identify with each. Describe the key radiological findings in any one clinical condition which may present as primary amenorrhea. [2+5+3 Dec 13]

52. A 26 year old patient, who is 12 weeks post-partum, is referred to you for radiological appraisal with a history of bleeding per vaginum and raised beta-HCG levels. What is the likely diagnosis?. How would you evaluate this patient?. Discuss the possibilities with their key radiological findings. [1+3+6 Dec 13]

53. How would you decide on the amnionicity and chorionicity in twin pregnancies? Enumerate the various complications that may occur in a twin pregnancy. Describe the various radiological

findings in twin-twin transfusion syndrome. [4+2+4 Dec 13]

54. Define IUGR. Enumerate its causes. Discuss the role of imaging in management of IUGR. [1+2+7 June 14]

55. Enumerate and classify various congenital anomalies of the uterus. Discuss the role of US and MRI in their diagnosis, highlighting their advantages and limitations. [3+7 June 14]

56. Enumerate various MRI sequences used for evaluation of the uterus, highlighting their specific role. Describe the role of MRI in suspected carcinoma cervix along with their MR findings. [4+6 June 14]

57. Define habitual abortion. Enumerate various causes of habitual abortion. Discuss the role of imaging in diagnosis and follow up of these cases. [1+2+5+2 June 14]

58. Enumerate causes of first trimester bleeding. Discuss the imaging features to diagnose and follow-up such patients. [3+7 Dec 14]

59. a) Placenta accreta - Pathophysiology and imaging findings [5 Dec 14]

60. Indications, technique and complications of uterine artery embolization. [June 15]

61. Ultrasound in a 35 yr old female shows a right adnexal cystic mass. a) What are the likely causes? b) Algorithmic approach and imaging features in these causes. [2+8 June 15]

62. a) Normal anatomy of placenta. b) What are the different types of abnormal placental implantation. c) Role of imaging in placenta accreta. [2+2+6 June 15]

63. a) Documentary requirements under PC-PNDT Act. b) Positioning and technique for Water's view. [5+5 Dec 15]

64. a) Enumerate the congenital anomalies affecting the uterus. b) MR Imaging findings in these. [3+7 Dec 15]

65. a) Differential diagnosis of acute pelvic pain in a young female patient. b) Imaging findings of ovarian torsion. [4+6 Apr 16]

66. Role of MRI in evaluation of a suspected case of endometrial carcinoma. [10 Apr 16]

67. Role of ultrasound and MRI in the evaluation of morbidly adherent placenta. [5+5 Apr 16]

68. Enumerate the causes of primary infertility in male & female and discuss the role of imaging and interventions in any two causes [5 + 5 Dec 2017]

69. Enumerate the various causes of impotency. Discuss the open Doppler in the diagnosis of erectile dysfunction (4+ 6 12/2017)
70. A 26 year old patient, who is 12 weeks post-partum, is referred to you for radiological appraisal with a history of bleeding per vaginum and raised beta-HCG levels.
- What is the likely diagnosis? [2+2+6 June 2017]
 - How would you evaluate this patient?
 - Mention the possibilities with their key radiological findings.
71. a) How would you decide on the amnionicity and chorionicity in a multiple pregnancy?
b) Enumerate the complications that may occur in a twin pregnancy.
c) Radiological findings in twin-twin transfusion syndrome [3+3+4 June 2017]
72. a) Enumerate the various Müllerian duct anomalies along with the line diagrams.
b) Imaging algorithm and diagnostic features of the various types of Müllerian duct anomalies. [5+5 June 2017]
73. Enumerate the causes of a unilateral adnexal mass. Discuss the role of a radiologist in diagnostic evaluation of such a patient. [2 + 8 June 2018]
74. Enumerate the causes of menorrhagia in a perimenopausal patient. Discuss the role of a radiologist in diagnostic evaluation of such a patient. [2 + 8 June 2018]
75. Enumerate the congenital foetal cardiac anomalies that can be detected on antenatal ultrasound examination. Describe the ultrasound appearance of any two such conditions. [[2 + 4 + 4 June 2018]
76. a) Intrauterine image-guided interventions which can be carried out in pregnancy.
b) Role of Doppler ultrasound in the evaluation of foetal middle cerebral artery [6 + 4 June 2018]
77. Enumerate the causes of acute scrotal pain. Discuss the specific sonographic findings which will come in useful in making the diagnosis. [3 + 7 June 2018]
78. Describe the role of ultrasound, computed tomography and magnetic resonance imaging in the diagnosis and staging of endometrial carcinoma.
79. a) PCPNDT Act. [5+5 December 2018]
b) Ultrasound findings in a 12 week fetus with down syndrome

80. a) Imaging findings in abruptio placentae. [5+5 December 2018]

b) imaging findings in molar pregnancy.

81. Describe the various causes of infertility in male. Describe the role of imaging in the evaluation of erectile dysfunction? [3 + 7 June 2019]

82. Role of Doppler in pregnancy [10 June 2019]

83. A patient presents with 10 weeks of amenorrhea followed by bleeding per vaginum. What are possible causes and how will you evaluate the patient radiologically? [4 + 6 June 2019]

84. a) Enumerate various color Doppler parameters used in IUGR. [4 + 4 + 2 December 2019]

b) Briefly discuss their role in IUGR.

c) Mention the significance of aortic isthmic index.

85. a) Describe penile circulation. [3 + 3 + 4 December 2019]

b) What are the causes of male impotence?

c) Role of color Doppler imaging in impotence.

PANCREAS

1. Endocrine tumours of the pancreas. [JUL 98]

2. Pancreatic pathology. [DEC 02]

3. Classification and Imaging of Neuroendocrine tumors of pancreas. [DEC 04/09]

4. Grading of Pancreatitis and its relevance. [02]

5. CT in Pancreatitis . [JUN 04]
6. Acute Pancreatitis . [JUN 05]
7. Pancreatic Endosonography.
8. Image guided interventions in pancreatic disease. [09]
9. Radiological features in cystic tumors of pancreas. [09]
10. Classify pancreatic neoplasms. Describe imaging features in a case of carcinoma head of pancreas. [Dec 2010]
11. Discuss the role of CT in evaluation of pt. with acute pancreatitis, outlining the technique, CT signs, assessment of disease severity and its relationship to outcome of patient. [Jun 2011]
12. What is Pancreatic divisum?. Briefly discuss its embryologic basis and clinical significance. What are ERCP, MRCP and MDCT findings. [2+3+5 Dec 11]
13. Enumerate various pancreatic masses of childhood. Discuss their imaging features and DDs

of pancreatoblastoma. [2+5+3 Dec 11]

14. Briefly describe embryological development of pancreas. Describe various anomalies and variations in its development with the help of suitable diagrams.

Discuss imaging features (on barium meal and CT scan) of annular pancreas. [4+3+3 Jun 12]

15. Enumerate various indications of upper gastrointestinal endoscopic sonography. Briefly discuss its role in evaluation of pancreatic pathologies outlining the advantages and disadvantages. [2+8 Dec 12]

16. Discuss the technique and role of CT in the evaluation of acute pancreatitis [2+8 Jun 13]

17. A 40 year old female with pain abdomen is found to have a cyst in the body of pancreas on USG. Enumerate various possible causes. Discuss the imaging algorithm you would follow for arriving at diagnosis in this case. [2+8 June 14]

18. b) Anomalous pancreatobiliary ductal junction and its complications [5 Dec 14]

19. b) Intra-ductal papillary tumors of pancreas. [5 Dec 14]

20. Enumerate various complications of acute and chronic pancreatitis. Describe briefly the imaging features and role of interventional radiology in these conditions. [2+4+4 Dec 14]

21. b) Biliary atresia [5 Dec 14]

22. a) Enumerate various neuroendocrine tumors of pancreas. b) Characteristic features of these on various imaging modalities including the role of radio-nuclide imaging. [5+5 June 15]

23. a) Imaging and interventions in vascular complications of pancreatitis. b) Imaging features of multicystic dysplastic kidney. [5+5 June 15]

24. a) Enumerate neuroendocrine tumors of pancreas. b) Their CT and MRI imaging features. [2+(5+3) Dec 15]

25. Grading, imaging appearances and complications of pancreatic trauma. [3+4+3 Apr 16]

26. a) Role of imaging in intraductal papillary mucinous tumor of pancreas. b) Enumerate the criteria for malignancy. [7+3 Apr 16]

a) Embryological development of Pancreas. b) Enumerate the causes and describe the

spectrum of CT findings in acute pancreatitis. [2+2+ 6]

27. Enumerate the causes of unilateral small kidney. Discuss the role of Imaging in them. [3 + 7
Dec 2017]

28. Enumerate the causes of presacral masses in children. Discuss the various imaging features of each. [3 + 7 Dec 2017]

31. Role of imaging in acute pancreatitis [10 June 2019]

32. A) Enumerate various complications of acute and chronic pancreatitis.

B) Describe in brief their imaging features.

C) Describe in brief their management by interventional radiologist.

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PHYSICS

01. Technical parameters of an x-ray equipment for fluoroscopic procedures.
02. Basic construction of an x-ray tube and recent advances.
03. Principle of doppler ultrasound and its application in neck ultrasound.
04. Factors affecting quality of a radiograph. [JUL 97, JAN 01, DEC 04]
05. Name the various interactions of X-ray photons with matter. Describe any two.
06. Focal spot in a diagnostic x-ray tube. [JUL 99, DEC 02]
07. Ultrasound image artifacts.
08. Image Intensifier. [JAN 00, DEC 02, 03]
09. Discuss the Biological effects of Radiations and the measures taken against its protection for Radiation workers and patients in Radio-diagnosis dept. [JAN 01, DEC 05, JUN 06]
10. Define principles of radiation protection. Describe various parameters which can reduce patient radiation dose in radiography and fluoroscopy. [09]
11. Measures to decrease radiation dose to patient. [02]
12. AERB guidelines for Radiation safety. [DEC 06]
13. Ionizing radiation in bone.
14. Intensifying screens. [DEC 02/04; JUN 06]

15. Portable radiography [DEC 03]
16. Principles of colour doppler sonography. [02]

17. MDCT technology. [DEC 02/03/04]
18. X-Ray film and Types of films used in Radiology. [DEC 02, 03, 04]
19. Construction of a conventional X-ray film and functions of each layer. [02]
20. Composition of X-ray films Discuss about different parameters which influence film contrast. [09]
21. Properties of X-rays. [02]
22. Medical X ray films processing chemicals. [02]
23. High generator transformer. [DEC 04]
24. Radiation monitoring devices.
25. Radiation scatter. [DEC 05, JUN 04]
26. Define scatter radiation. Discuss briefly the parameters which influence scatter radiation and methods to reduce scatter radiation.
27. Rare earth screens.
28. New MR pulse sequences
29. X-ray beam restrictors. [DEC 06, 09]
30. Motion and pulsation artifacts in MRI
31. Adverse effects of radiation .
32. Cine fluoroscopy
33. Grids [DEC 05/07]
34. Cardiac CT. [JUN 05]
35. Radiation dose reductions in CT .
36. Darkroom illumination.
37. Modern rotatory x-ray tube .
38. PACS – picture archival and communication system.
39. TLD – Thermo Luminescence Dosimeter .
40. Filters and filtrations .
41. MR coils.
42. Design and setup of a radiology department OR Setting up a radiology department in a 200 bedded hospital [JUN 05/06]
43. Film artifacts. [02/05]
44. Electrical circuits of x-ray machine .

45. Safety hazards in MRI.
46. Steps to improve the quality of a chest X-ray .
47. Radiological management of Bomb-Blast injury.
48. Maximum permissible radiation dose.
49. Define principles of radiation protection. Describe various parameters which can reduce patient radiation dose in radiography and fluoroscopy. [June 2008]
50. Photoelectric effect and its application in diagnostic radiology. [09]
51. Film contrast. [09]
52. Dosimeters used for radiation monitoring. [09]
53. Radiation dose in various examinations using MDCT. [09]
54. Computed radiography cassette. [09]
55. PACS in radiology. [09]
56. Genetic Screening. [09]
57. Planning considerations for installation of 500 mA X—ray machine. [09]
58. Composition of X-Ray films. Discuss about different parameters which influence film

contrast. [June 2008]

59. Define basic units of radiation exposure. List recommended dose limits for radiation worker and general public. [09]

60. Define the basic units of radiation exposure. Describe biological effects of radiation. [08]

61. Discuss about mammography X-ray unit. [June 2008]

62. Legal responsibilities and duties of radiologist in clinical practice. [09]

63. Doppler artifacts and pitfalls. [08]

64. Define quality assurance. Discuss the organization of a quality assurance program pertaining to radiology equipment. [08]

65. Principles and clinical applications of dual energy CT. [08/2010]

66. Enumerate, various interactions of X-ray photons with matter. Describe any 2 in brief [2010]

67. Rare earth screens. [2010]

68. Define scatter radiations. Comment briefly on the parameters which influence scatter radiation and methods to reduce scatter radiation. [2008/2010]

69. Define Roentgen. Mention various recommendations on maximum permissible dose for patients and staff members in Radiology department. [2010]

70. Describe the basis of BOLD imaging. Write its utility and limitations. [2010]

71. Write in brief the principle and types of Digital radiography. Outline its advantages and disadvantages. [2008/2010]

72. Define and classify radiographic Grids. Describe their various uses in radiography. [Dec 2010]

73. Define radiographic contrast. Describe various factors that affect radiographic contrast. [Dec 2010]

74. Describe AERB guidelines on X-ray room installation. [Dec 2010]

75. Describe the various techniques you will employ to reduce patient and operator radiation dose in CT angiography. [Dec 2010]

76. Enumerate basic properties of X rays. Describe factors affecting scatter radiation and techniques to minimise scatter radiation. [June 11]

77. Brief outline the evolution of present day CT scanners citing the key specific

changes through different generations. [June 11]

78. While conducting a conventional diagnostic radiographic procedure under fluoroscopic guidance, what steps would you take to reduce radiation dose to pt. what measures would you take to safeguard yourself. [Jun 11]

79. Discuss briefly the principle of MR spectroscopy. Enumerate its clinical significance in any three clinical settings, outlining explicitly how it would be useful. [June 11]

80. Discuss various dose reduction techniques in MDCT. Mention the average radiation doses received for common examination using MDCT. [Jun 11]

81. Define Doppler effect. Briefly describe color doppler and power doppler modes of imaging. Enumerate advantages of each mode. [1+4+5 Dec 11]

82. Describe major components of a PACS system and their functions in brief. [10 Dec 11]

83. Define film contrast. Enumerate various factors affecting film contrast. Briefly discuss methods to improve it. [2+4+4 Dec 11]

84. Describe in brief components and their function of a rotating X-ray tube. Draw its neat diagram and label its components. [5+5 Dec 11]

85. Discuss various statutory requirements to be followed for installation of following radiological equipments: [4+3+3 Jun 12]

- A. 1000 mA x-ray machine
- B. CT scan
- C. DSA Lab

86. Describe various measures to reduce radiation exposure to patients as well as personnel performing fluoroscopically guided vascular interventional procedures in DSA Lab. [10 Jun 12]

87. Write short notes on: [3+3+4 Jun 12]

- A. Heel effect
- B. Genetic effect of radiation
- C. Conventional lead apron and zero lead apron

88. Write short notes on the following: [4+3+3 Jun 12]

- a) Factors affecting scatter radiation and different techniques to minimize them.
- b) Radiographic contrast
- c) Properties of x-rays.

89. Write short notes on : [3+3+4 Dec 12]

- A. Photoelectric effect and its role in production of radiographic image.
- B. TLD
- C. Mammographic X-ray tube.

90. Describe the construction of an X-ray tube with the help of a labeled diagram. Discuss the mechanism of production of X-rays. Enumerate the properties of X-ray. [3+4+3 Dec 12]

91. a. Rare earth screens. b. Green sensitive film. c. Dual energy substractions. [3+3+4 Jun 13]

92. Define Roentgen. Mention various recommendations of maximum permissible dose for patients and staff members of the Radiology department. [2+4+4 June 13]

93. Enumerate various interactions of X-ray photons with matter. Discuss any two in details with their significance in radiology department. [3+3+4 June 13]

94. Describe AERB guidelines for X-ray a CT installation. [5+5 June 13]

95. a) AERB guidelines for installation of X-ray equipment. b) Thermoluminescent dosimeter [5+5 Dec 13]

96. a) Quality of radiologic images b) Different types of x-ray tubes. [5+5 Dec 13]

97. Describe in detail various requirements of quality control programme in

radiology department. [10 Dec 13]

98. Enumerate the different types of X-ray tubes. What is the difference between a conventional X-ray tube and a mammography tube? Briefly describe mammography tube with the help of a neat labeled diagram. [2+4+4 June 14]

99. What are the cardinal principles of radiation protection? What methods would you use to decrease exposure in fluoroscopy? [6+4 June 14]

100. a) Personal Dosimeters b) Tissue Harmonic imaging. [5+5 June 14]

101. a) MR contrast for liver imaging b) Contrast induced nephropathy and methods to prevent it. [5+5 June 14]

102. Advances in CT technology to decrease the radiation dose in children. What is CT dose index (CTDI). [8+2 June 14 and Dec 14]

103. Write in brief the principle and types of Digital radiography. Outline its advantages and disadvantages. [2+4+4 Dec 14] (*repeat from 2008 and 2010*)

104. a) AERB guidelines for installation of X-ray equipment. b) Thermoluminescent dosimeter [5+5 Dec 14] (*repeat from Dec 13*)

105. Enumerate various interactions of X-ray photons with matter. Discuss any two in details with their significance in radiology department. [3+3+4 Dec 14] (*repeat from June 13*)

106. Advances in technology to reduce radiation to a patient during radiography. [June 15]

107. Clinical applications and techniques of fat suppression in MRI.
108. Principles of perfusion CT and quantification of tumor perfusion parameters. [June 15]
109. a) What is scatter radiation? How does it affect radiographic image quality? b) Methods to reduce scatter radiation. [(1+2)+7 Dec 15]
110. Enumerate the types of digital radiography. Describe each one briefly.
b) Advantages and limitations of digital radiography compared with conventional film screen radiography. [4+6 Dec 15]
111. a) Techniques for dose reduction in MDCT. b) How is mammography tube different from conventional X ray tube? [5+5 Dec 15]
112. a) Principles of radiation protection.
b) Define various radiation units and give maximum permissible dose for radiation workers. [4+(3+3) Apr 16]
- 113) Discuss briefly the type and structure of radiographic film and imaging film [5 + 5]
- 114) . Define the objectives and general guiding principles and basic factors for protection against radiation. [5 + 5 Dec 2017].
115. a) Define the PC & PNDT Act, its objectives, its target bodies and [5 + 5 Jun 2017]. requirements.
b) Enumerate the essential information to be filled in Form F and the documents to be attached along with.
116. a) Enumerate the constituents of the ultrasound gel. [3+3+4 June 2017]
b) Identify the usefulness of each constituent.
c) Explain the principle behind the usage of ultrasound gel in sonographic imaging.
117. a) Name the essential drugs that must be kept in readiness in a radiology room to tide over the contrast reactions caused by iodinated contrast agents. [3 + 7 June 2017]
b) State their usage in diverse contrast reaction related emergencies citing their dosage and mode of administration.

118. A patient develops severe hypotension immediately following the intravenous administration of an iodinated water-soluble contrast medium. How would you manage such a patient? [10 June 2018]

119. Define the terms “Roentgen”, “Rad”, “Gray” and “Sievert”. State the acceptable upper limits of radiation exposure in a radiation worker as per the AERB guidelines. [8 + 2 June 2018]

120. What are the types of nephrotoxicity reactions associated with water-soluble contrast media and what are their defining features? What are the proposed mechanisms which produce contrast induced nephrotoxicity? [6 + 4 June 2018]

121. Describe the physical principle behind various diffusion weighted imaging techniques. Discuss their clinical usefulness. [4+6 June 2018]

122. Enumerate the constituents of ultrasound jelly. State the significance of each constituent. [10 June 2018]

123. Enumerate the MR contrast agents. Discuss their potential adverse effects [3 + 7 June 2018]

124 . Discuss the physical principles of the ultrasound contrast media. Enumerate the safety issues and recommendation regarding their clinical use. [5+5 December 2018]

125 Define 4DCT technique and enumerate the situations in which it is used and discuss in detail the technique of 4DCT of para thyroid. [2 + 3 +5 December 2018]

126 Discuss the factors which tend to affect the image quality on a computed tomography scan. Describe the diverse radiation dose reduction strategies which can be employed while carrying out a thoracic CT scan. [5+5 December 2018]

127 Enumerate the various post processing techniques which can be used during a thoracic computed tomography (CT) examination. State the clinical utility of each of these post processing techniques citing examples. [5+5 December 2018]

128 Enumerate the various pulse sequences used in magnetic resonance imaging. State

the clinical utility of each pulse sequence citing examples. [5+5 December 2018]

- 129 What is MRI fringe field? How can the MRI safety risks be minimized in your department? [3 + 7 June 2019]
- 130 Classify iodinated contrast media used in diagnostic imaging. What steps will you take to prevent contrast induced nephropathy. [5+5 June 2019]
- 131 What are the important parameters of image quality in digital radiography? What are the advantages of digital radiography over conventional radiography. [5+5 June 2019]
- 132 Describe MRI contrast media. What is Nano diamond? [8 + 2 June 2019]
- 133 Describe the basic physics behind positron emission tomography (PET). Describe the role of PET in staging of lymphoma. [5+5 June 2019]
- 134 Describe the AERB guidelines to set up a radiology centre for a single static xray machine. Supplement it with a diagram. [6 + 4 June 2019]
- 135 What are various methods available for dose reduction in CT? Discuss the technique of CT perfusion imaging. [4 + 6 June 2019]
- 136 A) Enumerate various ultrasonic contrast media. [10 December 2019]
B) Describe their principle.
C) Describe in brief their clinical application in evaluation of liver mass lesions.
- 137.a) What do you mean by AERB, eLORA and ALARA? [4 + 6 December 2019]
b) How will you minimize radiation hazards?

RADIOGRAPHIC POSITIONING

01. Describe the positioning for various skull x-ray views.
02. Conventional skull radiography.
03. Radiography of the Jugular Foramen. [DEC 06]
04. Base of Skull.
05. a) Positioning and technique for apicogram. b) Magnification radiography. [5+5 Apr 16]

SKULL AND ORBIT

1. Investigation in a case of exophthalmos. [JAN 00]
2. Imaging of posterior fossa. [JAN 01]
3. Orbit. [DEC 02]
4. Orbital tumours . [DEC 03, JUN 04]
5. USG in retinal retinal & choroidal detachment. [02]
6. Orbital pathologies. [JUN 04]
7. Imaging in unilateral exophthalmos. [DEC 07]
8. Ocular blood flow in normal and Glaucomatous eye on color Doppler imaging.
9. Enumerate causes of orbital masses. Discuss imaging features of two common causes in an adult. [09]
10. Classify orbital lesions in relation to various orbital spaces. Discuss MR features in orbital pseudo tumors. [June 08]
11. Enumerate causes of unilateral proptosis. describe imaging findings of optic glioma and caroticocavernous fistula. [June 11]
12. Describe in brief anatomy of sella turcica. Enumerate various sellar and parasellar masses. Discuss imaging features of craniopharyngioma. [3+2+5 Dec 11]
13. Enumerate various indications of orbital ultrasound. Discuss the role of ultrasound & color Doppler in a case of white reflex in a child. [2+4+4 Dec 12]

14. Enumerate the cause of solitary lytic lesion in the skull. Describe the distinguishing radiological features of any three. [4+6 Jun 13]
15. Enumerate the causes of pulsatile exophthalmos. Discuss the imaging features of any two conditions. [2+4+4 June 14]

16. Enumerate causes of unilateral proptosis. Describe briefly imaging findings of optic glioma and carotico-cavernous fistula. [2+4+4 Dec 14]
17. a) How do you classify orbital masses? b) Enumerate various causes of Orbital masses c) MR features of orbital pseudotumors. [June 15]
18. a) Enumerate various indications of orbital ultrasound. b) Role of ultrasound and Colour Doppler in a child with white reflex. [2+(4+4) Dec 15]
19. Differential diagnosis of unilateral proptosis in a child. [10 Apr 16]
20. What are the differential diagnoses in unilateral exophthalmos in a young adult? Enumerate the radiological investigations and their role and techniques of intervention in carotico-cavernous fistula. 2+ 8 December 2017
21. A mother of a 2 year old child notices 'something white' in one eye. The ophthalmologist refers the child for imaging:] [3+3+4 June 2017]
- a) What possibilities would you consider?
- b) What imaging protocols would you follow?
- Enumerate key imaging findings for one most likely entity
24. Enumerate the causes of childhood proptosis. Describe the characteristic CT findings in any two such conditions which may present with childhood proptosis. [4 + 3 + 3 June 2018]
25. Draw a labelled diagram depicting the normal anatomy of orbit. Discuss the imaging findings of orbital pseudotumour and thyroid ophthalmopathy [5+5 December 2018]
26. Enumerate the different extraconal lesions of the orbit. Briefly mention their imaging findings. [3 + 7 June 2019]
27. Radiological assessment of CSF rhinorrhea . [10 June 2019]
28. A) Enumerate causes of unilateral proptosis [4 + 3 + 3 December 2019]
- B) Describe briefly imaging findings of optic gliomas and carotico cavernous fistula
29. A 40 year old female has presented with loss of vision and instability in gait. [6 + 4 December 2019]
- a) Discuss the differential diagnosis and MR findings of the most probable cause.
- b) what is the role of diffusion tensor imaging in this patient?

TECHNIQUES, NEWER MODALITIES AND RECENT ADVANCES

01. Spiral CT and its major applications. [JAN 97]
02. Ultrasound transducers and their applications.
03. Developments in ultrasound transducer technology. [09]
04. Xeroradiography.
05. High resolution CT and its major applications. [97, 05]
06. MR Spectroscopy. [JUL 97, DEC 02/05/06]
07. Automatic processing and Automatic Film Processor (AFP). [JUL 97, JAN 00, DEC 02/05]
08. 3D CT angiography. [JUL 98]
09. Digital radiography. [DEC 05/06, JUN 05]
10. Flat panel digital radiography.
11. What is digital radiography? Discuss its advantages and disadvantages. [09]
12. Computed radiography and digital radiography. [DEC 05, JUN 06]
13. ERCP. [02]
14. MRCP. [JUL 99, DEC 03]
15. MRCP vs ERCP
16. Small bowel enema.
17. Tissue Harmonic imaging. [JAN 01, DEC 04]
18. MRI Urography. [DEC 02]
19. MR Venography.
20. MR angiography. [JUL 97, DEC 02/04, JUN 06]
21. MRA in lower limb arteries

22. Discuss the role of C.T. angiography, its indications, advantages and limitations. [JAN 01]
23. CT angiography and its application in abdomen. [DEC 05, JUN 06]
24. Principles of CT angiography.
25. CT angiography – present status [JUN 06]
26. Methods of contrast administration for CT angiography. [09]
27. CT angiography vs MR angiography.
28. Virtual endoscopy.
29. Virtual Colonoscopy. [DEC 05/07, JUN 05]
30. Virtual bronchoscopy . [DEC 05, JUN 06, DEC 09]
31. CT Coronary angiography.
32. Intra-operative USG. [DEC 04]
33. TRUS.
34. Trans-rectal and Trans-Perineal USG in elderly patients. [06]

35. Sonohysterography.
36. Discuss principle, various techniques of elastography and their clinical applications. [June 08/2010]
37. Peripheral venous doppler.
38. DSA.
39. Intravascular Ultrasound. [06]
40. Full field Digital Mammography. [06]
41. Radiofrequency Ablation [clinical application and principle]. [03, 06]
42. Percutaneous vertebroplasty. [06]
43. Outline of techniques in functional MRI. [JUN 06]
44. Diffusion weighted MRI. [08]
45. Dry view laser camera. [06]
46. Clinical applications of 3T MRI. [06]
47. Discuss the procedure for Barium Enema.
48. Technique of Double Contrast Barium Enema. [02] Enumerate the DD and imaging features of Hepatic flexure mass. [2010]
49. MR enteroclysis – techniques, indications and applications. [02, 2010]
50. MRI in Cardiac Imaging OR MR sequences in Cardiac Imaging. [JUN/DEC 07]
51. Vertebroplasty in non-infective vertebral collapse.
52. Tomosynthesis and its clinical applications. [09]
53. Volume ultrasound. [09]
54. Discuss indications, technique and complication of bronchial artery embolisation. [June 2008, 10]
55. PACS. [DEC 06]
56. Describe the principle and types of bone densitometry. Outline the advantages, disadvantages and limitations of each type. [2010]
57. Enumerate the various gradient echo sequences. Describe in brief the principle and their clinical applications. [2010]
58. Describe techniques of MRCP. What are the advantages and disadvantages of MRCP vs ERCP. [2010]

59. Techniques and applications of CT colonography. [2010]
60. Write in brief the principles of Radio frequency ablation [RFA]. Enlist its indications, contraindications and complications in management of Hepatocellular carcinoma. [2010]
61. What are the advantages of 3T MRI over 1.5T MRI ? Comment on its limitations. [2010]
62. What is the principle of diffusion weighted imaging and its role in evaluation of breast masses. [2010]
63. Enumerate the indications of foetal MRI. Comment on its limitations. [2010]
64. Write in brief about problem of storage requirements in PACS. Describe its solutions. [2010]
65. Describe briefly indications, technique, complications and post procedure follow up of Transjugular Intrahepatic Portosystemic Shunt. [Dec 10]
66. Describe the technique of CT enteroclysis. Enumerate its indications, advantages and limitations. [Dec 10]
67. Describe the technique of CT coronary angiography. Draw a labeled diagram of normal coronary arteries. Mention the major anatomical variants. [Dec 10]
68. What is molecular imaging and describe its role in musculoskeletal system. [Dec 10]
69. Describe the technique of MR Arthrography. Enumerate its indications, advantages and

limitation. [Dec 10]

70. What do you understand by perfusion imaging?. Describe briefly CT and MR perfusion imaging techniques. [Dec 10]

71. Enumerate various endoscopic ultrasound imaging techniques. Describe common endoscopic ultrasound imaging features in esophageal disease. [Dec 10]

72. Write in brief about the technique, indications, contraindications and complications of Radiofrequency ablation in hepatic and biliary lesions. [Dec 10]

73. What do you understand by tissue harmonic imaging. How is it useful during sonographic evaluation of small parts of body? [3+7 June 11]

74. Define High Intensity Focused Ultrasound. Describe its clinical applications. [2+8 June 11]

75. Describe principle of Dual energy CT, different techniques of dual energy acquisition and various applications. [3+2+5 Dec 11]

76. Discuss the principle, components, advantages and limitations of Digital Radiography. [1+4+3+2 Dec 11]

77. Describe principle of ultrasound elastography and its clinical applications. Briefly discuss its usefulness in evaluation of BIRAD 3 lesions. [(4+3)+3 Jun 12]

78. Describe the physical principles of PET-CT. Discuss the role of computed tomography and PET-CT in diagnosis post-treatment evaluation of lymphoma. [2+4+4 Dec 12]

79. Describe the physical principles of CR and DR. Briefly discuss their advantages and disadvantages. [3+3+2+2 Dec 12]

80. Briefly describe the physical principle of radio frequency ablation. Enumerate it's applications. Discuss the role of radio frequency ablation in management of osteoid osteoma. [2+2+6 Dec 12]

81. Write short notes on: [5+5 Dec 12]

A. Focussed abdominal sonography for trauma. B. Pressure injector

82. Define strain and shear wave elastography. Discuss its role in breast, prostatic and musculoskeletal lesion. Compare its sensitivity and specificity with MR elastography. [2+6+2 Jun 13]

83. a) CT vs MR Urography. b) CT vs MR Enteroclysis [5+5 Jun 13]
84. Discuss the recent advances in MDCT. What are the various dose reduction techniques in MDCT?. Mention average radiation dose received for common examinations using MDCT. [4+4+2 Jun 13]
85. a. Principle of Digital radiography. b. Clinical applications of molecular imaging. [5+5 Jun 13]
86. a. MR artefacts b. CT artefacts. [5+5 Jun 13]
87. Discuss the following: a. BOLD Imaging b. Genetic Screening c. PACS in Radiology. [3+3+4 Jun 13]
88. Write short notes on: 1) MR tractography 2) Dual energy scanning in musculo-skeletal system. (5+5 Dec 13)
89. Write short notes on: 1) CO₂ angiography 2) Transcranial sonography in stroke (5+5 Dec 13)
90. Write short notes on: a) Flat panel detector b) HIFU-Clinical indications & utility. [5+5 Dec 13]
91. Write short notes on: a) Mobile CT scanner b) Renal denervation for renovascular hypertension. [5+5 Dec 13]
92. a) MR-PET b) Dose reduction techniques in MDCT. [5+5 Dec 13]
93. a) Imaging of hemobilia and interventions b) Principles & applications of RF ablation. [5+5

June 14]

94. a) CT perfusion in acute stroke b) Principles of functional MRI. [5+5 June 14]
95. Techniques of ultrasound elastography and its applications. [5+5 June 14]
96. Advantages and disadvantages of computed radiography and direct digital radiography. [10 June 14]
97. What are the advantages of 3T MRI over 1.5T MRI ? Comment on its limitations. [6+4 Dec 14] (*exact repeat from 2010*)
98. a. MR artefacts b. CT artefacts. [5+5 Dec 14] (*exact repeat from Jun 13*)
99. Enumerate the various gradient echo sequences. Describe in brief the principles and their clinical applications. [3+3+4 Dec 14] (*repeat from 2010*)
100. Define High Intensity Focused Ultrasound . Describe its clinical applications. [2+8 Dec 14] (*repeat from June 11*)
101. What do you understand by tissue harmonic imaging . How is it useful during sonographic evaluation of small parts of body. [3+7 Dec 14] (*repeat from June 11*)
102. a) Fusion imaging. b) ELORA [5+5 June 15]
103. Advances in ultrasound transducer technology. [June 15]
104. Advances in MR gradient technology and its advantages. [June 15]
105. a) Zero lead aprons. b) Spatial compound imaging [5+5 June 15]
106. a) Principles and techniques of dual energy CT. b) Clinical applications of dual energy CT. [(3+3)+4 Dec 15]
107. Principles and techniques of ultrasound elastography along with its clinical applications. [2+4+4 Dec 15] (*repeat from June 14*)
108. 6. a) HIFU - Principles and clinical uses. b) PET-CT in staging of brain tumours. [(3+3+)+4 Dec 15]
109. a) Advances in lead apron technology. b) Technique of MR perfusion and its clinical applications in brain lesions. [4+(3+3) Dec 15]
110. a) MR spectroscopy in breast. b) MR spectroscopy in prostate. [5+5 Apr 16]
111. a) PET-MR b) MR guided interventions. [5+5 Apr 16]
112. Role of perfusion and diffusion MRI in post chemotherapy evaluation. [5+5 Apr 16]
113. Describe arterial anatomy in brief of lower limbs and discuss the diagnostic and

- interventional techniques in arterial stenosis/ occlusion of lower limb arteries [3 + 4 + 4 Dec 2017]
114. Principle, equipment, uses and adverse effects of RFA.[10 Dec 2017]
115. Principle and role of MR Spectroscopy [10 Dec 2017]
116. a. Sono saline hystero-graphy b. Sono mammography [5+ 5 Dec 2017]
117. Principle and clinical applications of Elastography. [5+ 5 Dec 2017]
118. Principle and role of PET scanning in benign conditions affecting the lymph nodes [4+ 6 Dec 2017]
119. What is enteroclysis? Discuss its technique with merits and demerits with Barium meal follow through. [2+ 8 Dec 2017]
120. Current indications and limitations of Foetal MRI. [10 Dec 2017]b
121. With reference to diagnostic imaging, explain the following terms stating their clinical significance: [5+5 June 2017]
- a) Signal to noise ratio(SNR)
- b) Shear wave elastography
122. a) What is the role of nuclear medicine imaging techniques in the investigation of neuroendocrine tumours? [7 +3 June 2017]
- b) Pitfalls of these techniques
123. Basic principles of Dual Energy Computed Tomography and its clinical applications in abdominal imaging. [4+6 June 2017]
124. Enumerate the current interventional radiology techniques being employed in the management of acute massive pulmonary thromboembolism. Outline the merits and limitations of each. [4+6 June 2017]
125. Recent developments in non-invasive clinical lymphatic imaging techniques capable of visualizing the central lymphatic anatomy and flow dynamics [10 June 2017]
126. a) Pathophysiology of pulmonary edema. [4+6 June 2017]
- b) Radiographic and CT signs of pulmonary edema.
127. CT imaging features of: [5+5 June 2017]

- c) Constrictive pericarditis.
- d) Pulmonary sequestration

128. Discuss the pre-procedure work-up, procedure, and the post- procedure care in a patient scheduled to undergo a trucut/core biopsy for a hepatic mass lesion.] [3 + 4 + 3 June 2018]

129. Describe the indications, contraindications and technique of CT urography [2 + 2 + 6 December 2018]

130. Describe the indications, contraindications, technique and complications of hysterosalpingography [2 + 2 + 4 +2 December 2018]

131. Describe the basic principles of PET CT. Discuss the advantages and disadvantages of PET MRI over PET CT. [5 + 5 Dec 2018]

132. Enumerate the various liquid embolic agents used in interventional radiology. Discuss the role of interventional radiologist in the management of cerebral arteriovenous malformation. [4 + 6 Dec 2018]

133. Discuss the indications, pharmacokinetics, and methods of iodine – 131 metaiodobenzylguanidine scintigraphy. [3 + 3 + 4 Dec 2018]

134. Describe the basic physical principles, indications, contraindications and technique of radiofrequency

Ablation of liver tumors. [3 + 2 + 2+3 Dec 2018]

135. Enumerate the indications of percutaneous nephrostomy (PCN). Describe the technique. [4 + 6 June 2019]

136. Radiofrequency ablation (RFA) in liver masses – the physics and technique [5+5 June 2019]

137. Discuss indications, technique , management and complications of bronchial artery embolization. [10 June 2019]

138. a) Discuss the role of scintigraphy in cardiac imaging. [4 + 6 June 2019]
- b) Describe various artifacts and interpretation pitfalls associated with this technique.
- c) Describe its role in brief in myocardial perfusion and viability.
139. a) Describe principles and techniques of USG elastography. [10 Dec 2019]
- b) Describe in detail clinical applications of compression Elastography.
140. a) Describe the basis of BOLD imaging technique. [10 Dec 2019]
- b) Describe its utility and limitations.
- 141.a) Artificial intelligence in Health care. [5+5 December 2019]
- b) Discuss its advantage and disadvantages.
142. a) Mention the various interventional techniques used in the management of hepatocellular carcinoma (HCC). [4 + 6 December 2019]
- b) Briefly describe the guidelines outline the criteria of response assessment of hepatocellular carcinoma.

THYROID

1. Role of USG in thyroid diseases. [JAN 97]
2. Imaging in thyroid pathology. [JAN 00]

HOW TO WRITE A LONG ANSWER?

Write more headings. Practice it while preparing for exams.

Headings – Try to include these things in your answers whenever possible –

Terminology.

Related anatomy and physiology.

Epidemiology – Age, sex, race.

Etiology.

Pathology/pathogenesis – Write as a flow chart.

Classification / staging / TNM- Make it a table.

Location.

Clinical features

Radiological features – Draw diagrams.

Xray

Positioning with special views if any

Findings.

Procedure – Barium / Angiography.

Name of the procedure.

Findings.

USG

Grey scale

Color Doppler.

Role of contrast usg/3D usg if necessary/ elastography.

CT

Acquisition technique

Plain CT findings.

Contrast CT findings.

MRI

Planning and sequences

MRI findings.

Mention it sequence wise.

Any special sequence – Ex – Oblique sagittal for ACL in knee, dynamic contrast for pituitary micro adenoma.

Role of nuclear medicine.

Complications.

Management.

Radiological/ interventional.

Medical.

Surgical.

Differential diagnosis.

“Try to add a table, a flow chart and minimum 1 image for every answer you write”