BBY

PROVISIONAL ANSWER KEY (CBRT)

Name of the post	**Radiologist, Employees State Insurance Scheme Class-1**
Advertisement No.	**17/2021-22**
Preliminary Test held on	**23-11-2021**
Question No	**001 – 200**
Publish Date	**24-11-2021**
Last Date to Send Suggestion(s)	**01-12-2021**

THE LINK FOR ONLINE OBJECTION SYSTEM WILL START FROM 25-11-2021; 04:00 PM ONWARDS

Instructions / સૂચના

Candidate must ensure compliance to the instructions mentioned below, else objections shall not be considered: -

(1) All the suggestion should be submitted through **ONLINE OBJECTION SUBMISSION SYSTEM** only. Physical submission of suggestions will not be considered.

(2) Question wise suggestion to be submitted in the prescribed format (proforma) published on the website / online objection submission system.

(3) All suggestions are to be submitted with reference to the Master Question Paper with provisional answer key (Master Question Paper), published herewith on the website / online objection submission system. Objections should be sent referring to the Question, Question No. & options of the Master Question Paper.

(4) Suggestions regarding question nos. and options other than provisional answer key (Master Question Paper) shall not be considered.

(5) Objections and answers suggested by the candidate should be in compliance with the responses given by him in his answer sheet. Objections shall not be considered, in case, if responses given in the answer sheet /response sheet and submitted suggestions are differed.

(6) Objection for each question should be made on separate sheet. Objection for more than one question in single sheet shall not be considered.

ઉમેદવારે નીચેની સૂચનાઓનું પાલન કરવાની તકેદારી રાખવી, અન્યથા વાંધા-સૂચન અંગે કરેલ રજૂઆતો ધ્યાને લેવાશે નહીં

(1) ઉમેદવારે વાંધા-સૂચનો ફક્ત **ઓનલાઈન ઓબ્જેક્શન સબમીશન** સીસ્ટમ દ્વારા જ સબમીટ કરવાના રહેશે. રૂબરૂ અથવા ટપાલ દ્વારા આયોગની કચેરીએ મોકલવા આવેલ વાંધા-સૂચનો ધ્યાને લેવામા આવશે નહીં જેની ખાસ નોંધ લેવી.

(2) ઉમેદવારે વાંધા-સૂચનો રજૂ કરવા વેબસાઈટ / ઓનલાઈન ઓબ્જેક્શન સબમીશન સીસ્ટમ પર પ્રસિધ્ધ થયેલ નિયત નમૂનાનો જ ઉપયોગ કરવો.

(3) ઉમેદવારે પોતાને પરીક્ષામાં મળેલ પ્રશ્નપપુસ્તિકામાં છપાયેલ પ્રશ્નક્રમાક મુજબ વાંધા-સૂચનો રજૂ ન કરતા તમામ વાંધા-સૂચનો વેબસાઈટ પર પ્રસિધ્ધ થયેલ પ્રોવિઝનલ આન્સર કી (માસ્ટર પ્રશ્નપત્ર)ના પ્રશ્ન ક્રમાંક મુજબ અને તે સંદર્ભમાં રજૂ કરવા.

(4) માસ્ટર પ્રશ્નપત્રમાં નિર્દિષ્ટ પ્રશ્ન અને વિકલ્પ સિવાયના વાંધા-સૂચનો ધ્યાને લેવામાં આવશે નહીં.

(5) ઉમેદવારે પ્રશ્નના વિકલ્પ પર વાંધો રજૂ કરેલ છે અને વિકલ્પ રૂપે જે જવાબ સૂચવેલ છે એ જવાબ ઉમેદવારે પોતાની ઉત્તરવહીમાં આપેલ હોવો જોઈએ. ઉમેદવારે સૂચવેલ જવાબ અને ઉત્તરવહીનો જવાબ ભિન્ન હશે તો ઉમેદવારે રજૂ કરેલ વાંધા-સૂચનો ધ્યાનમા લેવાશે નહીં.

(6) એક પ્રશ્ન માટે એક જ વાંધા-સૂચન પત્રક વાપરવું. એક જ વાંધા-સૂચનો પત્રકમાં એકથી વધારે પ્રશ્નોની રજૂઆત કરેલ હશે તો તે અંગેના વાંધા-સૂચનો ધ્યાને લેવાશે નહીં.

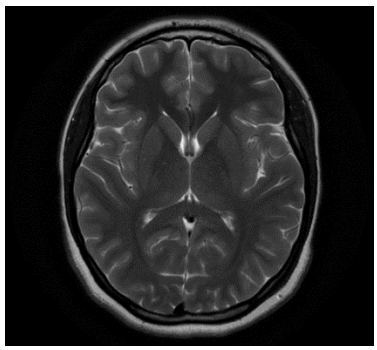
Website link for online objection submission system : www.safevaults.in/login

001. Identify the muscle.

(A) Obturator internus **(B) Obturator externus**

(C) Pectineus **(D) Sartorius**

002. Identify the structure



(A) Genu of corpus callosum **(B) Splenium of corpus callosum**

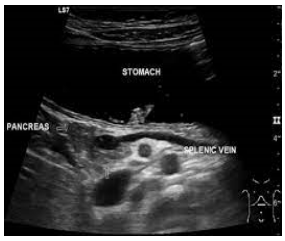
(C) Body of corpus callosum **(D) Hippocampus**

003. Which of the following muscle has attachment on the bony prominence indicated by an arrow?

(A) Sartorius. **(B) Pectineus.**

(C) Ilio psoas. **(D) Adductor longus.**

004. Identify the structure.



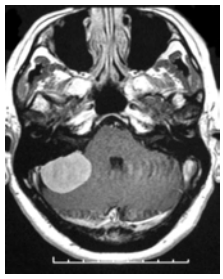
(A) Superior Mesenteric Artery **(B) Superior Mesenteric Vein**

(C) Celiac trunk **(D) Renal vein**

005. Identify the pathology.

(A) Bulky ovary
(B) Polycystic ovarian morphology
(C) String of pearls appearance
(D) All of the above

006. Identify the pathology in the following brain MRI.



(A) CP angle Scwannoma
(B) Cp angle neurofibroma
(C) Posterior fossa meningioma
(D) Glomus jugulare Tumor

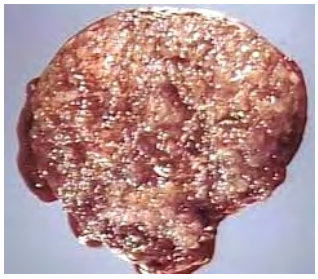
007. Identify the abnormality in following gross pathology specimen.

(A) Osteosarcoma
(B) Giant cell tumour
(C) Aneurysmal bone cyst
(D) Ewing's sarcoma

008. Identify the pathological specimen

(A) Urinary Bladder calculi.
(B) Chronic cholecystitis.
(C) Acute calculous cholecystitis.
(D) Gall bladder carcinoma.

009. Identify the pelvic pathology specimen obtained from a young female.



(A) Ovarian dermoid
(B) Adherent placenta
(C) Leiomyosarcoma of uterus
(D) Hydatidiform mole

010. A 32 year old healthy male has a CXR for fitness for recruitment. There is a rounded opacity in the right mediastinum. Subsequent CT chest reveals a 4.5 cm nodal mass with central calcification and marked enhancement following contrast administration. There are no focal lung lesions. Which of the following is the most likely diagnosis?

(A) Castle man's disease
(B) Colorectal cancer metastasis
(C) Langerhans's cell Histiocystosis
(D) Non-Hodgkin's lymphoma

011. A 25 year old woman presents with an acute seizure. CT shows a 2 cm ring enhancing lesion in the frontal lobe with surrounding oedema. CXR shows 3 opacities measuring 1-3 cm in size, projected over the left lower zone. Contrast enhanced CT shows these lesions to be round, well defined and containing linear structures radiating away from the lesions. What is the likeliest diagnosis?

(A) Lymphangioleiomyomatosis
(B) Takayasu's arteritis
(C) Sarcoidosis
(D) Osler-Weber-Rendu syndrome

012. In the staging of pleural mesothelioma, which of the following constitutes T4 disease?

(A) Invasion of a rib
(B) Invasion of the endothoracic fascia
(C) Invasion of mediastinal fat
(D) Invasion of the soft tissue of the chest wall

013. When optimising a CT study of the aorta, which of the following would not improve arterial enhancement?

(A) Increasing the injection flow rate
(B) Increasing the Iodine concentration
(C) Increasing the duration of the injection
(D) Increasing the cardiac output

014. A 76 year old man presents with central chest pain. He is haemodynamically stable and undergoes a thoracic CT study which demonstrates a hyper dense crescent in the wall of the descending thoracic aorta on the unenhanced study, which does not change following the administration of intravenous contrast medium. What is the most likely diagnosis?

(A) Aortic dissection
(B) Atherosclerosis
(C) Intramural haematoma
(D) Vasculitis

015. You are asked to review a follow-up CT for a patient' with a metastatic carcinoma. The initial CT showed 2 pulmonary lesions, measuring 6 and 4 cm respectively. The current CT shows 3 lesions, each measuring 2 cm. How should you classify the response?

(A) Complete response
(B) Mixed response
(C) Partial response
(D) Progressive disease

016. Which of the following is not a feature of idiopathic pulmonary fibrosis at CT?

(A) Ground glass opacification
(B) Tractional dilatation of the airways
(C) Honeycombing
(D) Basal predominance

017. An 18 year old man presents with a long history of recurrent pneumonias. CXR shows a 6 cm right lower lobe cystic lesion with an air/ fluid level within it. Contrast enhanced CT shows a single lesion containing fluid of water density along with higher attenuation material within it. A single aberrant vessel arising from the distal thoracic aorta is seen to enter the lesion. Angiography confirms this vessel and also demonstrates venous drainage via the pulmonary veins into the left atrium. What is the most probable diagnosis?

(A) Intralobar sequestration
(B) Extra lobar sequestration
(C) Lateral thoracic meningocoele
(D) Extramedullary haematopoiesis

018. Regarding the primary cardiac tumour myxoma, which of the following statements is true?

(A) 40% occur in the right atrium
(B) Enlargement of the atrial appendage may be seen on CXR
(C) The majority are sessile
(D) Most tumours arise from the septum

019. A 46 year old man with a dry cough is referred for a CT of the thorax. This demonstrates multiple pulmonary nodules, each less than 4 mm in diameter, in a peri lymphatic and sub pleural distribution. What is the most likely diagnosis?

(A) Sarcoidosis
(B) Metastases
(C) Tuberculosis
(D) Varicella pneumonia

020. A 53 year old man presents with abdominal pain. A post-contrast abdominal CT examination is performed in the portal phase which reveals an enlarged aorta with an eccentric thrombosed channel, extending over 8 cm. Which of the following features makes a thrombosed aneurysm more likely than a chronic dissection?

(A) Involvement of the SMA
(B) Small aortic lumen
(C) Mural calcification displaced outwards
(D) Thrombus extending over 6 cm cranio-caudally

021. A 55 year old man presents with chest pain radiating to the back, the arm pulses are unequal, but the patient is haemodynamically stable. CXR shows a widened mediastinum, and non-contrast CT demonstrates crescentic high attenuation material along the outer wall of the distal descending thoracic aorta. Which of the following sub-classifications most accurately describes this dissection?

(A) Stanford A and DeBakey I
(B) Stanford B and DeBakey I
(C) Stanford B and DeBakey II
(D) Stanford B and DeBakey III

022. A patient undergoes myocardial perfusion imaging and you are shown the standard short axis view. Which part of the myocardium is uppermost as you look at it?

(A) Anterior wall
(B) Interventricular septum
(C) Posterior wall
(D) Inferior wall

023. With regard to cardiac CT imaging, which of the following statements is true?

(A) Prospective gating enables wall motion to be evaluated.

(B) Retrospective gating reduces dose in cardiac imaging.

(C) The coronary arteries are best evaluated during systole.

(D) Ejection fraction evaluation requires retrospective gating.

024. A 40 year old woman presents haemoptysis. CXR shows multiple cavitating lesions in both lungs. Needle biopsy confirms the lesions are metastatic. Which of the following is the least likely cause?

(A) Squamous cell carcinoma of the larynx

(B) Giant cell tumour of the distal femur

(C) Transitional cell carcinoma of the bladder

(D) Adenocarcinoma of the colon

025. A previously healthy 24 year old man presents following a RTA with pelvic and lower limb fractures. 3 days after admission he becomes progressively breathless and has a headache. Examination shows a petechial rash. CXR is normal; V/Q imaging demonstrates multiple peripheral sub segmental defects. What is the most likely diagnosis?

(A) Pulmonary embolism

(B) Pneumocystis infection

(C) Acute interstitial pneumonitis

(D) Fat embolism

026. Which of the following CT features indicates Primary pulmonary tuberculosis rather than Post primary pulmonary tuberculosis?

(A) Ghons Focus

(B) Bronchiectasis

(C) Cavitation

(D) Tree-in-bud opacification

027. With respect to Mycoplasma pneumoniae infection, which of the following statements is not true?

(A) It is the commonest bacterial cause of pneumonia

(B) It usually affects previously healthy individuals

(C) It usually affects the upper lobes

(D) Cavitation is not a feature

028. A 40-year-old male presents with shortness of breath. He also has lower back pain and stiffness of the spine. CXR shows bilateral upper-zone fibrosis with elevation of the hila. Spinal ligamentous ossification is also noted. HRCT shows peripheral interstitial changes with traction bronchiectasis and para septal emphysematous changes in the upper zones. What is the most likely diagnosis?

(A) Ankylosing spondylitis

(B) Reiter's syndrome

(C) Tuberculosis

(D) Sarcoidosis

029. In acute respiratory distress syndrome what is the first change usually seen on the chest radiograph?

(A) Confluent consolidation

(B) Pleural effusions

(C) Increased heart size with globular shape

(D) Patchy ill-defined opacities

030. A 56-year-old female patient presents with shortness of breath. CXR is unremarkable. HRCT shows mosaic perfusion with no air trapping on expiratory scan. What is the most likely diagnosis?

(A) Bronchiolitis Obliterans
(B) Cystic Fibrosis
(C) Hypersensitivity Pneumonitis
(D) Chronic thromboembolic disease

031. A 30 year old physically active young man undergoes a hip MR arthrogram for chronic pain that is worse during exercise. There was past history hip pain during his teenage years, which was not investigated. Images show a loss of the femoral head sphericity with abnormal morphology of the femoral head-neck junction with an associated acetabular labral tear. What is the underlying condition?

(A) CAM femoroacetabular impingement.
(B) Combined femoroacetabular impingement.
(C) Traumatic labral tear.
(D) Pincer femoroacetabular impingement.

032. Gorham's Disease is also known as

(A) Osteoblastosis
(B) Vanishing Bone Disease
(C) Vanishing Lung Tumor
(D) None of the above

033. Into which structure does the thoracic duct normally drain?

(A) Left Brachiocephalic vein
(B) Junction of left subclavian and internal jugular veins.
(C) Left subclavian vein.
(D) Superior vena cava.

034. A 28-year-old male is involved in a road traffic accident and sustains chest trauma. He has chest pain and bruising over the chest with reduced blood pressure. CXR shows a shift of the trachea to the right at T3 –4 level with depression of the left main bronchus and loss of clarity of the aortic knuckle. Which diagnosis should be considered?

(A) Aortic rupture
(B) Bronchial rupture
(C) Superior vena caval laceration
(D) Azygos vein injury

035. Which feature indicates orbital meningioma compared with optic nerve glioma?

(A) Straight optic nerve
(B) Rarely calcifies
(C) Absence of hyperostosis
(D) Widened optic canal

036. Which of the following is the most common cause of pulsatile tinnitus?

(A) Glomus tumour
(B) Cholesterol granuloma
(C) Dehiscent jugular bulb
(D) Carotid artery dissection

037. Which of the following most favours Ameloblastoma over Odontogenic keratocyst?

(A) Growth in buccolingual direction
(B) Growth in AP direction
(C) Non-expansile.
(D) High SI on T2

038. A 60-year-old woman with mild proptosis undergoes a CT which shows enlargement of the bellies of the medial, and to a lesser extent, lateral rectus muscle. Tendons appear normal. What is the most likely diagnosis?

(A) Idiopathic orbital myositis
(B) Orbital Cysticercosis
(C) Retro-orbital metastases
(D) Graves's ophthalmopathy

039. A 60-year-old with treated Squamous Cell Carcinoma of the oropharynx undergoes ultrasound neck to evaluate a new swelling. Which feature most likely indicates malignant nodes?

(A) Matting
(B) Calcification
(C) Peripheral vasculitis
(D) Hilar vascularity

040. A 40-year-old woman under investigation for hypoparathyroidism undergoes ultrasound of the neck. Which is the best answer regarding parathyroid adenoma?

(A) Usually indistinguishable from margin of thyroid gland
(B) High T1
(C) Usually hypodense on CT
(D) Typically hypoechoic nodules

041. Which of the following is least likely to suggest a malignant lesion in the breast?

(A) Thin halo
(B) Ill-defined margin
(C) Spiculated morphology
(D) Inhomogeneity

042. Which of the following is best at distinguishing fibroadenoma from a carcinoma?

(A) Poor reflectivity
(B) Homogenous echo pattern
(C) Ill-defined mass
(D) Absent far wall echoes

043. A 40-year-old with a Multiple Endocrine Neoplasia (MEN) syndrome has parathyroid hyperplasia with hyperparathyroidism recently diagnosed. Which of the following is a feature of MEN Type II rather than MEN Type I?

(A) Phaeochromocytoma
(B) Pancreatic islet cell tumour
(C) Pituitary gland tumour
(D) Adrenocortical adenoma

044. A 35-year-old woman presents with severe watery diarrhoea. She is hypokalaemic. A neuroendocrine tumour is diagnosed in the pancreatic body measuring 5cm. This is mildly hypervascular. Which of the following is the most likely diagnosis?

(A) VIPoma (Verner Morrison Syndrome)
(B) Somatostatinoma
(C) Gastrinoma
(D) Glucagonoma

045. A middle-aged female presents with unilateral proptosis. CT of the orbits reveals an intraconal mass with involvement of the lateral rectus muscle to its point of tendinous insertion. The lesion enhances post-contrast injection. MRI shows a mass which is hypointense to fat on T2. What is the most likely diagnosis?

(A) Thyroid ophthalmopathy
(B) Lymphoma
(C) Cavernous haemangioma
(D) Pseudotumor

046. A 20 year old female is under investigation for periodic halitosis. A CT scan reveals a well-defined, hypodense mass located between the Longus colli muscles. There is no enhancement post-contrast injection. MRI demonstrates a midline cystic structure in the posterior roof of the nasopharynx. It shows high signal intensity on both T1 and T2 sequences. The most likely diagnosis is

(A) Benign polyp
(B) Rathke's pouch cyst
(C) Ranulas
(D) Tornwaldt's cyst

047. A 45 year old woman undergoes investigation for conductive hearing loss. History reveals several previous ear infections. Direct visualisation with an otoscope shows a mass behind an intact tympanic membrane. Coronal CT imaging demonstrates a soft-tissue mass located between the lateral attic wall and the head of the malleus. There is blunting of the scutum. The mass does not enhance post-contrast. What is the most likely diagnosis?

(A) Chronic otitis media
(B) Cholesterol granuloma
(C) Cholesteatoma
(D) Squamous cell carcinoma

048. A 52 year old man with known chronic myeloid leukaemia complains of left-sided facial pain. Plain radiographs show a poorly defined lytic lesion centred over the left maxilla. Further imaging with CT and MR demonstrates an enhancing, homogeneous mass with infiltrative margins, which returns intermediate signal on T1 and T2 sequences. The most likely diagnosis is

(A) Granulocytic sarcoma
(B) Lymphoma
(C) Osteomyelitis
(D) Myeloma

049. A 28 year old woman presents with a mass in her neck. She gives a history of multiple parotid abscesses which have been refractory to drainage and antibiotics. The mass is located at the anteromedial border of her right sternocleidomastoid muscle. Ultrasound demonstrates a compressible mass with internal debris which is devoid of internal flow on Doppler imaging. MRI shows a cystic mass consisting of a curved rim of tissue pointing medially between the internal and external carotid arteries. There is slight capsular enhancement. What is the most likely diagnosis?

(A) Cervical abscess
(B) Second branchial cleft cyst
(C) Submandibular gland cyst
(D) Necrotic inflammatory lymphadenopathy

050. Regarding radionuclide imaging of thyroid cancers, which radiological finding best fits the diagnosis?

(A) Usually concentrates radioiodine – follicular carcinoma
(B) Usually concentrates pertechnetate – papillary carcinoma
(C) Usually concentrates pertechnetate and radioiodine – papillary carcinoma
(D) No radioiodine or pertechnetate uptake but frequently concentrates thallium-201 – medullary carcinoma

051. A 48-year-old woman presents with symptoms of hyperparathyroidism. Radionuclide and ultrasound imaging suggest the cause is a solitary parathyroid adenoma. The surgeon requests further localisation with MRI prior to surgery. Which imaging sequence and plane would you choose as the most sensitive for detection of the adenoma?

(A) T1-weighted in the axial plane
(B) T2-weighted in the coronal plane
(C) FLAIR in the coronal plane
(D) T2 fat-suppressed in the axial plane

052. A 50 year old woman presents with a palpable lump in her neck. Imaging demonstrates a malignant-looking mass in the thyroid gland. Which of the following findings would direct you towards a confident diagnosis?

(A) Complex mass with areas of necrosis – papillary carcinoma
(B) Calcified lymph nodes – medullary carcinoma
(C) Osteosclerotic bone metastases – follicular carcinoma
(D) Intra tumoural calcifications – anaplastic carcinoma

053. A 38 year old gentleman presents with a dull ache in his jaw. There is minor swelling over the left mandible. Plain radiographs demonstrate an expansile, multilocular, radiolucent lesion with internal septations involving the left body of the mandible. It is associated with an impacted tooth. CT shows infiltration of the adjacent soft tissues. There are no discernible foci of calcification. What is the most likely diagnosis?

(A) Odontogenic myxoma
(B) Dentigerous cyst
(C) Odontogenic keratocyst
(D) Ameloblastoma

054. A middle-aged gentleman is diagnosed on imaging with suspected laryngeal carcinoma. Which of the following factors would favour a diagnosis of adenoid cystic carcinoma over squamous cell carcinoma?

(A) Propensity for nerve invasion
(B) Involvement of regional neck lymph nodes
(C) Invasion through laryngeal cartilage
(D) Supraglottic extension

055. A seven-year-old boy presents with pain in his neck. His mother thinks she can feel a lump. Ultrasound shows a thick-walled cyst with internal echoes. It has a paramedian location within the strap muscles. MRI shows a heterogeneous cystic mass measuring 3 cm in diameter. It demonstrates high signal on T1 and contains areas of low signal on T2. There is marked enhancement of the wall after administration of gadolinium. What is the most likely diagnosis?

(A) Infected thyroglossal duct cyst
(B) Lymphangioma
(C) Branchial cleft cyst
(D) Teratoma

056. A three week old girl is investigated for a right orbital mass. CT shows a diffuse, poorly marginated mass in the superior temporal quadrant of the orbit. It is separate from the globe and the mass shows diffuse enhancement post-contrast injection. On MRI, the mass is hypointense to fat on T1 but hyperintense on T2. On both sequences, low-signal curvilinear foci are seen within it. What is the most likely diagnosis?

(A) Lymphangioma
(B) Rhabdomyosarcoma
(C) Cavernous haemangioma
(D) Capillary haemangioma

057. You are asked to provide an opinion on skull and facial radiographs of an infant. The history provided is recent fall, known dwarfism. The radiographs show brachycephaly, widened sutures, relatively large sella, wormian bones, delayed dentition, decreased pneumatisation of the paranasal sinuses and hypertelorism. No fracture is demonstrated. What is the most likely diagnosis?

(A) Cleidocranial dysostosis
(B) Hypophosphatasia
(C) Hypothyroidism
(D) Achondroplasia

058. A young patient is diagnosed with multiple endocrine neoplasia (MEN) Type III (also known as type 2b) after an episode of bowel obstruction. Which one of the following features would he be unlikely to have or develop in the future with this diagnosis?

(A) Medullary carcinoma of the thyroid
(B) Marfanoid appearance
(C) Mucosal neuromas of the small bowel
(D) Facial Angiofibromas

059. A 60-year-old male with a history of prostate cancer is referred to the symptomatic breast clinic complaining of a palpable breast lump which has been present for several months. Clinical examination reveals a palpable firm mass towards the left sub areolar region. A nodular, fan-shaped sub areolar lesion is seen on mammography. The mass is hypoechoic on ultrasound and surrounded by normal fatty tissue. Hyper vascular flow within the mass is noted on Doppler ultrasound. Which of the following is the most likely diagnosis?

(A) Invasive ductal carcinoma
(B) Lipoma
(C) Gynaecomastia
(D) Lymphoma

060. A 56-year-old asymptomatic woman undergoes routine screening mammography. Which of the following forms of calcification raises greatest suspicion of ductal carcinoma in situ (DCIS)?

(A) Egg-shell
(B) Sedimented
(C) Tubular
(D) Dot-dash

061. Which of these is not Mucopolysacharidoses?

(A) Hurler Syndrome.
(B) Huntingdon ‘s Disease
(C) Hunter’s Disease
(D) San Filipo Disease

062. A 48-year-old woman who had bilateral breast augmentation with single lumen silicone gel implants 20 years ago present with pain in her left breast and distorted breast shape. Which of the following radiological findings on T2WI MRI are in keeping with intra capsular implant rupture?

(A) Thickened T2WI hypo intense capsular margin
(B) T2WI hyper intense globules surrounding the implant
(C) Multiple curvilinear lines of low T2WI signal within the implant
(D) Inferior extension of the implant beyond the inframammary fold

063. A 60-year-old woman presents with a palpable lump in her right breast. Her recent screening mammogram 6 months previously was negative. Clinical examination reveals a subtle mass in the right lower quadrant. Which of the following mammographic findings is the least likely in invasive lobular carcinoma (ILC)?

(A) Spiculated mass
(B) Architectural distortion
(C) Macro calcification
(D) Nipple retraction

064. Which of the following is not component of POEMS syndrome?

(A) Monoclonal Gammopathy
(B) Sclerotic bone lesions
(C) Hepatosplenomegaly
(D) Multiple small bowel polyps

065. A 25-year-old baseball player presents with a history of worsening pain, diffuse oedema and discolouration of the right upper limb following a game. Doppler ultrasound demonstrates occlusion of the axillary and subclavian veins. He undergoes catheter-directed thrombolysis successfully. Check venogram demonstrates external compression from scalenus muscle. What is the diagnosis?

(A) May–Thurner syndrome
(B) Nutcracker syndrome
(C) Paget–Schroetter syndrome
(D) Trousseau syndrome

066. An 18-year-old male with fingernail dysplasia and a family history of renal failure is investigated for possible nail-patella syndrome. Which of the following radiographic findings is considered pathognomonic for this disorder?

(A) Patellar hypoplasia
(B) Lateral elbow hypoplasia
(C) Posterior iliac horns
(D) Calcaneo-valgus feet

067. A 34-year-old man is admitted with sudden onset chest pain described as tearing in nature. Clinical examination reveals a diastolic murmur consistent with aortic regurgitation. Subsequent chest CT confirms ascending aortic dissection. He has a past medical history of spontaneous pneumothorax. Despite a negative family history, an underlying diagnosis of Marfan syndrome is suspected. Which of the following musculoskeletal manifestations is required for this diagnosis to be made?

(A) Joint hypermobility
(B) Pectus excavatum of moderate severity
(C) Reduced upper-to-lower segment ratio
(D) All of the above

068. An antenatal ultrasound of foetus at 20 weeks gestation reveals an occipital encephalocele. Foetal MRI demonstrates bilateral enlarged kidneys with cystic dysplasia and polydactyly. What is the diagnosis?

(A) Autosomal recessive polycystic kidney disease
(B) Bardet–Biedl syndrome
(C) Meckel Gruber syndrome
(D) Zellweger syndrome

069. A 60-year-old female presents with a history of facial pain and diplopia. Clinical examination reveals palsies of the III, IV, and VI cranial nerves, Horner's syndrome, and facial sensory loss in the distribution of the ophthalmic and maxillary divisions of the trigeminal (V) cranial nerve. Where is the causative abnormality located?

(A) Dorello's canal
(B) Cavernous sinus
(C) Superior orbital fissure
(D) Inferior orbital fissure

070. Which of these is a source of Doppler imaging artefacts?

(A) Doppler frequency
(B) Increased spectral broadening
(C) Increased in aliasing
(D) All of the above

071. Within how many days does any person aggrieved by the decision of State Medical Council on any complaints against the delinquent physician have right the file an appeal to MCI according to Indian Medical Council Regulations 2002.

(A) 30
(B) 60
(C) 90
(D) 100

072. According to Indian Medical Council Regulations 2002, every physician shall have to maintain the medical records pertaining to his/her indoor patients for a period of how many years from the date of commencement of treatment?

(A) 1
(B) 2
(C) 3
(D) 4

073. Indian Medical Council Regulations 2002, Chapter 2 includes_____

(A) Codes of medical ethics
(B) Duties of the physicians to their patients.
(C) Duties of physician in consultation
(D) Responsibilities of physicians to each other

074. Indian Medical Council Regulations 2002 states that the duties and responsibilities of physician in general include

(A) Maintaining a good medical practice (B) Maintenance of medical record

(C) Display of registration numbers (D) All of the above

075. Functional MRI is based on the principle of.

(A) BOLD (B) DWI

(C) FLAIR (D) SWI

076. In dual energy CT imaging, imaging prerequisite is

(A) Near simultaneous acquisition of high and low energy data set

(B) Data acquisition with continuous high potential application for single tube

(C) Using two separate x-ray tubes having same kilo-voltage setting

(D) None of the above

077. In CT perfusion technique, contrast attenuation curve within the tissue and its afferent and efferent vessels is used to measures all the following parameters except

(A) Blood volume (B) Blood flow

(C) Mean transit time (D) Blood pressure

078. Principle of Chemical shift phenomenon is used in the

(A) MR elastography (B) MR spectroscopy

(C) MRI perfusion imaging (D) Functional MRI

079. Background concept behind the Time of flight MR Angiography was first introduced by

(A) Laub (B) Grainger

(C) Lauterbur PC (D) Rosen BR

080. Agent used for the lung perfusion scintigraphy technique

(A) K19 labelled protein micro-particles

(B) 99mTc labelled protein micro-particles

(C) N7 labelled protein micro-particles

(D) Ca 20 labelled protein micro-particles

081. SPECT Stand for

(A) Single photon emission CT technique

(B) Single potassium emission CT technique

(C) Simple photon emission CT technique

(D) Simple potassium emission CT technique

082. USG elastography is used for the diagnosis of

(A) Diagnosis of breast pathology (B) Liver cirrhosis

(C) Characterisation of thyroid nodule (D) All of the above

083. Ultrasound plays a role in tissue ablation therapy in the form of following technique

(A) Elastography (B) HIFU

(C) M mode USG (D) Power Doppler

084. Magnetic resonance Cholangio-pancreatography (MRCP) is based on the principle of using

(A) Heavily T2W images **(B)** Heavily T1W images

(C) SWI images **(D)** FLAIR images

085. Diffusion tensor imaging is

(A) Based on the anisotropic diffusion of water molecule

(B) Based on the isotropic diffusion of water molecule

(C) Inflow enhancement is a principle

(D) Chemical shift is used

086. MRCP is

(A) Magnetic resonance Cholangiopancreatography

(B) Magnetic resonance Cholangioportography

(C) Magnetic resonance colono-portography

(D) Magnetic resonance colono-pancreatography

087. MR Urography uses following sequences

(A) VIBE **(B)** THRIVE

(C) LAVA **(D)** All of the above

088. Following are the sequences used in MRCP except

(A) 3D FSE sequence **(B)** Single Shot FSE

(C) Double Shot FSE **(D)** Secritin MR Cholangiopancreaticography

089. Clinical applications of Cardiac MRI are all except

(A) Congenital Heart Disease **(B)** Valvular Heart Disease

(C) Cardiomyopathies **(D)** Distal Coronaries and its branches

090. An Absolute Contraindication to Uterine Artery Embolization is

(A) Malignancy **(B)** Previous Internal iliac Artery Ligation

(C) Adenomyosis **(D)** Menopause

091. Following are technologies pertaining to Dual energy CT except

(A) Single Source Dual Energy CT

(B) Dual Source Dual Energy CT

(C) Single Source Single Energy CT

(D) Single Source Dual Energy Scanner with dual detector layers

092. Nutcracker Syndrome is

(A) Extrinsic compression of the left renal artery

(B) Extrinsic compression of the left renal vein

(C) Extrinsic compression of the Right renal artery

(D) Extrinsic compression of the Right renal vein

093. Magnetic resonance arthrography

(A) Involves passive distension of joint space followed by MR imaging of joint

(B) Allows better visualisation of joint space, labrum.

(C) Is used in diagnosis of recurrent dislocation of shoulder joint.

(D) All of the above

094. In Functional MRI

(A) Mapping of particular area responsible for particular task is done

(B) Chemical shift imaging is used

(C) T1W EPI sequence is used

(D) DWI sequence is used

095. In MR urography dynamic T1W 3D GRE sequence used is

(A) VIBE (B) DWI

(C) LARA (D) SWI

096. Which of the following is not true about MRCP

(A) Liver based contrast is mandatory (B) Heavily T1W imaging is used.

(C) DWI imaging is used. (D) FLAIR imaging is used

097. In MRI perfusion imaging, mismatch between PW and DW indicates

(A) Normal tissue (B) Salvageable tissue

(C) Dead tissue (D) Calcified tissue

098. Epidermoid cyst is differentiated from arachnoid cyst by

(A) Diffusion restriction by epidermoid cyst on DWI

(B) Diffusion restriction by arachnoid cyst on DWI

(C) Diffusion restriction by arachnoid cyst on SWI

(D) None of the above

099. In MR spectroscopy, NAA peak is seen at

(A) 2.02 ppm (B) 3.01 ppm

(C) 3.21 ppm (D) 11.11 ppm

100. In MR spectroscopy, increased in NAA seen in

(A) Alzeimer's disease (B) Brain infarction

(C) Canavan's disease (D) Herpes Encephalitis

101. Susceptibility imaging is

(A) T2* W (B) T1W

(C) DWI (D) None of the above

102. Which of these is an absolute contraindication for MRI

(A) Pregnancy (B) Renal Failure

(C) tTitanium Implant (D) Presence of pacemaker

103. Breath holding sequence used in MRCP study is

(A) FIESTA (B) DWI

(C) SWI (D) FLAIR

104. Strain Ultrasound elastography study provides

(A) Indication of relative tissue stiffness (B) Quantitative estimate of tissue volume

(C) Relative tissue smoothness (D) None of the above

105. A 25 year old female on first trimester dating scan show twin pregnancy with gestational age of around 9 weeks. Two weeks later she came with complaint of per vaginal bleeding. On transvaginal ultrasound scan there is only one gestational sac and no evidence of twin. What is this condition called as?

(A) Foetus papyraceus
(B) Vanishing twin
(C) Immune fetal hydrops
(D) Non-immune fetal hydrops

106. During fetal anomaly scan at 20 weeks of gestational age there is evidence of very thin (less than 1 mm) of myometrium between placenta and serosal wall of uterus. On further evaluation with MRI, T2W images show heterogeneously hyperintense placenta causing junctional zone interruption with significant focal myometrial thinning however serosa appear intact. Which of the following is the most likely diagnosis?

(A) Placenta increta
(B) Placenta percreta
(C) Placenta praevia
(D) Placental abruption

107. While performing fetal anomaly scan at 20 weeks of gestation a radiologist noticed finding of single umbilical artery. With which of the following condition is this finding is most commonly associated?

(A) Turner's syndrome
(B) Trisomy 18
(C) Trisomy 13
(D) Down's syndrome

108. Which of the following is a major marker for trisomy 21 during antenatal ultrasound scanning?

(A) Echogenic bowel before 20 weeks
(B) Rocker Bottom feet
(C) Brachycephaly
(D) Hydrothorax

109. At the time of antenatal scan of twin pregnancy a radiologist noticed finding of entanglement of umbilical cords. With which type of twin pregnancy is this finding associated?

(A) Dizygotic; both intrauterine
(B) Monozygotic; dichorionic diamniotic
(C) Monozygotic; monochorionic diamniotic
(D) Monozygotic; monochorionic monoamniotic

110. A 65 year old female came with history of lower abdominal pain. On pelvic ultrasound scan there is evidence of large cystic lesion in left ovary of size 12 cm with thick irregular wall, frond like solid component and multiple thick septations (>3 mm). These sonographic findings consistent with which of the following?

(A) Follicular cyst
(B) Polycystic ovaries
(C) Benign ovarian neoplasm
(D) Malignant ovarian neoplasm

111. A 16 year old girl came to gynaecology OPD with history of primary amenorrhea. On clinical examination there is hypo plastic upper/middle vagina. MRI pelvis show absent uterus but normal tubes and ovaries. These findings are seen in which of the following condition?

(A) Uterus didelphys
(B) Unicornuate uterus
(C) Mayer-Rokitansky-Küster-Hauser syndrome
(D) Septate uterus

112. A 65 year old female came to OPD with complain of lower abdominal pain. She gave history of taking of medication for some disease. On MRI pelvis, there is evidence of right adnexal mass with fluid-fluid levels without any fat suppression. There is also finding of widened junctional zone with multiple tiny hyper intense foci on T2W images. For which of the following disease she is likely to be taking medication ?

(A) Deep venous thrombosis
(B) Endometrial cancer
(C) Breast cancer
(D) Bipolar disorder

113. A 46 year old pregnant female has complaints of hyperemesis gravidarum and raised b-HCG levels. On ultrasound there is evidence of large for date uterus with heterogeneously hyperechoic soft tissue and multiple tiny cysts filling uterine cavity. Which of the following finding supports diagnosis of complete hydatidiform mole as compared to any other gestational trophoblastic disease?

(A) No fetal parts
(B) Dysmorphic fetus
(C) Pelvic lymph node involvement
(D) Lung metastases

114. A 25 year old female develops right sided lower abdominal pain and breathlessness on 3rd postpartum day. On CT Pulmonary angiography there is evidence of pulmonary embolus. Bilateral lower limb venous Doppler study is normal. Which of the following diagnosis is most likely?

(A) Appendicitis
(B) Right ovarian vein thrombosis
(C) Torsion of ovarian cyst
(D) Broad ligament haematoma

115. While performing antenatal ultrasound scan a radiologist noticed unusual placental morphology. An additional small lobule is seen which is separate from the main bulk of placenta. What is this variant of placental morphology known as?

(A) Circumvallate placenta
(B) Bilobed placenta
(C) Placenta membranacea
(D) Succenturiate placenta

116. A 25 year old female came with lower abdominal pain and is approximately 5 weeks post last menstrual period (LMP). Her UPT is positive and b-HCG levels are raised. On transvaginal ultrasound scan there is no evidence of adnexal mass or free fluid on either side. Which of the following finding would you look for to rule out ectopic pregnancy?

(A) Pseudogestational sac
(B) Normal endometrium
(C) Trilaminar endometrium
(D) Double decidual sac sign

117. A 65 year old female has history of uterine fibroids. Clinically there has been rapid increase in uterine size. On transvaginal ultrasound scan findings appear like large myometrial fibroid. Which of the following diagnosis need to be considered in this patient?

(A) Lipoleiomyoma
(B) Endometrial hyperplasia
(C) Adenomyoma
(D) Leiomyosarcoma

118. A 26 year old female is undergoing investigations for infertility. On laboratory investigations she has increased androgen levels and increased LH: FSH hormone ratio. On transvaginal ultrasound scan both ovaries are bulky with multiple tiny follicles. Which of the following is the most likely reason for the patient's infertility?

(A) Cervical fibroids
(B) Hostile cervical mucus
(C) Polycystic ovarian disease
(D) Bilateral ovarian endometriosis implants

119. A 75 old female came with history of PV bleeding since 6 months. Transvaginal ultrasound scan show ill-defined significantly thickened endometrium. Endometrial biopsy of this patient confirms diagnosis of endometrial adenocarcinoma. MRI pelvis report mentioned stage T4 of disease. Which of the following MRI feature is suggestive of this stage?

(A) Disease limited to the endometrium

(B) Cancer invasion evident into the outer half of the myometrium

(C) Bladder mucosal involvement

(D) Paraaortic lymph node involvement

120. On midline sagittal T2W MR Images of uterus of a 25 year young female, the endometrium, junctional zone and outer myometrium are clearly seen. From innermost to outermost, which of the following signal intensities best describes the normal uterus?

(A) High, intermediate, low

(B) High, low, intermediate

(C) Intermediate, high, low

(D) Intermediate, low, high

121. A 55 year old female undergoes routine screening mammography. Which of the following form of calcification is most suspicious for ductal carcinoma in situ (DCIS)?

(A) Egg-shell

(B) Tram-track

(C) Fine linear

(D) Coarse

122. A 32 year old female with family history of breast cancer and BRCA1 positive status undergoes surveillance MRI. MRI shows mass lesion in left breast. Which of the following finding is most predictive for malignancy?

(A) Irregular margi.

(B) T2WI signal hyperintensity

(C) Progressive enhancement curve on dynamic T1WI post contrast

(D) Persistent enhancement curve on dynamic T1WI post contrast

123. A 32 year old male came with history of RTA 2 years ago during which he sustained urethral injury and now recurrent UTI episodes. On ultrasound scan there is bilateral mild pelvic dilatation with significant post void residue. On further evaluation with voiding cystourethrogram (VCUG) which reveals reflux into the renal pelvis bilaterally with mild ureteric and pelvic dilatation, but no calyceal dilatation and preserved forniceal angles. What grade of reflux does this patient have?

(A) 1

(B) 2

(C) 3

(D) 4

124. A 45 year old female on ultrasound scan shows large mixed echogenicity mass lesion of approximate size 12 x 10 cm in left flank region. On further evaluation with CECT this lesion appear as predominantly fatty exophytic mass from left kidney. Which of the following findings favours the diagnosis of large renal angiomyolipoma over a perirenal well differentiated retroperitoneal liposarcoma?

(A) Mass effect with displacement of the left kidney

(B) Aneurysmal blood vessels within the lesion

(C) Soft-tissue density areas within the lesion

(D) Ill-defined margins

125. A 2 day old male neonate with cryptorchidism with known findings of dilated bladder and ureters on antenatal scans is referred for a micturating cystourethrogram (MCUG). MCUG reveals a dilated bladder, tortuous and dilated ureters, dilated posterior urethra, and renal cortical thinning. Note is also made of bulging flanks. What is the diagnosis?

(A) Congenital megacystis and megaureter

(B) Bilateral vesicoureteric reflex

(C) Eagle Barrett syndrome

(D) Meatal stenosis

126. A 23 year old male presents with a history of dislocation and spontaneous relocation of the patella while playing football. On MRI Knee Bone edema in which of the following locations is consistent with the clinical history of patellar dislocation?

(A) Posterior patella and anterior aspect of the tibial plateau

(B) Lateral facet of patella and lateral femoral condyle

(C) Lateral facet of patella and medial femoral condyle

(D) Medial facet of patella and lateral femoral condyle

127. A 29 year old male presents with soft tissue swelling, pain, and reduction of motion in the small joints of his hands. Plain films of the hands show erosions at the metacarpophalangeal (MCP) joints and distal interphalangeal joints with periosteal reaction and enthesophytes. What is the most likely diagnosis?

(A) Psoriatic arthropathy (B) RA

(C) SLE (D) Haemochromatosis

128. A 15 year old girl with a congenital condition, confined to a wheelchair, complains of a sore knee. A radiograph revealed a long gracile femur and tibia, indicating undertubulation of the bone. What is the most likely cause for this appearance?

(A) Arthrogryposis multiplex congenital (B) Gaucher's disease

(C) Cerebral palsy (D) Juvenile RA (JRA)

129. A 61 year old male with a known diagnosis of bronchogenic carcinoma presents with pain and swelling of his wrists. What radiographic features are consistent with hypertrophic pulmonary osteoarthropathy?

(A) Metaphyseal lamellar periosteal reaction

(B) Irregular epiphyseal periosteal proliferation

(C) Asymmetrical, thick 'feathery' periosteal reaction

(D) Cortical thickening and trabecular coarsening

130. Anterior scalloping of vertebral bodies is not found in which of the following?

(A) Lymphadenopathy (B) Down's syndrome

(C) Acromegaly (D) Aortic aneurysm

131. The radiograph of an 8 year old boy with untreated dietary Vitamin D deficiency reveals cupping and fraying of the distal tibial metaphysis. Which radiological finding is a recognized feature of this condition?

(A) Cortical sclerosis involving the margin of the epiphysis

(B) Expansion of the costochondral junctions

(C) Exuberant periosteal reaction

(D) Metaphyseal spurs

132. A 60 year old woman with history of fall onto her right wrist. Initial radiograph shows an extra-articular fracture of the right distal radius, with volar subluxation of the distal fragment. Which eponymous fracture type best matches this description?

(A) Barton's fracture
(B) Colles' fracture
(C) Smith's fracture
(D) Reverse Barton's fracture

133. A 31 year old women presents to her general practitioner with fatigue and painful stiff knees. She is subsequently found to be anaemic. Plain films show an Erlenmeyer flask deformity of the distal femora with cortical thinning. There are no erosions. What is the most likely underlying condition?

(A) Mucopolysaccharidosis
(B) Rheumatoid arthritis
(C) Gaucher's disease
(D) Langerhans' cell histiocytosis

134. In a patient with Arachnodactyly, what feature would suggest Marfan's syndrome over Homocystinuria?

(A) Autosomal recessive inheritance
(B) Osteoporosis
(C) Upward lens dislocation
(D) Biconcave vertebra

135. A middle-aged man with no significant medical history undergoes a radiograph of the pelvis for localized tenderness following a fall. Multiple longitudinally orientated, 2–10 mm rounded densities similar to cortical bone are seen throughout the cancellous bone, in a diffuse symmetrical pattern concentrated around the acetabulum. There is no fracture. What is the most likely diagnosis?

(A) Osteopathia striata
(B) Osteopetrosis
(C) Bone metastases
(D) Osteopoikilosis

136. A female adult patient with right shoulder pain is shown to have multiple markedly expansile lytic lesions within the scapula and clavicle secondary to metastatic malignant spread. Which of the following is most likely to be the primary site of malignancy?

(A) Renal
(B) Breast
(C) Cervical
(D) Colon

137. In the spectrum of perilunate ligamentous injuries and instability, volar tilt of the lunate, seen as a triangular or 'pie-shaped' lunate on the AP projection of the wrist, is most commonly a feature of which of the following?

(A) Scapho lunate dissociation
(B) Lunate dislocation
(C) Volar intercalated segmental instability
(D) Dorsal intercalated segmental instability.

138. Which of the following skeletal findings on plain radiographs is not typically associated with achondroplasia?

(A) Short interpedicular distance
(B) Atlantoaxial instability
(C) Rhizomelia
(D) Horizontal acetabular roof

139. An 8-year-old boy who is a known case of Osteochondromatosis presents with a solid lump close to his knee. What radiological finding is likely?

(A) Bony spurs pointing away from the joint
(B) Hemangioma
(C) Endosteal reaction
(D) Cartilaginous rest

140. A 78 year old woman has left hip pain following a fall. On examination the left hip is shortened and externally rotated. X-rays show a fracture of the left neck of femur. Which of the following fractures is at highest risk of avascular necrosis?

(A) Basi-cervical
(B) lnter-trochanteric
(C) Sub-capital
(D) Trans-cervical

141. A 45 year old man has an acute episode of shortness of breath. CXR shows concave scalloping of the undersurface of the right 2nd and 3rd ribs and slight scoliosis of the inferior aspect of the thoracic spine, but the lung parenchyma is clear. Which of the following is the most likely cause of these appearances?

(A) Marfan's syndrome
(B) Neurofibromatosis Type I
(C) SLE
(D) Scleroderma

142. A patient presents with back pain. He is found to be HLA- B27 positive and a diagnosis of ankylosing spondylitis is suspected. Plain films of the spine are requested. Which of the following would be the least supportive of this diagnosis?

(A) Calcification of the spinal ligament
(B) Peripheral joint involvemen.
(C) Syndesmophytes
(D) Ankylosis of the costovertebral joints

143. A 29 year old male presents following blunt abdominal trauma following a motor vehicle accident. Which is the most common CT finding in the 'shock bowel'?

(A) Increased small bowel mucosal enhancement
(B) Small bowel luminal dilation
(C) Fluid-filled loops of small bowel
(D) Focal involvement of the small bowel

144. How would you differentiate Inactive/ Chronic Crohn's disease from Acute Crohn's disease?

(A) Mural stratification
(B) Mural hyperenhancement and comb sign
(C) Mesenteric fat stranding
(D) Submucosal fat deposition and pseudosacculation

145. A young man presents with severe central chest pain following an episode of vomiting. He has history of drinking alcohol the night before. The CT shows an eccentric hyperattenuating mass within the wall of the oesophagus. Which of these is the most likely diagnosis?

(A) Mallory-Weiss tear
(B) Boerhaave syndrome
(C) Transmural perforation
(D) Intramural haematoma

146. What is the most common site of involvement in Tuberculosis of the gastrointestinal tract ?

(A) Stomach
(B) Duodenum
(C) Ileocaecal region
(D) Splenic flexure

147. Which of the following is correct regarding carcinoid of the GI tract?

(A) Cell of Origin is interstitial cell of Cajal
(B) Stomach is the most common site
(C) They are always multiple.
(D) Desmoplastic reactions and calcifications are seen

148. A small bowel series is requested for a patient who has a history of systemic sclerosis. Which of the following is pathognomonic?

(A) Hidebound bowel sign

(B) Pseudo-diverticula affecting the anti-mesenteric side of the bowel

(C) Decreased intestinal transit time

(D) Pneumatosis intestinalis

149. A patient is undergoing a barium meal. What is the best position to place the patient in to see an en face view of the lesser curvature?

(A) Left anterior oblique (LAO)

(B) Supine

(C) Right anterior oblique (RAO)

(D) Right lateral

150. A 33 year old woman with mucocutaneous pigmentation on the hands and feet and in a circum oral distribution presents with cramping abdominal pain. She has iron deficiency anaemia. Abdominal radiograph suggested small bowel obstruction. Contrast-enhanced CT demonstrates jejunal intussusception. The most likely diagnosis is

(A) Familial adenomatous polyposis

(B) Peutz–Jeghers syndrome

(C) Leiomyoma small bowel

(D) Small bowel carcinoma

151. A 19 year old male with a recent history of medulloblastoma now presents with vague abdominal pain, PR bleeding, and weight loss. Innumerable colonic polyps are demonstrated on colonoscopy. What is the most likely unifying diagnosis?

(A) Familial adenomatous polyposis

(B) Turcot syndrome

(C) Gardner syndrome

(D) Lynch syndrome

152. Where do gastrointestinal stromal tumours (GIST) most commonly arise?

(A) Oesophagus

(B) Stomach

(C) Small intestine

(D) Appendix

153. An eight-year-old girl presented with history of abdominal pain and vomiting for a month. On abdominal ultrasound, a cyst with an inner echogenic layer and outer hypoechoic layer of muscle in the region of the greater curvature of the stomach is noted. What is the most likely diagnosis?

(A) Mesenteric cyst

(B) Oesophageal duplication cyst

(C) Gastric duplication cyst

(D) Pancreatic pseudocyst

154. Which of the following is not a feature of Hyptertrophic pyloric stenosis?

(A) Single wall pyloric thickness of >3 mm

(B) Pyloric length of >16 mm

(C) 'Shoulder' sign

(D) Bilious projectile vomiting

155. When the current flowing through a wire reverses direction, what happens to the magnetic field around the wire?

(A) Does not change

(B) Increases

(C) Disappears

(D) Reverses direction

156. Which of the following materials is paramagnetic ?

(A) Water

(B) Fat

(C) Air

(D) Bone

157. The highest field in Tesla strength permitted for adults in routine clinical practice by the United States Food and Drug Administration (FDA) is

(A) 3.0 (B) 7.0

(C) 10.5 (D) 11.7

158. The temperature of liquid helium is

(A) 4 °K (B) 0 °K

(C) – 4 °K (D) – 400 °C

159. Which of the following is a disadvantage of high-field (e" 1.0 T) MR scanners ?

(A) Higher signal to noise

(B) Better detection of calcifications and hemorrhage

(C) Smaller artifacts around metallic implants

(D) Better magnetic field homogeneity

160. During a magnetic quench, why should patients and employees be evacuated from the scan room?

(A) Even in small quantities gaseous helium causes burning and irritation to the eyes

(B) Asphyxiation may occur

(C) Severe frostbite would be likely

(D) The released helium may catch fire or explode.

161. The superconducting component in the main windings of nearly all clinical MR scanners is an alloy of

(A) Niobium (Nb) and Titanium (Ti) (B) Niobium (Nb) and Copper (Cu)

(C) Nickel (Ni) and Titanium (Ti) (D) Nickel (Ni) and Copper (Cu)

162. Magnetic field gradients for imaging are typically measured in units of

(A) Millitesla per meter (mT/m) (B) Gauss per second (G/s)

(C) Tesla (T) (D) Tesla per meter per second (T/m-s)

163. How many sets of paired physical gradients are present in an MR scanner :

(A) 1 (B) 2

(C) 3 (D) 6

164. Radiofrequency shielding of the MRI scanner room is most commonly achieved by lining the walls with thin sheets of

(A) Iron (B) Aluminum

(C) Copper (D) Lead

165. The most common location for RF-leakage into the scanner room is

(A) Around the door

(B) Along seals of the scanner window

(C) At the penetration panel

(D) Along the junction of copper plates in the scanner room's walls

166. Which of the following components of an MR system is typically not located in an adjoining equipment room:

(A) RF-power amplifiers (B) Gradient amplifiers

(C) Helium pump (D) Gradient coils

167. Which statement about ACR Safety Zones 1 and 2 is correct ?

(A) Both Zones 1 and 2 lie outside the 5 Gauss line

(B) Patient safety screening is required before entering Zone 2

(C) The general public should not be admitted to Zone 1; it is only for MR patients and their families

(D) Patients with pacemakers can at risk if allowed to enter Zone 2

168. The loud noise produced by an MR system during a scan is primarily due to vibrations of

(A) Gradient coils (B) Radiofrequency coils

(C) Main magnet windings (D) Chiller and helium pump

169. Which one of the listed artifacts is not related to CT imaging?

(A) Photon starvation (B) Beam hardening

(C) Ghost artifacts (D) Cone beam artifact

170. Which ONE of the following radionuclides is used in gamma imaging for detection of tumors and abscesses?

(A) Xenon-133 (B) Krypton-81m

(C) Gallium-67 (D) Indium-111

171. Which of the following is not correct about of PACS ?

(A) Images are available almost instantaneously in any location

(B) Images can be viewed simultaneously in different locations.

(C) PACS means processing automatically by Computer Systems.

(D) Images can be post processed for better visualization

172. In third generation CT scanners which of the following is used?

(A) Translate rotate system (B) Rotate rotate system

(C) Rotate fixed system (D) Fixed fixed system

173. Which one of the following radionuclides is commonly used in gamma imaging to label white blood cells and platelets in abscesses and thromboses?

(A) Carbon 18 (B) Krypton-81m

(C) Iridium39 (D) Phosphorus 87

174. The CT value for air is

(A) -1000 (B) -50

(C) 0 (D) -25

175. The radionuclide used in gamma imaging for myocardial perfusion imaging is

(A) Rubidium-82 (B) Thallium-201

(C) Gallium-67 (D) Indium-111

176. The most important factor in helical scanning in CT scanning is

(A) Slip ring technology (B) Advanced computer algorithms

(C) High speed computer data processors (D) Solid state detectors

177. The fetus will receive the least radiation dose in

(A) Lumbar spine (AP and lateral) (B) Barium enema

(C) CT Brain (D) CT Thorax

178. Which of the following is not true regarding microbubbles used as ultrasound contrast agents?
(A) Have a gaseous core
(B) Are more than 15 microns in diameter?
(C) Mainly accumulate in the blood pool.
(D) Can be destroyed by ultrasound waves

179. Which of the following is not true about Tissue harmonic imaging?
(A) It usually uses echoes with frequencies that are integral multiples of the fundamental frequency
(B) It requires a narrow bandwidth transducer
(C) The basal frequency can be suppressed by using a pulse inversion technique
(D) Reverberation artefacts and side lobe artefacts are reduced

180. Which of the following is not true about Continuous-wave Doppler imaging?
(A) It uses a transducer with two slightly angled crystals
(B) A good range resolution can be achieved
(C) High velocities can be measured accurately
(D) Continuous Doppler signal is usually presented to the user as an audible sound

181. Which of the following is not true regarding diffuse axonal injury?
(A) Involve cerebral as well as cerebellar white matter and Grey white matter junction.
(B) Involve corpus callosum
(C) Normal GCS of patient.
(D) MRI is the modality of choice for diagnosis

182. Which of the following is not a sign of meningitis ?
(A) Dura and arachnoid matter signal abnormality
(B) Hydrocephalous
(C) Dirty CSF sign
(D) Cortical ribbon sign

183. Which of the following is not true about mineralizing angiopathy of brain?
(A) Sequelae to radiation
(B) Results in recurrent intracerebral bleeds
(C) Showing blooming on GRE images
(D) Involves basal ganglia

184. Which of the following is not true regarding Multiple sclerosis?
(A) Periventricular and pericallosal distribution of the hyperintense plaques.
(B) McLeod's criteria used for diagnosis
(C) Optic nerves are spared
(D) Contrast enhancement suggest active lesion

185. Which of the following is not true regarding Metachromatic leukodystrophy ?
(A) Lysosomal storage disorder.
(B) Frontal lobe involvement predominance.
(C) Restricted diffusion.
(D) Tigroid pattern on T2/FLAIR images.

186. Which of the following is not true regarding Neurosarcoidosis?
(A) Presents as granulomatous pachymeningitis
(B) On MRI lesions appears hyper intense on T2W images
(C) Does not show cerebral parenchymal involvement
(D) Differentials could be lymphoma

187. Which of the following is not true about imaging of ischaemic stroke?

(A) Diffusion weighted images show restricted diffusion

(B) High ADC values are seen

(C) Diffusion perfusion mismatch is seen in the penumbra region

(D) Cortical laminar necrosis is a form of ischaemic stroke with parenchymal mineralization. mineralization

188. Which of the following is not true about Cavernous angioma?

(A) Vascular malformation of the brain

(B) Manifest with ischemic stroke

(C) Show blooming on GRE images, giving Popcorn appearance

(D) Typically brain parenchymal lesions

189. Which of the following is not true regarding Hydrocephalus imaging?

(A) Dilatation and rounding of temporal horn is earliest feature

(B) Tonsillar herniation can be seen

(C) Sulcal space effacement

(D) Septal angle is obtuse

190. Which of the following is not true regarding MR spectroscopy ?

(A) Helps to differentiate between benign and malignant etiologies

(B) Lipid lactate peak is seen at 3 ppm with J coupling

(C) Choline creatinine peak seen in hyper metabolic areas

(D) Myoinositol peak is seen gliosis

191. In Radiation protection ALARA stands for

(A) As Low As Reasonably Achievable.

(B) Accentuated Light Associated Radiation Account

(C) All Low Attenuation Radiation Areas

(D) Automated Low Attenuation Radiation Area.

192. Which of these is not a feature of Sturge Weber syndrome?

(A) Gyral calcifications

(B) SEGA

(C) Pial angiomas

(D) Mental retardation with convulsions

193. Vertebra prominens refers to

(A) Prominence on the anterior aspect of the neck

(B) Transverse process of C1 vertebra

(C) Spinous process of C 7 vertebra

(D) Spinous process of Lumbar Vertebrae

194. Von hipppel Landau syndrome consists of

(A) Hemangioblastomas

(B) Osteochondromas

(C) Multiple Enchondromas

(D) Multiple Giant Cell Tumors

195. Which of the following is not true regarding abnormal pancreatico-biliary junction ?

(A) Predisposes of malignancy.

(B) Associated with choledochal cysts.

(C) Length criteria of ABPJ measures <5 mm

(D) Associated with recurrent pancreatitis

196. Loss of mandibular angle is a feature of

(A) Osteogenesis Imperfecta **(B) Pyknodysostosis.**

(C) Leri Weil s Disease **(D) Osteopetrosis**

197. Moya Moya disease consists of

(A) Involvement of posterior circulation. **(B) Tigroid appearance**

(C) Puff of smoke appearance. **(D) Involvement of Spinal Canal**

198. Vasovagal shock is characterized by

(A) Hypertension **(B) Tachycardia**

(C) Bradycardia **(D) Rashes**

199. Molten wax appearance is a feature of

(A) Leri Weil S Disease **(B) Scurvy**

(C) Rickets **(D) Osteomyelitis**

200. Godfrey Hounsfield was a Physicist from Gliomas consist of following except:

(A) Australia **(B) United States of America**

(C) Germany **(D) England**