AQD

PROVISIONAL ANSWER KEY [CBRT]

Name of The Post	**Assistant Professor, Radio-Diagnosis, General State Service, Class-1**
Advertisement No	**87/2019-20**
Preliminary Test Held On	**17-01-2021**
Que. No.	**001-200**
Publish Date	**18-01-2021**
Last Date to Send Suggestion (S)	**27-01 -2021**

Instructions / સૂચના

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

(1) All the suggestion should be submitted in prescribed format of suggestion sheet Physically.

(2) Question wise suggestion to be submitted in the prescribed format (Suggestion Sheet) published on the website.

(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. 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 shall be made on separate sheet. Objection for more than one question in single sheet shall not be considered & treated as cancelled.

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

(1) ઉમેદવારે વાંધા-સૂચનો નિયત કરવામાં આવેલ વાંધા-સૂચન પત્રકથી રજૂ કરવાના રહેશે.

(2) ઉમેદવારે પ્રશ્નપ્રમાણે વાંધા-સૂચનો રજૂ કરવા વેબસાઈટ પર પ્રસિધ્ધ થયેલ નિયત વાંધા-સૂચન પત્રકના નમૂનાનો જ ઉપયોગ કરવો.

(3) ઉમેદવારે પોતાને પરીક્ષામાં મળેલ પ્રશ્નપુસ્તિકામાં છપાયેલ પ્રશ્નક્રમાંક 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 પ્રશ્નપત્ર માં નિર્દિષ્ટ પ્રશ્ન અને વિકલ્પ સિવાયના વાંધા-સૂચન ધ્યાને લેવામાં આવશે નહીં.

(5) ઉમેદવારે જે 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-સૂચન ધ્યાનમાં લેવાશે નહીં.

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

001. A young patient is newly diagnosed with diaphyseal aclasis. What would be the expected imaging findings?

(A) Multiple Enchondromas
(B) Multiple osteochondromas
(C) Multiple Osteomas
(D) Multiple Enostoses

002. A 15-year-old boy is noted to have a solitary lytic lesion expanding the cortex of the proximal tibia. An MRI demonstrates multiple fluid levels. What is the most likely diagnosis?

(A) Osteoblastoma
(B) Giant Cell tumor
(C) Simple bone cyst
(D) Aneurismal Bone cyst

003. A solitary, lytic lesion with aggressive features is an unexpected incidental finding on radiography of the left knee. Which radiological feature would favour a diagnosis of metastasis rather than primary bone tumour ?

(A) Diaphyseal location
(B) Bone expansion
(C) Florid periosteal reaction
(D) Soft tissue mass

004. WHO criteria for osteoporosis is met when BMD measurement at the hip and spine by means of DXA fulfils the following-

(A) BMD between 1 and 2.5 SD below that of the young adult reference mean
(B) BMD more than 2.5 SD below the young adult reference mean
(C) BMD more than 2.5 SD below the young adult reference mean with one low energy fracture
(D) BMD more than 1.5 SD below the young adult reference mean

005. Mercedes Benz sign is seen in

(A) Porcelain Gallbladder
(B) Emphysematous Cholecystitis
(C) Pneumobilia
(D) Gallstone

006. Mural thickening of GB wall in absence of active biliary disease can be seen in all except

(A) Portal hypertension with cirrhosis
(B) Acute hepatitis
(C) Ascites
(D) Prolong fasting

007. Complication of ERCP is/are

(A) Pancreatitis
(B) Duodonal perforation
(C) Bleeding following spincterotomy
(D) All of the above

008. Incorrect match for Todani classification of Choledochal cyst

(A) Type I-Cystic or Fusiform
(B) Type II-Diverticular
(C) Type III-Intrahepatic dilatation
(D) Type-IV-Extra & Intrahepatic cyst

009. Rokitansky Aschoff sinus is charecteristics of -

(A) Adenomyomatosis of GB
(B) Xanthogranulomatous Cholecystitis
(C) Choledocholithiasis
(D) Mucocele of GB

010. Dormian Basket is used in

(A) Percuteneous extraction of gallstone
(B) Dilatation of biliary stricture
(C) Choledochal fistula repair
(D) All of the above

011. Palmaz stent used for biliary drainage is a-

(A) Self expanding metallic stent
(B) Ballon expandable metallic stent
(C) Self expanding Teflon stent
(D) Ballon expandable Teflon stent

012. Radiological signs of right lobe liver enlargement are all except-

(A) Elevated right hemidiapragm
(B) Elevated hepatic flexure
(C) Depressed right kidney
(D) Bulging of right properitoneal fat line

013. Crumpled eggshell calcification in liver is seen in-

(A) HCC (B) Hepatic abcess

(C) Metastasis (D) Hydatid cyst

014. TIPS is an image guided connection between-

(A) A major right sided hepatic vein & a major intrahepatic br of portal vein

(B) Portal vein & IVC

(C) Splenic vein & a major hepatic vein

(D) Auperior mesenteric vein & IVC

015. Not true about focal fatty infiltration

(A) Hypoechoic skip nodules are not commonly seen in segment IV

(B) Angular or interdigital geometric margin is characteristic

(C) Degree of increased echogenicity is roughly proportional to level of steatosis

(D) Areas of focal fatty changes may simulate mass lesion

016. USG of a 5 year old boy shows a hyperreflective mass in the liver with areas of calcification . There is high frequency Doppler signal within the lesion. The most likely diagnosis among the following is-

(A) Hepatoblastoma (B) HCC

(C) Hepatic metastasis (D) Hepatic lymphoma

017. MRI appearance of typical hemangioma in liver is

(A) Low signal on T1 & High signal on T2 (B) High signal on T1 & Low signal on T2

(C) Low signal on T1 & Low signal on T2 (D) High signal on T1 & High signal on T2

018. Principle imaging technique used in MRCP is

(A) Heavily T1 weighted (B) Heavily T2 weighted

(C) Fluid Attenuated Inversion Recovery (D) Short T1 Inversion Recovery

019. A Sentinel loop on a plain abdominal xray is characteristic finding in-

(A) Cystic tumor of Pancreas (B) Acute pancreatitis

(C) Gastrinoma (D) Pancreatic carcinoma

020. True statement about pancreatic pseudocyst-

(A) Pseudocyst in the body & head are more likely to resolve spontaneously

(B) USG guided percuteneous drainage is required for pseudocyst of 4cm or greater

(C) Requirement for surgical drainage is diminished by endoscopy guided pancreaticogastric drainage

(D) All of the above

021. Long standing suppurative osteomyelitis with draining sinus may undergo malignant changes leading to -

(A) Epithelioma (B) Osteosarcoma

(C) Both (D) None

022. Not True about hematogenous osteomylitis of tubular bones

(A) In infant common location is metaphyseal with epiphyseal extension

(B) Involucrum is not common in adult

(C) Joint involvement is not common in child

(D) Soft tissue abcess is more common in infant & children than adult.

023. Looser's zone is a hallmark feature of -

(A) Osteomalacia (B) Rickets

(C) Osteoporosis (D) Osteomyelitis

024. Not a characteristic sign of Scurvy-

(A) Wimberger;s sign (B) Frankel's line

(C) Trummerfiled zone (D) Bowing & cupping

025. About osteoporosis false statement is-

(A) There is disproportionate loss of trabecular bone in postmenopausal osteoporosis

(B) There is proportionate loss of cortical & trabecular bone in senile osteoporosis

(C) Trabecular loss is most evident in spine

(D) Callous formation in fracture site is less evident in steroid induced osteoporosis.

026. In normal adult subjects Metacarpel index ranges within-

(A) 2.5-5.5 (B) 5.4-7.9

(C) 7.9-9.4 (D) 9.4-11.9

027. H shaped vertebral body is characteristic of

(A) Thanatophoric dwarfism (B) Pseudoachondroplasia

(C) Hypoachondroplasia (D) Chondroectodermal dysplasia

028. Chevron sign is seen in

(A) Achondroplasia (B) MPS

(C) Turner's syndrome (D) None of the above

029. Bone within bone is a radiological sign seen in-

(A) Osteoporosis (B) Osteomalacia

(C) Osteosarcoma (D) Osteopetrosis

030. Sprengel's shoulder frequently coexist with the following condition-

(A) Cervical spina bifida (B) Klippel-feil syndrome

(C) Cervical rib (D) All of the above

031. Baker's cyst originate between

(A) Semimembranosus tendon and lateral head of gastroncemius.

(B) Semitendinosus tendon and lateral head of gastrocnemius.

(C) Semimembranosus tendon and medial head of gastrocnemius.

(D) Semitendinosus tendon and medial head of gastrocnemius.

032. Which is not included in Rotator cuff muscles

(A) Teres major (B) Teres minor

(C) Subscapularis (D) Supraspinatus

033. HONDA SIGN of sacroilitis is seen in

(A) MRI (B) CT

(C) Bone scan (D) USG

034. Not seen in Achondroplasia is

(A) Short and flat ilium (B) Champagne glass pelvis

(C) horizontally oriented acetabular roof (D) J shaped sella

035. Sandwich vertebra seen in
(A) Osteoporosis
(B) Osteomyelitis
(C) Osteopathicastriata
(D) Osteopetrosis

036. Jone's fracture involves
(A) head of first metatarsal
(B) base of first metatarsal
(C) head of fifth metatarsal
(D) Base of fifth metatarsal

037. Terry Thomas sign is seen in
(A) scaphoid fracture
(B) scaphoid dislocation
(C) lunate fracture
(D) lunate dislocation

038. False about Bucket handle tear
(A) double PCL appearance
(B) absent bowtie sign
(C) ghost meniscus sign
(D) anterior flipped meniscus sign

039. Marching cleft sign on MRI Knee seen in
(A) parrot beak tear
(B) horizontal tear
(C) radial tear
(D) bucket handle tear

040. True about discoid meniscus is
(A) Dysplastic meniscus with continuous bowtie on 3 or more consecutive images.
(B) Disc shaped post-traumatic meniscus with continuous bowtie on multiple slice.
(C) Disc shaped posttraumatic meniscus with absent bowtie on sagittal images.
(D) Dysplastic meniscus with more than 5mm width in coronal images .

041. Salter Harris classification is applicable for
(A) Metaphyseal injuries
(B) Epiphyseal injuries
(C) Diaphyseal injuries
(D) All of above

042. A line drawn from posterior margin of hard palate to posterior aspect of foramen magnum is
(A) MaCrae's line
(B) Chamberline's line
(C) Digastric line
(D) Boogard's line

043. Licked candy stick appearance seen in all except
(A) leprosy
(B) psoriaticarthropathy
(C) neuropathic joints
(D) rheumatoid arthritis

044. Spilled tea cup sign seen in
(A) Capitate dislocation on lateral film
(B) Scaphoid dislocation on lateral film
(C) Lunate dislocation on lateral film
(D) Triqueteral dislocation on lateral film

045. Not a feature of ankylosing spondylitis
(A) Bilateral sacroiliac joint involvement
(B) Enthesophyte with enthesopathy
(C) Bamboo spine and syndesmophytes
(D) Subchondral sclerosis and cysts

046. Patella baja is mostly associated with
(A) Cerebral palsy
(B) Chondromalacia patella
(C) Juvenile idiopathic arthritis
(D) Recurrent patellar subluxation

047. In diagnosing ACL rupture, which additional feature is supportive
(A) buckling of PCL
(B) edema within MCL
(C) posterior translation of femur on tibial condyles
(D) medial meniscus tear

048. MRI of left ankle done by a young man reveals a rounded mass within pre – achilles fat pad with signal characteristics identical to adjacent muscle. The anatomical variant responsible for this is

(A) accessory popliteus muscle
(B) accessory soleus muscle
(C) presence of peroneus quartus
(D) anomalous insertion of plantaris tendon

049. In usg of hip joint, true is

(A) Alpha angle assess prominence of labrum
(B) beta angle assess acetabular depth
(C) normal alpha angle is less than 60 degree
(D) Dysplastic acetabula have low alpha angle

050. True about acute osteomyelitis is

(A) periosteal elevation is common, which is lamellated
(B) primary focus is epiphysis
(C) multicentric involvement is uncommon in neonate
(D) joint involvement is common in neonates

051. Molten wax running down the side of a burning candle appearance seen in

(A) multiple epiphyseal dysplasia
(B) osteopoikylosis
(C) melorheostosis
(D) fibrous dysplasia

052. A feature seen in thanatophoric dwarfism is

(A) shepherd crook deformity of femur
(B) platybasia
(C) cloverleaf skull
(D) celery stalk metaphysis

053. True about rheumatoid arthritis is

(A) Joint space widening in early stage of disease
(B) Localised osteoporosis around joints occur late stage
(C) Erosions appear late and mostly in hands
(D) Joint space reduction is seen throughout the course of disease

054. Most characteristic sign in childhood leukemias in skeletal system

(A) Metaphyseal translucencies
(B) Periosteal reaction
(C) Punchedout bony erosions
(D) Osteosclerosis of metaphysis

055. PEPPER POT skull is seen in

(A) Multiple myeloma
(B) Pagets disease
(C) Osteopetrosis
(D) Hyperparathyroidism

056. Muscle involved in the avulsion fracture of lesser trochanter of femur is

(A) Sartorius
(B) Gluteals
(C) Iliopsoas
(D) Hamstrings

057. PLATYBASIA is measured by BASAL ANGLE. Normal basal angle is

(A) 70-100 degree
(B) 125-142 degree
(C) 60-90 degree
(D) 110-120 degree

058. Which is associated with fibrous dysplasia

(A) Maffuci syndrome
(B) Olliers disease
(C) Mc cune Albright syndrome
(D) Down syndrome

059. A fracture extending through epiphyseal plate extending into metaphysis in a 9 year old child belongs to Salter Harris type

(A) I (B) II

(C) III (D) IV

060. False about bone tumors is

(A) Elevation of periosteum cause codmans triangle in osteosarcoma

(B) Thickness of cartilage cap more than 1cm is suspicious in osteochondroma

(C) Bimodal age distribution seen in osteosarcoma

(D) Onion skin periosteal reaction is specific for osteosarcoma

061. All of the following Conditions Can Simulate a Pneumoperitoneum except-

(A) Chilaiditisyndrome (B) Subphrenic abscess

(C) Curvilinear atelectasis in lung. (D) Lung abscess

062. Which of the following is an sign of acute appendicitis on USG

(A) Blind-ending tubular structure (B) Diameter 7 mm or greater

(C) Edema at caecal pole (D) All of the above

063. On a plain radiograph,Foreign bodiestend to lodge at one of the oesophageal constriction points except

(A) cricopharyngeus; (B) aortic arch

(C) right main bronchus (D) diaphragmatic hiatus

064. Which of the following statement is not true in relation to esophageal cancer

(A) The normal oesophagus should have a wall thickness ofless than 5 mm on CT when adequately distended

(B) EUS is superior to CT and PET-CT for T staging

(C) PET-CT is the technique of choice for identifyingmetastases to non-regional lymph nodes and other tissuessuch as the liver and skeletal muscle

(D) None of the above

065. Which of the following statement is not true regarding hiatus hernia

(A) The majority of hiatal herniae are of the rolling type

(B) The diagnosis of a sliding hiatal hernia is made onfluoroscopy when gastric rugae are seen traversing the diaphragm.

(C) High-resolution manometry, is the current gold standard

(D) rolling hiatal hernia is caused by afocal defect in the phreno-oesophageal membrane

066. Which of the following is not a feature of benign gastric ulcer-

(A) Hampton's line (B) Extension beyond gastric wall

(C) Carman meniscus (D) Ulcers heals completely on medical treatment

067. Features of Hypertrophic Pyloric Stenosis are-

(A) Muscle width more than 3 mm (B) Pyloric canal length more than 1.5 cm

(C) No peristalsis through pylorus (D) All of the above

068. Which findings would make a mucinous cystic tumour more likely than a serous cystadenoma of the pancreas?

(A) Central stellate calcification is present within the lesion.

(B) The mass contains 12 separate cysts.

(C) The smallest cystic component measures 28 mm in diameter.

(D) The patient has a known diagnosis of von Hippel-Lindau disease.

069. Which one of the following statements is correct regarding HCC?

(A) Brain metastases ate hypovascular and calcified.

(B) HCC derives its blood supply primarily from the hepatic artery.

(C) Portal vein invasion is more suggestive of a liver metastasis than HCC.

(D) Small HCC (< 1 cm) are typically heterogeneous and hyperechoic on US.

070. Most sensitive investigation for detection of free peritoneal gas-

(A) X-ray (B) CT

(C) USG (D) MRI

071. Rigler's sign on supine radiograph is diagnostic of

(A) Pneumoperitoneum (B) Pneumomediastinum

(C) Pneumothorax (D) Pneumocephalus

072. A 35-year-old woman presents with a 5-month history of dysphagia, associated with retrosternal pain. A barium swallow demonstrates a markedly dilated oesophagus containing food debris. There is a smooth narrowing of the distaloesophagus with barium intermittently spurting into the stomach. What is the most likely diagnosis?

(A) Oesophageal achalasia (B) Oesophageal leiomyoma

(C) Paraoesophageal hiatus hernia. (D) Peptic oesophageal stricture

073. A 40-year-old woman with obstructive jaundice undergoes an MRCP examination. This demonstrates a smooth stricture in the mid-common duct with associated moderate intrahepatic biliary dilatation. The stricture is caused by extrinsic compression from a round filling defect within the cystic duct. What is the diagnosis?

(A) Acute bacterial cholangitis (B) Gallbladder carcinoma

(C) Mirizzi syndrome (D) Postinflammatory biliary stricture

074. Best imaging investigation for endometriosis is-

(A) Transabdominal USG (B) Transvaginal USG

(C) MRI (D) CT

075. Signs seen in pyloric stenosis is/are-

(A) Mushroom sign on barium examination (B) Shoulder sign on barium examination.

(C) Target sign on USG. (D) All of the above

076. Which statement is true regarding MRCP in this setting of gallstones in the bile ducts?

(A) Blood and gas in the biliary tree are a recognised cause of a false positive MRCP.

(B) MRCP diagnostic quality reduces as the serum bilirubin rises.

(C) MRCP is reliant on contrast excretion into the biliary tree.

(D) The sensitivity of MRCP for choledocholithiasis is 60-70%.

077. Gold standard for diagnosis of diffuse oesophgeal spasm is-

(A) Barium swallow (B) Barium follow through

(C) Fluoroscopy (D) Manometry

078. A contrast-enhanced CT of the abdomen is performedand demonstrates extensive thickening of the gastric body and antrum. Which additional feature would make a diagnosis of gastric carcinoma more likely than gastric lymphoma?

(A) Direct invasion of the left lobe of liver (B) Coeliac axis lymphadenopathy

(C) Preserved perigastric fat planes (D) Regional lymphadenopathy

079. Which MRI artefact can be utilised to confirm the diagnosis of focal fat deposition in liver?

(A) Aliasing (B) Chemical shift

(C) Magic angle (D) Susceptibility

080. Radiological findings of testicular torsion is/are-

(A) A diffusely enlarged hypoechoic testis

(B) A small shrunken testis with a surrounding hydrocoele and scrotal wall thickening

(C) Absent blood flow within the testis on colour flow Doppler but good flow within the tunica vaginalis

(D) All of the above

081. A 18-year-old man presents with a tender left scrotum. Which one of the following statements best describes the expected ultrasound findings in acute, uncomplicated epididymo-orchitis?

(A) A small atrophic left testis

(B) A well-defined testicular mass of mixed echogenicity that has a whorled appearance and reduced flow on colour Doppler

(C) Patchy areas of increased echogenicity within the testis with reduced flowon colour Doppler

(D) Well-defined, patchy areas of decreased echogenicity within the left testis with icreased blood flow on colour Doppler sonography

082. A 33-year-old man is discovered to have a right testicular mass on ultrasound. Which additional ultrasound finding would suggest a diagnosis of teratoma rather than seminoma?

(A) A testicular mass that contains areas of calcification

(B) A testicular mass that demonstrates increased colour Doppler flow

(C) A testicular mass that is homogeneously anechoic with posterior acousticenhancement

(D) A testicular mass that is hypoechoic compared with the surroundingtesticular parenchyma

083. What are the most likely sonographic Findings of acute pyelonephritis?

(A) Focal areas of reduced reflectivity in the renal parenchyma

(B) Focal atrophy of segments of the right kidney

(C) Increased echogenicity of the renal calyces

(D) Enlarged kidney and diffusely hyperechoic parenchyma

084. Which one of the following statements is true regarding imaging in renal tuberculosis?

(A) IVU can detect parenchymal calcification, cavitary lesions, infundibular stenosis with amputated calyces or pelviceal stenosis with hydronephrosis.

(B) Moth eaten appearance on CT.

(C) Putty kidney represents end stage renal renal TB.

(D) All of the above.

085. Imaging feature of cystitis-

(A) Mucosal thickness of >4mm on empty bladder on usg

(B) Mucosal thickness of >2mm on full bladder on usg

(C) Mucosal thickness of >5mm on empty bladder on usg

(D) None of the above

086. Which one of the following statements best describes the CT findings of haematogenous metastases to the kidneys?

(A) Curvilinear (arc)-like calcification is a characteristic feature.

(B) Metastases to the kidney are usually < 3 cm in size, multipleand limited to the cortex.

(C) Multiple lesions involving the medulla are a feature of haematogenousmetastases.

(D) If renal vein invasion is not present, renal metastases are highly unlikely.

087. Which of the following is true regarding Veil right kidney sign?

(A) Seen in Pnemoretroperitoneum on usg.

(B) Seen in Pnemoretroperitoneum on CT.

(C) Most commonly associated with duodenal perforation.

(D) Both (A) and (C)

088. Which of the following statements is/are true reagarding MRI in a patient with Carcinoma of cervix?

(A) On T1-weighted images, tumours are usually isointensewith the normal cervix

(B) On T2-weighted images, cervical cancer appears as a relatively hyperintense mass and is easily distinguishable from low signal intensity cervical stroma.

(C) Both (A) and (B)

(D) None of the above.

089. Which one of the following findings is most likely to be seen in uncomplicated renal contusion (Grade 1 renal injury)?

(A) Ill-defined areas of low attenuation with irregular margins

(B) Subcapsular high attenuation collection

(C) Wedge-shaped areas of high attenuation, typically involving the renal parenchyma

(D) Well-defined areas of low attenuation within the renal parenchyma

090. A 27-year-old man is kicked in the abdomen during an attempted robbery. He presents with haematuria and a triple-phase CT abdomen (arterial, portal venous an delayed phases) shows a left ureteric injury. What level is the ureteric injury most likely to be at?

(A) At the level of the ischial spines
(B) Lower third of the ureter
(C) Middle third of the ureter
(D) Pelviureteric junction

091. Intensifying screens are used because they

(A) Reduce film fog
(B) Decrease xray dose to the patient
(C) Reduce scatter radiation
(D) All of the above

092. Two most important ingredient of a photographic emulsion of xray films are

(A) Alkali & Sodium Sulphite
(B) Gelatin & Silver Halide
(C) Restrainer & Silver Halide
(D) None of the above

093. Heel effect is related to-

(A) MRI
(B) CT
(C) XRAY
(D) USG

094. True about rotating anodes is/are-

(A) Withstand the heat generated by large exposure

(B) Consist of large disc of tungsten

(C) Rotates at a speed of about 3600 rpm

(D) All of the above

095. In diagnostic radiology almost all scattered radiation encountered comes from -

(A) Coherent scattering
(B) Photelectric effect
(C) Compton scattering
(D) Pair production

096. Which of the following interaction between xray & matter gives excellent tissue contrast-

(A) Photoelectric effect (B) Compton effect

(C) Pair production (D) Anhilation

097. Grid ratio is-

(A) Height of the lead strips & distance between them

(B) Lenght of the lead strips & distance between them

(C) Distance between the lead strips & length of the lead strips

(D) None of the above

098. Which is not a part of an xray film

(A) Emulsion (B) Base

(C) Adhesive (D) Restrainer

099. Most common technique for Digital Subtraction Angiography-

(A) Dual energy subtraction (B) Time interval differencing

(C) Temporal filtering (D) Mask subtraction

100. SI unit of absorbed dose is

(A) Gray (B) Rad

(C) Rem (D) Sievert

101. Medical sonography employs frequency between-

(A) 0.5-1MHz (B) 0.5-5MHz

(C) 0.5-10MHz (D) 1-20MHz

102. USG Transducer is a-

(A) Transmitter (B) Receiver

(C) Both transmitter & reciever (D) None of the above

103. Doppler shift equation

(A) $\Delta v = \frac{2vS}{V} COS\theta$ (B) $\Delta v = \frac{vS}{2V} COS\theta$

(C) $\Delta v = \frac{2vS}{V} Sin\theta$ (D) None of the above

104. Streak artifacts in CT is produced by

(A) Patient motion (B) Miscalibration of one detector

(C) High density material (D) All of the above

105. Detectors used in CT scanners are-

(A) Scintillation crystalls (B) Xenon Gas ionisation chambers

(C) Either (A) or (B) (D) None of the above

106. Most commonly used image reconstruction method is-

(A) Back projection (B) Iterative methods

(C) Analytic method (D) None of the above

107. Not a component of xeroradiograhic plate-

(A) Aluminium substrate (B) Selenium

(C) Silver halide (D) Both (A) and (B)

108. Images in FLAIR appears as

(A) Fluid suppressed T1 (B) Fluid suppreseed T2

(C) Fat suppressed T1 (D) Fat suppressed T2

109. T1 Weighted image

(A) Short TE, Long TR (B) Long TE, Long TR

(C) Short TE, Short TR (D) Long TE, Short TR

110. Thickness of lead apron

(A) .05 mm (B) .5 mm

(C) 5 mm (D) 1 mm

111. Which of the following is true about monochorionic diamniotic twins on USG examination?

(A) Twin peak sign (B) Entangled cord

(C) T sign (D) Two separate placenta

112. Which of the following is not a worrisome finding in early pregnancy failure ?

(A) Embryo with CRL <7mm (B) Yolk sac <6 mm

(C) Calcified Yolk sac (D) MSD 16-24 mm with no embryo

113. Which of the following is a 2nd trimester cranial sign in open spina bifida?

(A) Cerebellar banana sign (B) Ventriculomegaly > 10mm

(C) Posterior Fossa Funneling (D) All of the above.

114. Feature suggestive of a lobar holoprosencephaly

(A) Distinct interhemispheric division.

(B) Azygous anterior cerebral artery

(C) Absent corpus callosum with monoventricle

(D) Fused fornices.

115. USG features not seen in corpus callosal agenesis

(A) Viking Helmet Sign (B) High riding IIIrd ventricle

(C) Tear drop shaped lateral ventricle (D) Visible CSP above fornices.

116. Which of the following is correct based on time on appearance on antenatal USG on TVS?

(A) G sac is first seen identifiable at 6weeks

(B) G sac is first identifiable at 5 weeks

(C) Yolk sac is first seen identifiable at 6weeks

(D) Embryonic heart beat is visualised at 6.5 weeks

117. Cerebro-placental ratio(CPR):

(A) $\frac{\text{Umbilical artery PI}}{\text{MCA PI}}$ (B) $\frac{\text{MCA PI}}{\text{Umbilical artery PI}}$

(C) $\frac{\text{Umbilical artery RI}}{\text{MCA RI}}$ (D) $\frac{\text{MCA RI}}{\text{Umbilical artery RI}}$

118. Which is not a USG feature of adenomyosis?

(A) Myometrial cysts (B) Subendometrial echogenic nodules

(C) Asymmetrical thinning of myometrium (D) Attenuation or shadowing

119. First reliable sign of Intra uterine pregnancy is

(A) Intradecidual sac sign
(B) Double decidual sac sign
(C) A yolk sac with embryo
(D) A yolk sac within G sac

120. Features indicative of malignancy in an adnexal mass?

(A) Doppler waveform with increased RI> 0.8
(B) Size >4 cm
(C) Papillary projections atleast 3
(D) Multiple septations >1 mm thick

121. 36 yrs old female with primary infertility. On TAS, normal anteverted uterus with bilateral adnexal masses are seen. On subsequent MRI, bilateral high signal ovarian masses are noted on both T1 and T2 WI. The lesions remain high signal on FS T1 WI. What is the diagnosis?

(A) Bilateral dermoid cysts.
(B) Bilateral endometrioma
(C) Bilateral theca lutein cysts.
(D) Bilateral ovarian fibromas

122. Which is not true about bicornuate uterus?

(A) It is a type IV Mullerian anomaly
(B) Deep fundal cleft > 1 cm in outer uterine contour
(C) Inter-cornual distance > 4 cm with two horns
(D) Inter-cornual distance < 4cm with 2 horns.

123. True about 1st trimester pregnancy is

(A) Amniotic cavity expands to fill chorionic cavity by 9 weeks
(B) Angiogenesis occurs in wall in 5th week.
(C) Amniotic cavity expands to fill the chorionic cavity by 12 weeks
(D) Angiogenesis occurs in chorionic cavity by 9th week.

124. True about female genital tract is

(A) T2WI, junctional zone is low signal intensity band in submucosa
(B) On T1WI, 3 distinct zones are seen in uterus
(C) Normal ovaries are low to medium signal on T1WI
(D) Anatomy of fallopian tubes are best seen in MRI

125. True about fibroids

(A) On T2WI, well circumscribed myometrial mass that is of low signal than surrounding myometrium
(B) On USG, multiple theca lutein cysts with enlarged cystic uterus
(C) T1WI shows well defined high signal mass arising from myometrium
(D) On Post Contrast study, T1WI shows well circumscribed uniformly enhanced myometrial mass with high signal than surrounding myometrium.

126. Double decidual sac sign is produced by

(A) Decidua capsularis and deciduas basalis
(B) Decidua parietalis and Decidua basalis
(C) Decidua parietalis and deciduas capsularis
(D) Decidua basalis, capsularis and parietalis together

127. Which is not a risk for ectopic gestation ?

(A) History of PID
(B) History of tubal surgeries
(C) Family history of ectopic
(D) Pregnant woman with IUCD in situ

128. Antenatal USG done at 22nd week shows a fetus with full thickness defect in anterior abdominal wall with bowel loops freely floating within amniotic fluid. Which condition supports the diagnosis?

(A) Omphalocele
(B) Gastroschisis
(C) Both can produce similar appearance
(D) CDH

129. Not a feature of hydrops fetalis in USG?

(A) Polyhydramnios
(B) Ascites, Pleural effusion
(C) Small placenta with calcification.
(D) Placentomegaly

130. Not a sign of IUD

(A) Spalding's sign
(B) Robert's sign
(C) Naclerio V sign
(D) Echogenic liquor with macerated fetus.

131. Correct statement is:

(A) Gadolinium DTPA cross placenta.
(B) Placenta appears a low to immediately signal on T1 and high signal on T2WI on early pregnancy.
(C) Tissue Harmonic Imaging uses low amplitude, high frequency waves.
(D) All of the above.

132. Which is an indication for pre-natal diagnosis of genetic disorders?

(A) Single gene defects
(B) Chromosomal abnormality
(C) Infectious agents
(D) All of the above

133. Incorrect about IUGR?

(A) Symmetric IUGR begins in 2nd trimester
(B) Asymmetric IUGR occurs in 3rd trimester
(C) Trunk is affected earlier and severely than head in asymmetrical IUGR
(D) Symmetrical IUGR is more common form

134. False about spina bifida

(A) Effacement of cistern magna
(B) Lemon sign
(C) Splaying of posterior ossification centres of spine
(D) Frog egg appearance

135. Snow storm appearance is seen is

(A) Ovarian ectopic pregnancy
(B) Complete molar pregnancy
(C) Partial mole
(D) Choriocarcinoma.

136. True about twin-twin transfusion syndrome

(A) Polyhydramnios is donor twin
(B) Dilated bladder and renal pelvis is donor
(C) Oligohydramnios is recipient
(D) Possible hydrops is recipient

137. Not a feature of bilateral renal agenesis in antenatal USG

(A) Non-visualisation of bladder
(B) Absent renal arteries
(C) Lying down adrenal
(D) Normal amniotic fluid volume

138. Not a cause of fetal megacystitis

(A) Uretorocele (B) Posterior urethral valve

(C) Prune belly syndrome (D) Down Syndrome

139. Shortening of distal segment of limb in fetus?

(A) Rhizomelia (B) Megomelia

(C) Acromelia (D) Micromelia

140. Cerebro-placental ratio is abnormal if:

(A) <0.1 (B) <0.01

(C) <1 (D) >1

141. Anterior pituitary gland forms what percentage of total pituitary volume?

(A) 20-30% (B) 40-50%

(C) 70-80% (D) 80-90%

142. The upper limit of height of normal pituitary gland in men and post menopausal women is?

(A) 5 mm (B) 6 mm

(C) 7 mm (D) 8 mm

143. Which of the following is bright on t1wi?

(A) Anterior pituitary (B) Posterir pituitary

(C) Both (A) and (B) (D) None of the above

144. Pallister hall syndrome is associated with?

(A) Pituitary adenoma (B) Pituiaty hyperplasia

(C) Hypothalamic hamartoma (D) Astrocytoma

145. In hypothalamic hamartoma, enhancement pattern is?

(A) Significant enhancement (B) Homogenous enhancement

(C) No enhancement (D) Mild enhancement

146. Most common suprasellar mass in children is?

(A) Hypothalamic pilocytic astrocytoma (B) Craniopharyngioma

(C) Pituitary adenoma (D) Lymphoma

147. Microadenomas are defined as the tumours of size?

(A) <= 8 mm (B) <= 9 mm

(C) <= 10 mm (D) <= 11 mm

148. Most common intracranial germ cell tumour is?

(A) Pineal olfactoma (B) Pituiary blastoma

(C) Germinoma (D) None of the above

149. Mega cisterna magna is enlarged retrocerebellar space more than?

(A) 9 mm (B) 10 mm

(C) 11 mm (D) 12 mm

150. Ependyma lined protrusion of 4th ventricle is?

(A) Blake pouch cyst (B) Mega cisterna magna

(C) Arachnoid cyst (D) Tarlov cyst

151. Hot cross bun sign is seen in?

(A) Multiple systemic atrophy (B) Parkinson's disease

(C) Spinocerebellar ataxia (D) Astrocytoma

152. T2/flair hyperintensity in posterior thalamus is seen in?

(A) Creutzfeldt jakob disease (B) Parkinson's disease

(C) Dementia (D) Multiple sclerosis

153. Cytotoxic lesion of corpos callosum(clocs) is?

(A) T1 hypointensity, T2/flair hyperintesnity (B) T1 hyperintensity, T2/flair hyperintensity

(C) T1 hypointensity, T2/flair hypointensity (D) None of the above

154. Most common tumour associated with temporal lobe epilepsy?

(A) Ganglioglioma (B) DNET

(C) Diffuse low grade astrocytoma (D) None of the above

155. Nafar's classification is for?

(A) Syringomyelia (B) Arachnoid cyst

(C) Astrocytoma (D) Lmphoma

156. A technique usaed to obtain functional information by visualising cortical activity is?

(A) Diffusion tensor imaging (B) Perfusion imaging

(C) Functional mri (D) Fibre tractography

157. Type II modic changes represent?

(A) Subchondral bone marrow edema

(B) Fatty marrow replacement within the adjacent end plate

(C) Subchondral end plate sclerosis

(D) None of the above

158. Spinal cord edema following trauma appears?

(A) T1 hypointensity, t2 hyperintensity (B) T1 hypointensity, t2 hypointensity

(C) T1 hyperintensity, t2 hyperintensity (D) T1 hyperintensity, flair hyperintensity

159. The concept of sciwora is related to -

(A) Brain injury (B) Spinal cord injury

(C) Femur fracture (D) Orbital fracture

160. The most common primary spinal cord tumour in adults is -

(A) Ependymoma (B) Astrocytoma

(C) Hemangioblsta (D) Lymphoma

161. Glide wire and road runner are

(A) Hydrophilic (B) Hydrophilic

(C) Lipophilic (D) None of the above.

162. Trochar and chiba needle are respectively

(A) 21, 22 gauge (B) 20, 21 gauge

(C) 19, 20 gauge (D) 22, 23 gauge

163. Jailing technique is used in -

(A) Stent assisted coiling of intracranial aneurysm

(B) Cerebral angiography

(C) Neurophysical monitoring

(D) Mechanical thrombectomy

164. The principle of anisotropic diffusion of molecules is used in -

(A) Diffusion tensor imaging (B) Doppler

(C) Perfusion imaging (D) Functional mri

165. Arterial spin labelling is asssociated with

(A) Diffusion tensor imaging (B) Diffusion weighted imaging

(C) Mr perfusion (D) Tractography

166. Maze making and solving technique is used in?

(A) Mechanical thrombectomy (B) Occlusion of giant cerebral aneurysm

(C) Stent placement (D) Balloon dilatation

167. Empty delta sign is seen in?

(A) Cerebral venous thrombosis (B) Acute imfarct

(C) Vein of galen malformation (D) None of the above

168. The classic pattern of cystic mass with an enhancing mural nodule is seen in?

(A) Ganglioglioma (B) Diffuse astrocytoma

(C) Acute disseminated encephalo myelitis (D) None of the above

169. Salt and pepper appearance of the brain is seen in?

(A) Acute disseminated encephalo myelitis (B) Neurocysticercosis

(C) Astrocytoma (D) Ganglioglioma

170. A hyperintense enhancing cord lesion over >=3 contiguous vertebral segment with optic nerve enhancement is seen in?

(A) Acute disseminated encephalio myelitis (B) Neuromyelitis optica spectrum disorder

(C) Multiple sclerosis (D) None of the above

171. Regarding congenital lobar emphysema all of the following are true except:

(A) Surgical resection of involved lobe – definitive R_x

(B) Progressive over distention of a lobe with alveolar wall destruction

(C) Upper lobes or right middle lobes are most commonly involved

(D) Associated PDA, VSD & TOF

172. Which of the following Chest XRay findings are more indicative of meconium aspiration syndrome over RDS, in a case of newborn presenting respiratory diseases?

(A) Reticule-nodular opacities (B) Over inflation

(C) Ground glass opacities (D) Hypo inflation

173. Intralobar sequestration (ILS) is mostly seen in

(A) RUL (B) LUL

(C) RML (D) LLL

174. Mesothelioma of pleura is closely associated

(A) Asbestosis (B) Sidersosis

(C) Silicosis (D) Beryllosis

175. All of following are common findings in NSIP except

(A) Interlobular septal thickening (B) Ground glass opacity

(C) Honeycombing (D) Relative subpleural sparing

176. Regarding emphysema all of the following are true except

(A) CT is more sensitive than plain Chest Xray in detecting emphysema

(B) Panlobular emphysema occasionally involved in bullae formation

(C) Centrilobular emphysema is usually found in smoke

(D) Panacinar emphysema is usually basal predominance

177. Presence of ATOLL SIGN in HRCT is highly suggestive of

(A) Organising pneumonia (B) Amyloidosis

(C) Round atelectasis (D) Churg strauss syndrome

178. Random distribution of nodules is seen in all except

(A) Sarcoidosis (B) military infection

(C) Endobronchial spread of infection (D) hematogenous metastasis

179. Crazy pavy appearance in HRCT is seen in all except

(A) Covid pneumonia (B) Alveolar proteinous

(C) Alveolar heamorrhage (D) All of the above

180. Double right heart border is seen in

(A) Right atrial enlargement (B) Left atrial enlargement

(C) Right ventricular enlargement (D) Left ventricular enlargement

181. Most common type of TAPVR?

(A) Supracardiac (B) Cardiac

(C) Infracardiac (D) Mixed

182. Head of snowman in TAPVR is formed by all except

(A) SVC (B) Enlarged right atrium

(C) Vertical vein (D) Inmoniate vein

183. True about DRESSLER'S syndrome are all except

(A) Also known as postmyocardial infarction syndrome

(B) Easily detected by transthoracic echocardiography

(C) Never associated with pericardial effusion

(D) It is a form of secondary pericarditis

184. Most common cardiac tumor is

(A) Fibroma (B) Myxoma

(C) Rhabdomyoma (D) Pericardial cyst

185. Hoffman Rigler sign is seen in

(A) Right atrial enlargement (B) Left atrial enlargement

(C) Right ventricular enlargement (D) Left ventricular enlargement

186. Gooseneck sign in left ventricular angiography is

(A) TAPVR (B) Partial anomalous pulmonary venous return

(C) Endocardial cushion defect (D) TOF

187. Reverse figure of three sign on left oblique view during barium oesophagography

(A) TOF (B) Aortic coarctation

(C) Ebstein anomaly (D) TAPVR

188. True about Broncho-Arterial ratio is all except

(A) It is internal diameter of bronchus divided by diameter of adjacent pulmonary artery

(B) B/a ratio increases with age

(C) Normal ratio is more than 1

(D) High altitude increases B/A ratio

189. Central venous pressure (CVP) catheters are used to monitor

(A) Right atrial pressure (B) Left atrial pressure

(C) Right ventricular pressure (D) Left ventricular pressure

190. True about endotracheal tube are all except

(A) Tip of tube should be 5 to 6 cm above carina

(B) Chest xray important to assess the position of tip

(C) Overinflated cuff may cause tracheostenosis

(D) All of the above

191. A 45-year-old woman complains of a cough and her CXR demonstrates a solitary cystic structure within the left lower lobe, measuring approximately 6 cm in diameter. The peripheral aspect of the cystic structure lies in contact with the chest wall and appears slightly flattened. Within this structure there appears to be a floating membrane. What is the most likely diagnosis

(A) Aspergillosis (B) Coccidioidomycosis

(C) Hydatid disease (D) Tuberculosis

192. A 65-year-old man has a routine CXR prior to a left hipreplacement. An incidental right hilar mass is noted with associated right middle lobe collapse and bulging of the oblique and horizontal fissures. Cavitation is seen within the mass and mediastinal lymphadenopathy is demonstrated on the subsequent CT examination. No calcification is demonstrated within the mass. What is the most likely diagnosis

(A) Arteriovenous malformation (B) Aspergilloma

(C) Empyema (D) Squamous cell carcinoma

193. A 40-year-old woman with rheumatoid arthritis undergoes an HRCT chest following a gradual increase in shortness of breath. Interstitial inflammation and fibrosis is noted. What additional finding is most likely to suggest a diagnosis of NSIP rather than UIP

(A) Honeycombing (B) Irregular changes over time

(C) Mediastinal lymphadenopathy (D) Prominent ground glass attenuation

194. A 34-year-old woman presents with a history of a low grade fever, malaise, anorexia, weight loss and pleuritic type chest pain. A CXR shows bilateral small pleural effusions with linear band atelectasis at both bases. No other chest abnormality is seen. Which one of thefollowing is the most likely diagnosis

(A) Ankylosing spondylitis (B) Dermatomyositis

(C) Rheumatoid arthritis (D) Systemic lupus erythematosus

195. A 25 year old male had a road traffic accident & is now complaining of paraesthesia involving his left shoulder. Which one of the following radiological features is the most likely related cause

(A) Dislocated left sternoclavicular joint (B) Fractured left 2nd rib

(C) Fractured left humerus (D) Left tension pneumothorax

196. **A worker has fallen from height& is complaining of left-sided chest pain and shortness of breath. A CXR demonstrates fractures of the left 3rd, 4th and 5th lateral ribs and there is strong clinical concern of a pneumothorax. If there is a left pneumothorax, which one of the following radiographic signs is most likely to be present**

(A) A left-sided haemothorax **(B) An abnormally deep left costophrenic sulcus**

(C) Left upper lobe pulmonary contusion **(D) Mediastinal shift towards the left**

197. **Which one of the following CT signs is least likely to be associated with rupture of the left hemidiaphragm-**

(A) Herniation of the colon into the chest **(B) The 'collar sign'**

(C) The 'dependent viscera sign' **(D) The 'target sign'**

198. **A 65-year-old woman complains of progressive dyspnoea. She undergoes an HRCT of the chest and this demonstrates interstitial thickening at the lung bases. Which additional radiological finding would suggest a diagnosis ofpulmonary fibrosis rather than congestive heart failure**

(A) Honeycomb destruction

(B) Peribronchial cuffing

(C) Pleural effusion

(D) Rapid resolution on subsequent chest radiographs

199. **A 55-year-old woman has recently undergone major pelvic surgery. She was previously fit and well but now presents with acute onset of shortness of breath. The clinician suspects a diagnosis of pulmonary embolism and requestsa CXR to exclude an alternative cause for the symptoms. Which of the following is the least likely radiological finding if an acute pulmonary embolus is present?**

(A) Central pulmonary arterial enlargement **(B) Hampton's hump**

(C) Normal chest radiograph **(D) Small pleural effusion**

200. **A 20-year-old woman presents with a dry cough and dyspnoea. A CXR hasbeen performed and demonstrates bilateral hilar lymphadenopathy with bilateral well-defined 3 mm parenchymal nodules. The diagnosis is most likely to be?**

(A) Stage 0 Sarcoidosis **(B) Stage 1 Sarcoidosis**

(C) Stage 2 Sarcoidosis **(D) Stage 3 Sarcoidosis**