

1.1 DNB QUESTION PAPERS

DNB RADIOLOGY JUNE 2010 Paper I

Time :3 Hours Max. Marks: 100 Each question carries 10 marks.

Attempt all question in order. Write short notes on:

1. What are the indications of bronchial artery embolisation? Describe the technique and complications of bronchial artery embolisation.
2. Describe the embryology, clinical significance and imaging of undescended testis.
3. Enumerate the vascular and structural abnormalities of the umbilical cord. Describe the velocity wave form changes seen in umbilical artery Doppler indicative of IUGR.
4. What are the sonographic Findings favoring diagnosis of ectopic pregnancy and its differential diagnosis.
5. What are the imaging features on chest X-ray of various acyanotic congenital heart diseases.
6. Describe the role of MDCT in staging of carcinoma of lung.
7. Describe the imaging findings in germ cell tumor of the mediastinum and discuss in brief the differential diagnosis.
8. Define pulmonary sequestration and describe the imaging findings in extra lobar pulmonary sequestration.
9. Describe radiological findings of the pulmonary complications of HIV infection.
10. Enumerate the indications, imaging features and limitations of imaging in erectile dysfunction. **Paper**

II

- 1 Describe techniques of MRCP. What are the advantages & disadvantages of MRCP versus ERCP.
2. Differential diagnosis and imaging features of para-vertebral shadow.
3. Describe technique of double contrast barium enema. Enumerate differential diagnosis and imaging features in a hepatic flexor mass.
4. Define spinal dysraphism. Describe briefly the MR sequences you will use for diagnosis of spinal dysraphism.
5. Define infective discitis. Describe CT, MRI and Isotope imaging features of discitis.
6. Enumerate various causes of supra-sellar masses. Describe imaging features in craniopharyngioma.
7. Describe different types and imaging features of fractures. What are the complications of fracture'?
8. Describe imaging features in a case of intestinal perforation.
9. Describe MR Imaging features in intra cerebral haematoma and techniques of volume calculation in such a case.
- 10 Enumerate indications of MR enteroclysis. Describe briefly the technique of MR enteroclysis **Paper**

III

1. Describe the basis of BOLD imaging. Write its utility and limitations.
2. Write in brief about problem of storage requirements in PACS. Describe its solutions.
3. Enumerate indications of foetal MRI. Comment on its limitations.
4. What is the principle of diffusion weighted imaging and its role in evaluation of breast masses?
5. What are the advantages of 3T MRI over 1.5 T MRI? Comment on its limitations.
5. Describe briefly the principle of ultrasound elastography. Mention its clinical applications.
7. Write in brief the technique and applications of C.T. Colonography.

8. Write in brief the principle and types of digital radiography. Outline its advantages and disadvantages.
9. Describe the principle and clinical applications of dual energy CT scanning.

10. Write in brief the principle of radio frequency ablation (RFA), Enlist its indications, contraindications & complications in management of hepatocellular carcinoma.

Paper IV Write

short notes on:

- 1 Describe with diagram the anatomy of Circle of Willis Enumerate Causes of sub-arachnoid hemorrhage.
2. Enumerate the various interactions of X—Ray photons with matter Describe any two in brief.
3. Rare earth screens
4. Pathophysiology of renal tuberculosis.
5. Adverse reactions with MR contrast media.
- 6 Define scatter raalations. Comment briefly on the factors controlling scatter radlations
7. Describe the principle and types of bone densitometry. Outline the advantages, disadvantages and limitations of each type.
8. Describe the embryology and development of pancreas. Describe imagingfeatures of any one important congenital anomaly of pancreas.
9. Enumerate various gradient echo sequences. Describe in brief the principle and their clinical applications.
10. Define Roentgen. Mention various recommendations on maximal permissible dose for patients and staff members in Radiology department.

DNB RADIOLOGY DECEMBER 2010

PAPER I

1. Draw a labeled diagram of broncho pulmonary segments on a Chest PA and Lateral radiograph of left lung. (5+5).
2. Describe the chest radiograph and HRCT findings of sarcoidosis. (3+7).
3. Blood supply of testis with diagram.Types of testicular torsion.Describe the imaging findings in each. (2+2+6).
4. Enumerate various tumors of heart . Imaging features of Myxoma of heart. (3+7).
5. Describe the techniques of CT coronary angiography.Draw a labeled diagram of coronary artery anatomy.Mention major anatomical variants. (4+3+3).
6. Enumerate the causes of infertility.What is role of imaging in assisted reproduction. (2+8).
7. Define Fetal hydrops. What are the Causes . Sonographic and color Doppler findings noted in this Condition. (2+2+6).
8. Discussaetiopathogenesis and radiological features of renal tuberculosis. (3+7)
9. Discuss sonographic techniques and criteria used in evaluation of cervical in competence.(3+7)
10. Enumerate the common locations of ectopic pregnancy in order of frequency.Discuss the sonographic features of ectopic pregnancy. (3+7).

PAPER II

1. Describe briefly indications,technique,complications and post procedures follow up of TIPS.

(2+4+2+2)

2. Classify neural tube closure defects .Describe various chiari malformations and their imaging features.

(4+1+5)

3. Describe anatomical variations of circle of willis with the help of diagram.Enumerate sites of intracranial aneurysm. (4+2+4).

4. Classify brain tumors of children .Describe imaging features of primitive neuroectodermal tumors. (4+6)

5. Describe MR anatomy of pituitary fossa with diagram. Describe radiological diagnosis of pituitary adenoma. (4+6)

6. Define stress fracture. Enumerate various sites and predisposing factors of stress fractures. Describe various imaging features of stress fractures. (2+2+6).

7. Describe imaging features of osteoid osteoma .Discuss differential diagnosis. (6+4)

8. Describe technique of CT enteroclysis. Enumerate its indications , advantages and limitations. (5+2+2+1).

9. Classify pancreatic neoplasms. Describe imaging features in a case of carcinoma head of pancreas. (3+7)

10. Describe the basis of hepatic segmental anatomy. Draw a diagram to depict various hepatic segments. (4+6)

PAPER III

1. Clinical features, sonographic and CT appearances in acute appendicitis. (2+4+4).

2. Life cycle of hydatid disease causative organism. Enumerate sites of affection in human beings.

Describe imaging features of musculoskeletal hydatidosis. (4+2+4)

3. Clinical features and MR imaging features in multiple sclerosis. (3+7)

4. Enumerate various endoscopic ultrasound imaging techniques.Describe endoscopic ultrasound imaging features in esophageal disease. (3+7)

5. Enumerate indications and describe the techniques of color Doppler in renovascularhypertension. (3+7).

6. Classify peripheral vascular malformations. Describe sonographic color Doppler, MRI and angiographic features of venous malformations. Mention suitable embolic material for their interventional management. (2+6+2)

7. Write in brief about technique , indications, contraindications, and complications of radiofrequency ablation in hepatic and biliary lesions. (4+2+2+2)

8. Enumerate various complications in case of renal transplant and discuss their imaging findings. (3+7).

9. Enumerate various radio isotopes used in hepato biliary system. Describe the imaging features and techniques in biliary atresia. (4+6).

10. Enumerate various ultrasonic contrast media. Describe their principle and clinical application in evaluation (3+3+4)

PAPER IV

1. What is molecular imaging and describe its role in musculoskeletal system. (3+7)

2. Describe the technique of MR arthrography .Indications, advantages and limitations. (5+2+2+1).

3. Define and classify radiographic grids. Describe various uses in radiography (4+6) 4. Define radiographic contrast. Describe various factors that affect radiographic contrast. (2+8)

5. DescribeAERB guidelines on Xray room installation. (10).

6. What do you understand by perfusion imaging. Briefly describe CT and MR perfusion imaging techniques. (2+4+4)

7. Describe venous anatomy of lower limb with help of diagram. Describe technique of color Doppler imaging of lower limb veins and imaging features of deep vein thrombosis. (3+3+4)
8. Enumerate the causes of obstructive jaundice .Describe technique of MRCP and its role in obstructive jaundice. (3+5+2)
9. Describe the role of imaging in recurrence of ovarian malignancy after surgery. (10)
10. Describe various techniques you will employ to reduce patient and operator radiation dose in CT angiography. (10)

DNB RADIOLOGY JUNE 2011

PAPER I

- 1) Describe plain radiographic and CT findings of rt. upper lobe pulmonary collapse. (5 + 5)
- 2) Discuss the role of CT and MRI in staging of lung cancer. (6 + 4)
- 3) Describe the radiological findings of pulmonary complications in pts infected with HIV (10)
- 4) 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. (2 x 5)
- 5) Describe plain radiographic findings in Rheumatic heart disease in Mitral Stenosis. (4 + 3 + 3)
- Mitral regurgitation with mitral stenosis. Aortic stenosis
- 6) Describe etiopathogenesis , common causes , plain film and Ct features of lymphangitis carcinomatosa (2 + 3 + 2 + 3)
- 7) Outline the diagnostic imaging approach in apt. with Ovarian malignancy. Describe imaging features , staging and impact of cross sectional imaging in ovarian cancer. (2 + 3 + 3 + 2)
- 8) 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 (2+3+3+2)
- 9) What is vesico-ureteric reflux. Discuss its causes and grading. Briefly describe role of imaging in this condition. (1+2+2+5)
- 10) Enumerate causes of unilateral small kidney. Discuss role of imaging in establishing the diagnosis. (2 + 8)

PAPER II

- 1) Discuss the role of plain radiograph , barium studies , ultrasound and Ct abdomen in diagnosis of gastrointestinal tuberculosis. (2+3 + 2+3)
- 2) What is the role of diagnostic imaging modalities in cholangiocarcinoma. discuss the morphological findings and the significance of various modalities in management of the disease. (2 + 4 + 4)
- 3) Enumerate the causes of SOL in liver . Describe the USG features in any three of them (4 + 2 + 2 + 2)
- 4) Describe imaging features and intervention in vein of galen malformation (6 + 4)
- 5) Describe the grading , imaging features and differential diagnosis of Glioblastoma multiforme.
- 6) Describe the CT and MRI features of Neurocysticercosis of brain. How would you differentiate from other granulomatous lesions. (6+4)
- 7) Enumerate causes of Hypertrophic osteoarthropathy. Discuss its differential diagnosis and describe its imaging findings on plain radiograph (2+3+5)
- 8) Discuss the radiographic and sonographic features of developmental dysplasia of Hip. (5 + 5)
- 9) Enumerate causes of unilateral proptosis. describe imaging findings of optic glioma and

carotidocavernous fistula.

(2+4+4)

10) Describe imaging features of breast cancer on mammography, ultrasound and mri. Briefly outline approach (by flow chart) in BIRAD 4 lesion .

(3 +2 +3 +2)

Paper III

1) Define High Intensity Focussed Ultrasound . Describe its clinical applications . (2+8)

2) Define acute cerebral stroke. what are its types. discuss the role of CT and MR imaging in pts with acute stroke, enumerating the techniques that you shall employ and the characteristic findings you would expect. (1+1+4+4)

3) Describe the role of scintigraphy in cardiac imaging with emphasis on myocardial perfusion and viability. (7+3)

4) Discuss the role of Ct in evaluation of pts with acute head injury, staging the types of injury, possible complications and their long term sequelae (10)

5) Discuss the role of imaging in uraemia, citing the specific role and limitations of conventional radiography, sonography, Ct, MRI and renal scintigraphy. (2 x 5)

6) 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 pt. (2+4+2+2)

7) Describe in brief the role of plain radiography , enteroclysis, ultrasonography , Ct and MRI in evaluation of small bowel obstruction. (2 x 5)

8) Enumerate the clinical uses of MR spectroscopy in disorders and diseases of brain .briefly discuss its role in evaluation of brain tumors. (5 +5)

9) Discuss various dose reduction techniques in MDCT. Mention the average radiation doses received for common examination using MDCT. (8+2)

10) Classify diaphragmatic hernias. Describe the radiological means to establish the diagnosis with relevant imaging findings (4+6)

PAPER IV

1) Describe the embryogenesis of human urinary system using labelled diagram. briefly discuss the basis

of any three congenital defects of kidneys (4+3+3)

2) Describe with help of labelled diagram-vascular anatomy of testes. Explain briefly its clinical relevance in imaging of testicular malignancies. (7+3)

3) Describe the MR anatomy of the knee joint. Briefly state the Mr sequences you would employ to delineate a suspected medial meniscus tear. (7 +3)

4) What do you understand by tissue harmonic imaging .how is it useful during sonographic evaluation of small parts of body. (3 +7)

5) Enumerate basic properties of X rays. Describe factors affecting scatter radiation. and techniques to minimise scatter radiation. (3 +3+4)

6) Brief outline the evolution of present day Ct scanners citing the key specific changes through different generations (10)

7) 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..

(6 +4)

8) Enumerate causes of pain in rt iliac fossa in 20 yr old married female. Discuss the role of USG and Ct

scan in evaluation in this case

(2 +4+4)

9) Discuss briefly the principle of MR spectroscopy. Enumerate its clinical significance in any three clinical settings, outlining explicitly how it would be useful.

(7 +3)

10) 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.

DNB RADIOLOGY OCTOBER 2011 PAPER-I

Time:

3 hours

Max. Marks 100

Attempt all questions in order.

Each question carries 10 marks.

1. Enumerate causes of unilateral hypotranslucency 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 hypotranslucency on chest radiograph.
2. 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)
3. Classify pleural tumours. Briefly discuss chest radiographic & CT findings of malignant mesothelioma. (3+3+4)
4. Enumerate various diseases caused by inhalation of inorganic dust. Briefly describe chest radiographic & CT findings of two most common such diseases.
5. Classify congenital cardiac abnormalities. Briefly discuss abnormalities of Situs and Looping (or topology) with their imaging features. (2+4+4)
6. Define truncus arteriosus. Mention its types and characteristic features of its various types. Briefly describe its chest radiographic, echocardiographic & MRI findings.
7. 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)
8. What are common causes of medially placed ureters? Discuss various associations, IVU, CT & MRI findings of retroperitoneal fibrosis. (2+2+2+2+2)
9. Enumerate causes of urethral strictures. Briefly discuss role of ascending urethrogram in strictures due to trauma. Name common complications of urethral strictures.
10. Enumerate various ovarian tumors of stromal origin. Briefly discuss imaging features of serous & mucinous cystadenocarcinoma and cystadenoma. (3+2+2+3)

PAPER-II

[KZ 1515] Sub. Code: 3020

DIPLOMA IN MEDICAL RADIODIAGNOSIS (DMRD) EXAMINATION RADIODIAGNOSIS AND IMAGING

Q.P. Code : 343020 Time : 3 hours Maximum : 100 marks (180 Min) Answer ALL questions in the same order. I. Elaborate on :

1. Discuss the differential diagnosis of incidentally discovered breast lump and the different modes of investigation to arrive at diagnosis. 15
 2. Discuss the role of various imaging modalities in the diagnosis and management of a patient with blunt renal trauma. 15
- II. Write notes on :
1. Isotope renogram 7
 2. Neuroblastoma. 7
 3. Filling defects in bladder. 7
 4. Bronchiectasis. 7
 5. Percutaneous nephrostomy. 7
 6. Multiple myeloma. 7
 7. Gastric volvulus . 7
 8. Ultrasound in hypertrophic pyloric stenosis. 7
 9. Polypoid lesions of colon. 7
 10. MRCP . 7

**DNB JUNE 2012
PAPER I**

1. 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
2. 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
3. Classify pleural tumours. Briefly discuss chest radiographic & CT findings of malignant mesothelioma. 3+3+4
4. Enumerate various diseases caused by inhalation of inorganic dust. Briefly describe chest radiographic & CT findings of two most common such diseases. 2+4+4
5. Classify congenital cardiac abnormalities. Briefly discuss abnormalities of Situs and Looping (or topology) with their imaging features. 2+4+4
6. Define truncus arteriosus. Mention its types and characteristic features of its various types. Briefly describe its chest radiographic, echocardiographic & MRI findings. 2+2+(2+2+2)
7. 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

P.T.O →

8. What are common causes of medially placed ureters? Discuss various associations, IVU, CT & MRI findings of retroperitoneal fibrosis. 2+2+2+2+2
9. Enumerate causes of urethral strictures. Briefly discuss role of ascending urethrogram in strictures due to trauma. Name common complications of urethral strictures. 3+5+2
10. Enumerate various ovarian tumors of stromal origin. Briefly discuss imaging features of serous & mucinous cystadenocarcinoma and cystadenoma. 3+2+2+3

PAPER II

1. Name the diseases associated with H. pylori infection. Briefly discuss barium meal features of benign & malignant gastric ulcer supported by suitable diagrams. 2+(4+4)
2. Enumerate various infections & neoplasms affecting gastrointestinal tract in AIDS. Briefly describe barium meal follow through & CT features of AIDS lymphoma. 3+7
3. Classify polypoidal lesions of the colon. Mention radiological differences between benign & malignant polyps. Discuss salient imaging features of various types of adenomatous polyps. 2+3+5
4. Enumerate causes of normal intracranial calcifications. Discuss imaging features of pathological intracranial calcification secondary to infections & infestations. 3+7
5. 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)
6. Enumerate various causes of suprasellar lesions in adults and children. Describe plain radiographic, CT & MRI features of Craniopharyngioma. 4+6
7. Classify scoliosis. Discuss imaging features of plain radiographic, CT & MRI in neurofibromatosis of spine. Discuss Cobb's angle and draw a diagram illustrating its measurement. 2+5+(2+1)
P.T.Q
8. Mention causes of periosteal new bone formation. Briefly discuss characteristic radiological features of osteomyelitis affecting infants, children & adults. 2+8
9. Mention differential diagnosis of 15 year boy presenting with localized pain & swelling of 2 months duration in right lower thigh. Discuss conventional radiographic, CT & MRI features of the commonest primary malignant bone tumor in this age. 1+3+3+3
10. Classify cysts of jaw. Describe briefly imaging features of each type of cyst. Draw suitable diagrams to describe various types. 2+6+2

PAPER III

RADIODIAGNOSIS

PAPER- III

Time: 3 hours
Max. Marks : 100

RDG/J/12/40/III

Attempt all questions in order.
Each question carries 10 marks.

1. Enumerate indications and radio-isotopes used for radionuclide (2+2)+(2+2+2)
scanning of lungs. Briefly describe three techniques of isotope
imaging of lung with their clinical implications.
2. A 25 year old male presented with life threatening haemoptysis. Draw 2+(2+4+2)
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.
3. How will you radiologically investigate a 60 year old hypertensive & 3+5+2
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.
4. Enumerate the most common cause of a 6 year old male presenting 1+7+2
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.
5. Enumerate causes of malabsorption syndrome. Describe imaging 2+6+2
features in tropical sprue. Briefly discuss its complications.
6. Describe principle of ultrasound elastography and its clinical (4+3)+3
applications. Briefly discuss its usefulness in evaluation of BIRAD 3
lesions

P.T.O.

7. Write short notes on: 3+3+4
- A. Heel effect
 - B. Genetic effect of radiation
 - C. Conventional lead apron & zero lead apron
8. Write short notes on the following: 4+3+3
- a. Factors affecting scatter radiation and different techniques to minimize them.
 - b. Radiographic contrast
 - c. Properties of x-rays
9. Write short notes on: 4+2+2+2
- a. What is p value? What is its significance and clinical applications in research?
 - b. Sensitivity
 - c. Specificity
 - d. Positive & negative predictive value.
10. Discuss various statutory requirements to be followed for installation of 4+3+3
following radiological equipments:
- a. 1000 mA x-ray machine
 - b. CT scan
 - c. DSA Lab

RADIODIAGNOSIS

PAPER – I

Time : 3 hours
Max. Marks : 100

RDG/D/12/40/I

Attempt all questions in order.
Each question carries 10 marks.

1. 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
2. Describe various HRCT lung findings seen in interstitial lung disease with the help of diagrams. Describe HRCT features of usual interstitial pneumonia. 6+4
3. Enumerate various causes of respiratory distress in new born. Briefly describe imaging findings in congenital lobar emphysema and pulmonary sequestration. 2+(4+4)
4. Enumerate the causes of hemoptysis in an adult patient. Briefly discuss the indications, techniques and complications of radiological interventions in this condition. 2+(2+4+2)
5. 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
6. Enumerate the radiographic features of enlarged right atrium and enlarged left atrium. Briefly describe lung field changes in a case of mitral stenosis. (2+3)+5
7. Briefly describe the anatomy of pericardium. List various causes and imaging findings in a case of constrictive pericarditis. 2+(2+6)
8. List various indications of MRI examinations in obstetrics. Outline various sequences used along with their rationale. Briefly describe MRI findings in two conditions presenting as obstetric emergencies. 2+2+(3+3)
9. List various 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 of carcinoma cervix. 2+4+4
10. Enumerate the causes of hematuria in a fifty year old male patient. Briefly discuss the role of various imaging modalities in diagnosis and staging of renal cell carcinoma 2+(4+4)

RADIODIAGNOSIS

PAPER – II

Time : 3 hours
Max. Marks : 100

RDG/D/12/40/II

Attempt all questions in order.
Each question carries 10 marks.

1. Enumerate the causes of mechanical small bowel obstruction in an adult. Describe the differentiating features of small bowel and large bowel obstruction on plain radiography. Briefly discuss the role of CT in mechanical small bowel obstruction. 3+2+5
2. Briefly describe the etiopathology and imaging findings of ileocecal tuberculosis. Discuss the features that are useful to differentiate it from Crohn's disease. (2+5)+3
3. Enumerate various causes of acute pancreatitis. Briefly discuss various terms used in description of imaging findings of acute pancreatitis and indicating its severity. 2+(6+2)
4. Enumerate the causes of ring enhancing lesions of brain parenchyma in MRI. Discuss the role of diffusion weighted imaging and MR spectroscopy in differentiation of various lesions. 2+(4+4)
5. 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)
6. Enumerate the causes of cerebral venous thrombosis. Describe CT and MR findings of cerebral venous thrombosis. 2+(4+4)
7. List the causes of posterior scalloping of vertebrae. Describe skeletal changes seen in von Recklinghausen's disease. 2+8
8. Enumerate various causes of hemolytic anemia. Describe the imaging findings in a case of thalassemia major. Briefly discuss its differential diagnosis from sickle cell anemia. 2+5+3
9. Enumerate various indications of orbital ultrasound. Discuss the role of ultrasound and Color Doppler in a case of white reflex in a child. 2+(4+4)
10. Describe the imaging features of juvenile nasopharyngeal angiofibroma. Discuss the role of radiological intervention in its management. 6+4

RADIODIAGNOSIS

PAPER – III

Time : 3 hours

RDG/D/12/40/III

Max. Marks : 100

Attempt all questions in order.

Each question carries 10 marks.

1. Briefly describe the physical principle of radiofrequency ablation. Enumerate its applications. Discuss the role of radiofrequency ablation in management of osteoid osteoma. 2+2+6
2. Enumerate various indications of upper gastrointestinal endoscopic sonography. Briefly discuss its role in evaluation of pancreatic pathologies outlining the advantages & disadvantages. 2+8
3. Describe the physical principles of PET-CT. Discuss the role of computed tomography and PET-CT in diagnosis and post-treatment evaluation of lymphoma. 2+(4+4)
4. List the indications of hepato-biliary scintigraphy in children and adults. Describe briefly the principle, technique and findings on scintigraphy in a case of neonatal jaundice. 2+(2+2+4)
5. Enumerate various causes and differentiating features of hyper-intense lesions of the spinal cord on T₂ weighted M.R.I. 2+8
6. Briefly discuss the development of midgut. Describe the imaging findings of midgut malrotation and midgut volvulus on various imaging modalities. 3+(3+4)
7. Briefly describe the components of BIRAD system used for reporting of mammograms. Describe the indications and findings of various breast lesions on MRI. 4+(2+4)
8. Enumerate various causes of female infertility. Describe the role of hysterosalpingography and MRI in their diagnosis. 2+(4+4)
9. Discuss the role of imaging in uremia, citing the specific role and limitation of conventional radiography, sonography, CT, MR & renal scintigraphy. 2x5
10. Describe the physical principles of computed radiography and digital radiography. Briefly discuss their advantages and disadvantages. 3+3+(2+2)
