

पुस्तिका में पृष्ठों की संख्या-32
No. of Pages in Booklet -32
पुस्तिका में प्रश्नों की संख्या-180
No. of Questions in Booklet -180

BSAP-22

2100013

प्रश्न पुस्तिका संख्या /
Question Booklet No.

Paper Code : 11
SUBJECT : Radiodiagnosis
(Broad Speciality)

समय : 3.00 घण्टे
Time: 3.00 Hours

अधिकतम अंक : 180
Maximum Marks: 180

प्रश्न-पत्र पुस्तिका के पेपर सील/ पॉलिथिन बैग को खोलने पर परीक्षार्थी यह सुनिश्चित कर लें कि प्रश्न पुस्तिका संख्या तथा ओ.एम.आर उत्तर-पत्रक पर अंकित बारकोड समान हैं। इसमें कोई भिन्नता हो तो परीक्षार्थी वीक्षक से दूसरा प्रश्न-पत्र प्राप्त कर लें। ऐसा सुनिश्चित करने की जिम्मेदारी अभ्यर्थी की होगी।

On opening the paper seal /polythene bag of the Question Booklet the candidate should ensure that Question Booklet Number and Barcode of OMR Answer Sheet must be same. If there is any difference, candidate must obtain another Question Booklet from Invigilator. Candidate himself shall be responsible for ensuring this.

परीक्षार्थियों के लिए निर्देश

1. सभी प्रश्नों के उत्तर दीजिए।
2. सभी प्रश्नों के अंक समान हैं।
3. प्रत्येक प्रश्न का केवल एक ही उत्तर दीजिए।
4. एक से अधिक उत्तर देने की दशा में प्रश्न के उत्तर को गलत माना जाएगा।
5. प्रत्येक प्रश्न के चार वैकल्पिक उत्तर दिये गये हैं, जिन्हें क्रमशः 1, 2, 3, 4 अंकित किया गया है। अभ्यर्थी को सही उत्तर निर्दिष्ट करते हुए उनमें से केवल एक गोले अथवा बबल को उत्तर-पत्रक पर नीले बॉल प्वाइंट पेन से गहरा करना है।
6. **OMR** उत्तर-पत्रक इस परीक्षा पुस्तिका के अन्दर रखा है। जब आपको परीक्षा पुस्तिका खोलने को कहा जाए, तो उत्तर-पत्रक निकाल कर ध्यान से केवल नीले बॉल प्वाइंट पेन से विवरण भरें।
7. प्रत्येक गलत उत्तर के लिए प्रश्न अंक का 1/3 भाग काटा जायेगा। गलत उत्तर से तात्पर्य अशुद्ध उत्तर अथवा किसी भी प्रश्न के एक से अधिक उत्तर से है। किसी भी प्रश्न से संबंधित गोले या बबल को खाली छोड़ना गलत उत्तर नहीं माना जायेगा।
8. मोबाइल फोन अथवा इलेक्ट्रॉनिक यंत्र का परीक्षा हॉल में प्रयोग पूर्णतया वर्जित है। यदि किसी अभ्यर्थी के पास ऐसी कोई वर्जित सामग्री मिलती है, तो उसके विरुद्ध आयोग द्वारा नियमानुसार कार्यवाही की जायेगी।
9. कृपया अपना रोल नम्बर ओ.एम.आर. पत्रक पर सावधानीपूर्वक सही भरें। गलत अथवा अपूर्ण रोल नम्बर भरने पर 5 अंक कुल प्राप्तांकों में से काटे जा सकते हैं।
10. यदि किसी प्रश्न में किसी प्रकार की कोई मुद्रण या तथ्यात्मक प्रकार की त्रुटि हो, तो प्रश्न के हिन्दी तथा अंग्रेजी रूपान्तरों में से अंग्रेजी रूपान्तर मान्य होगा।

चेतावनी : अगर कोई अभ्यर्थी नकल करते पकड़ा जाता है या उसके पास से कोई अनधिकृत सामग्री पाई जाती है, तो उस अभ्यर्थी के विरुद्ध पुलिस में प्राथमिकी दर्ज कराते हुए विविध नियमों-प्रावधानों के तहत कार्यवाही की जाएगी। साथ ही विभाग ऐसे अभ्यर्थी को भविष्य में होने वाली विभाग की समस्त परीक्षाओं से विवर्जित कर सकता है।

INSTRUCTIONS FOR CANDIDATES

1. Answer all questions.
2. All questions carry equal marks.
3. Only one answer is to be given for each question.
4. If more than one answers are marked, it would be treated as wrong answer.
5. Each question has four alternative responses marked serially as 1, 2, 3, 4. You have to darken only one circle or bubble indicating the correct answer on the Answer Sheet using **BLUE BALL POINT PEN**.
6. The **OMR** Answer Sheet is inside this Test Booklet. When you are directed to open the Test Booklet, take out the Answer Sheet and fill in the particulars carefully with **blue ball point pen** only.
7. **1/3 part of the mark(s) of each question will be deducted for each wrong answer.** A wrong answer means an incorrect answer or more than one answers for any question. Leaving all the relevant circles or bubbles of any question blank will not be considered as wrong answer.
8. Mobile Phone or any other electronic gadget in the examination hall is strictly prohibited. A candidate found with any of such objectionable material with him/her will be strictly dealt as per rules.
9. Please correctly fill your Roll Number in O.M.R. Sheet. **5 Marks** can be deducted for filling wrong or incomplete Roll Number.
10. If there is any sort of ambiguity/mistake either of printing or factual nature, then out of Hindi and English Version of the question, the English Version will be treated as standard.

Warning : If a candidate is found copying or if any unauthorized material is found in his/her possession, F.I.R. would be lodged against him/her in the Police Station and he/she would liable to be prosecuted. Department may also debar him/her permanently from all future examinations.

**इस परीक्षा पुस्तिका को तब तक न खोलें जब तक कहा न जाए।
Do not open this Test Booklet until you are asked to do so.**

RADIODIAGNOSIS

1. Pancreas is mainly supplied by -
 - (1) Splenic artery
 - (2) Superior pancreaticoduodenal artery
 - (3) Inferior pancreaticoduodenal artery
 - (4) Left gastric artery
2. Following segment of Liver forms the boundary of CALOT's Triangle -
 - (1) Segment VII of Liver
 - (2) Segment V of Liver
 - (3) Segment III of Liver
 - (4) Segment IV of Liver
3. Myocardial specific biomarkers are -
 - (1) CK MB - 1 & LDH - 1
 - (2) CK MB - 2 & LDH - 1
 - (3) CK MB - 2 & LDH - 2
 - (4) CK MM & CK BB
4. Which of these hormones use cAMP pathway?
 - (1) Catecholamines
 - (2) Steroid hormones
 - (3) Thyroid hormones
 - (4) 1, 25 DHCC
5. Not true about Testicular Feminization Syndrome is -
 - (1) Sex Chromosome Karyotype is XY
 - (2) Androgen resistance
 - (3) Leydig cells are deficient
 - (4) No spermatogenesis
6. MRI scan of a patient show well defined multiloculated expansile lesion with extensive fluid-fluid/ haemorrhage levels in the metaphysis of the long bone. The lesion probably is -
 - (1) Giant cell tumor
 - (2) Aneurysmal bone cyst
 - (3) Chondroblastoma
 - (4) Osteoblastoma
7. For Askin's tumor, all are true, except -
 - (1) PNET of the thoracopulmonary region
 - (2) Presents as soft tissue mass involving the chest wall
 - (3) Resembles Ewing's Sarcoma
 - (4) Commoner in the males
8. CT findings of a positive response to treatment in a patient of Osteosarcoma include all, except -
 - (1) Marked decrease in size or complete disaffirmance of the soft tissue mass
 - (2) Improved delineation of the margins
 - (3) Formation of rim of calcification in the periphery
 - (4) Decreased calcification of the mass

9. Choose the false statement -

- (1) SLAP tear refers to labral tear stretching across superior portion of labrum.
- (2) HAGL is the detachment of the capsule and inferior glenohumeral ligament from their anterior humeral attachment.
- (3) ALPSA refers to tear of the periosteum of the anteroinferior glenoid and labrum rotated inferiorly and displaced laterally.
- (4) GLAD is the tear of anteroinferior glenoid labrum with injury to the glenoid articular cartilage.

10. Calcific tendinitis involves which muscle most frequently -

- (1) Supraspinatus
- (2) Teres minor
- (3) Infra spinatus
- (4) Long head of biceps

11. Bucket handle tears result in all, except -

- (1) Flipped meniscus sign
- (2) Ghost sign
- (3) Double PCL sign
- (4) Double delta sign

12. A 25-year asthmatic man presented with fever, cough & shortness of breath. Antibiotic course has not improved his symptoms. Investigations performed resulted in positive skin test for *Aspergillus fumigatus* and elevated serum IgE level. Patient does not have previous history of sarcoidosis or Tuberculosis. Most likely HRCT finding is -

- (1) Lower lobe predominance
- (2) Halo sign
- (3) Air crescent sign
- (4) Central bronchiectasis

13. Not true about coarctation of aorta is -

- (1) Most commonly affects aortic isthmus
- (2) Femoral pulse are usually delayed & weakened
- (3) Associated with Turner's syndrome
- (4) Infantile type of coarctation is located just distal to ductus arteriosus

14. Following is not the limitation faced by conventional coronary angiography -

- (1) Mild or non-stenotic CAD is not visualized
- (2) Limited information regarding plaque composition
- (3) Limited information regarding degree of vascular remodelling
- (4) Limited information regarding severity & length of stenosis

15. In Aortic trauma, if irregular poorly defined Pseudoaneurysm is present, then the injury to aorta is of grade -
- (1) II b (2) III b
(3) IV (4) III a
16. Feature of Benign ulcer on fluoroscopy is -
- (1) Presence of Hampton line crossing the base of ulcer
(2) Irregular nodular mucosal folds
(3) Presence of Carman meniscus
(4) Irregular shape of ulcer
17. Following gastric polyp have malignant potential -
- (1) Hyperplastic polyps (2) Fundic gland polyps
(3) Adenomatous polyps (4) Hamartomatous polyps
18. Match the following congenital anomalies of pancreas -

Column-I

Column-II

- | | |
|---|-------------------------------|
| (A) Failure of lesion of dorsal & ventral anlage | (1) Pancreatic hypoplasia |
| (B) Failure of normal rotation during development | (2) Ectopic pancreatic tissue |
| (C) Deficiency in development of Dorsal anlage | (3) Annular pancreas |
| (D) Pancreatic tissue found in remote location | (4) Pancreatic divisum |

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

19. Both cortical & Medullary nephrocalcinosis can be caused by -
- (1) Hypervitaminosis D (2) Renal tuberculosis
(3) Chronic glomerulonephritis (4) Primary hyperoxaluria
20. Following renal stones are Radiopaque -
- (1) Struvite stones (2) Urate stones
(3) Xanthine stones (4) Indinavir stones
21. Following is the finding in patients with ovarian cancer – Tumor involves both ovaries, their is enlargement of retroperitoneal lymph nodes. Additional findings are peritoneal deposits of more than 2 cms, omental caking, extension of tumor to capsule of Liver & Spleen without parenchymal involvement.
The correct stage as per FIGO staging of ov ovarian cancer will be -
- (1) III C (2) III B
(3) III A1 (4) III A2

22. Urethrography shows bladder neck injury with extension into the posterior urethra. Radiologically contrast extravasation is seen in the pelvic extra peritoneal space with disruption of bladder neck. Classify the injury based on modification by Coldman et al -
- (1) Type II (2) Type III
(3) Type IV (4) Type V
23. True about neurocysticercosis is -
- (1) The cysts are usually greater than 10 mm in size.
(2) Perilesional edema & contrast enhancement is seen in the vesicular stage.
(3) There is increase in perilesional edema in granular nodular stage.
(4) No perilesional edema or contrast enhancement is seen in nodular calcified stage.
24. False about MR imaging of Multiple Sclerosis (MS) is -
- (1) Small periventricular lesions are best appreciated using FLAIR sequence.
(2) Focal involvement of periventricular white matter in frontal lobe is typical of MS.
(3) Corpus callosum is region that is most often vulnerable to demyelination in MS.
(4) Juxtacortical lesion involving subcortical 'U fibres' are seen in majority of patients with MS.
25. Stained glass appearance on T1W MRI is seen in -
- (1) Endometrioma (2) Serous Cystadenoma
(3) Mucinous Cystadenoma (4) Endometrial Carcinoma
26. Most common site of carcinoma metastatic to the eye is -
- (1) Sclera (2) Cornea
(3) Choroid (4) Retina
27. All are true about Hashimoto's thyroiditis, except -
- (1) Thyroid appears more hypoechoic than a normal gland
(2) Pseudolobulated appearance is seen
(3) Micronodulation
(4) Hypervascularity similar to thyroid inferno is never seen

28. Colloid scintigraphy of liver show following, except -
- (1) Increased activity in enlarged caudate lobe
 - (2) Increased activity in enlarged spleen
 - (3) Increased bone marrow uptake
 - (4) Decreased activity in liver
29. In Renal scintigraphy using Technetium-99m DMSA scan, following is true, except -
- (1) 60% of administered dose is taken up by proximal tubular cells mainly by filtration and tubular reabsorption.
 - (2) Tracer accumulates in cortical tubules within 1 hour & remains for 24 hours.
 - (3) In early phase of Acute pyelonephritis there is reduced tracer uptake due to ischaemia.
 - (4) In later stage of Acute pyelonephritis accumulation of isotope may occur due to associated tubular obstruction.
30. Tungsten is used as filament, although -
- (1) It is less efficient emitting material
 - (2) It can be drawn into thin wire
 - (3) It has high melting point
 - (4) It has little tendency to vaporize
31. Small tungsten target is bonded to much larger copper portion of anode. The correct reason is -
- (1) as it increases the melting point
 - (2) makes it more efficient for production of X-rays
 - (3) More efficient absorption of heat
 - (4) Facilitates heat dissipation
32. True about Bremsstrahlung is -
- (A) It is also known as characteristic radiation.
- (B) It involves collision between high speed electron & electron in the shell of target tungsten atom.
- (1) Both statements A & B are true
 - (2) Both statement A & B are false
 - (3) Only A is true
 - (4) Only B is true
33. In N - type semiconductor, impurity added can be -
- (1) Antimony
 - (2) Indium
 - (3) Gallium
 - (4) Aluminium

34. This is a basic interaction in which high energy photon interacts with nucleus of an atom and the photon disappears producing an electron and a proton -
- (1) Compton scattering
 - (2) Photoelectric effect
 - (3) Pair production
 - (4) Coherent scattering
35. Rayleigh Tyndall scattering is caused by -
- (1) Plasma
 - (2) RBC's
 - (3) WBC's
 - (4) Platelets
36. Which step is omitted in automatic film processing?
- (1) Developing
 - (2) Rinsing
 - (3) Fixing
 - (4) Washing
37. Whole length of petrous bone is demonstrated in this view -
- (1) Stenver's view
 - (2) Periorbital view
 - (3) Water's view
 - (4) Towne's view
38. Skull view taken by placing the patients head in 'hanging head' position is -
- (1) Towne's view
 - (2) Water's view
 - (3) Lateral view
 - (4) Basal view
39. First two carpal bones to ossify in the newborn are -
- (1) Scaphoid & lunate
 - (2) Trapezium & trapezoid
 - (3) Capitate & hamate
 - (4) Triquetral & pisiform
40. In Digital Mammography, direct capture detector use -
- (1) Amorphous selenium
 - (2) Charge coupled devices
 - (3) Photostimulable phosphors
 - (4) Amorphous silicon
41. False about Digital Breast Tomosynthesis (DBT) -
- (1) better characterization of breast lesions especially in women with dense breast
 - (2) Primary benefit of DBT is for non-calcified mammographic findings such as masses, asymmetries & distortions
 - (3) DBT increases the specificity by better assessment of detected lesion and reduction in false positive recalls
 - (4) Perception of calcification cluster is good with DBT

42. Advantages of arterial spin labelling MR imaging is -
- (1) Shorter imaging times
 - (2) Increased spatial resolution
 - (3) Better flow maps in detecting regions of disturbed vascularity
 - (4) Uses intravenous contrast agent
43. Following is a temporary distal occluders type of embolizing agent -
- (1) Starch microsphere
 - (2) Polyvinyl alcohol particles
 - (3) Thrombin
 - (4) Sclerosants
44. FDG PET/CT has lower sensitivity & specificity for -
- (1) neuroendocrine tumors
 - (2) thymic tumors
 - (3) bladder carcinomas
 - (4) cervical lymph node metastasis
45. A → PET/MR has advantages of better tumor delineation because of high resolution of MR and metabolic status of tumor by PET.
B → PET/MR can be used for better defining targeted radiotherapy of tumor & avoiding normal tissues.
- (1) Both A & B are true & A correctly explains B
 - (2) Both A & B are true but A does not explain B
 - (3) Only A is true
 - (4) Only B is true
46. Molecular imaging probes used in monitoring the action of genes in biological system in vivo are-
- (1) targeted probes
 - (2) reporter gene probes
 - (3) cell tracking probes
 - (4) phenotypic probes
47. Majority of malpractice lawsuits against radiologist are accounted by -
- (1) high radiation exposure to patients
 - (2) sex determination
 - (3) misdiagnosis
 - (4) not maintaining confidentiality of patients information

48. Year in which PCPNDT Act came into existence -
- (1) 1994 (2) 1996
(3) 1992 (4) 1995
49. What type of vascular malformation is seen in 100% of patients with PHACE(s) syndrome?
- (1) Congenital Hemangioma (2) Infantile Hemangioma
(3) Venous Malformation (4) Arteriovenous Malformation
50. Compared to AQP4-IgG positive NMOSD myelitis, MOG-IgG positive myelitis is more often seen in which segment(s) of the spinal cord?
- (1) Cervicomedullary (2) Cervical and cervicothoracic
(3) Thoracic (4) Thoracolumbar and conus
51. Which findings(s) are most specific for spinal cord infarct in patients with acute myelopathy?
- (1) Anterior horn hyperintense signal on T2-weighted imaging.
(2) Holocord hyperintense signal on T2-weighted imaging.
(3) Vertebral body infarction in conjunction with same level cord signal abnormality.
(4) Nonexpansile intramedullary enhancement in the anterior horns of the spinal cord.
52. What structure connects the nasal vault to the pterygopalatine fossa?
- (1) Sphenopalatine foramen (2) Palatine canal
(3) Pterygomaxillary fissure (4) Foramen rotundum
53. Which structure normally drains into the right ostiomeatal unit?
- (1) Right sphenoid sinus (2) Left sphenoid sinus
(3) Right anterior ethmoid air cells (4) Right posterior ethmoid air cells
54. According to the 2018 AHA recommendations, which of the following imaging should be utilized in an acute stroke patient with large vessel occlusion within 6 to 24 hours?
- (1) Collateral imaging (2) Multiphase CT angiogram
(3) CT or MR perfusion imaging (4) 4D CT angiogram
55. Which immunohistochemical marker may be used to distinguish a hemangioma from a vascular malformation?
- (1) CD15 (2) Cytokeratin
(3) GLUT-1 (4) Alpha fetoprotein

56. All of the following are advantages of ultrahigh magnetic field for clinical MRI, except -
- (1) Increased SNR
 - (2) Faster imaging
 - (3) Improved tissue contrast (e.g. gray-white junction)
 - (4) Improved B_0 homogeneity
57. Which imaging feature distinguishes echordosis physaliphora from a clival chordoma?
- (1) Midline location
 - (2) T2 hyperintense signal
 - (3) Restricted diffusion
 - (4) Lack of enhancement
58. Hemosiderin staining on MRI is a sign of what age haemorrhage in a patient with a history of trauma?
- (1) Hyperacute (hours or less)
 - (2) Acute (hours to days)
 - (3) Subacute (days to weeks)
 - (4) Chronic (weeks to months, or year)
59. The "scalpel sign" is a characteristic imaging finding of which of the following entities?
- (1) Spinal cord herniation
 - (2) Arachnoid cyst
 - (3) Arachnoid adhesions
 - (4) Arachnoid web
60. Prevertebral soft tissue swelling in the setting of calcifications immediately anterior to the midline of C1 and C2 is suggestive of what process?
- (1) Calcific tendinitis of the longus colli tendons
 - (2) Retropharyngeal cellulitis/abscess
 - (3) Rheumatoid arthritis
 - (4) Tuberculosis
61. Which of the following statement about subarachnoid hemorrhage (SAH) is false?
- (1) 80-85% of non-traumatic subarachnoid hemorrhages are due to an aneurysm.
 - (2) A non-contrast enhanced CT is recommended for acute (less than 24 hours old) sudden-onset headaches, looking for subarachnoid hemorrhage.
 - (3) Perimesencephalic location of subarachnoid hemorrhage is strongly associated with aneurysmal SAH.
 - (4) Diagnostic cerebral angiogram is the investigation of choice to demonstrate intracranial aneurysm.

62. Which of the following entities is associated with Moya-Moya syndrome?
- (1) Neurofibromatosis type 2 (2) Down syndrome
(3) Ataxia telangiectasia (4) Charcot-Marie-Tooth disease
63. Which branches of the ECA form the anastomosis with the ophthalmic artery?
- (1) The internal maxillary and the facial artery
(2) The lingual and the occipital arteries
(3) The superior thyroid and ascending pharyngeal arterie
(4) The internal maxillary and superficial temporal arteries
64. What is the most common and most cephalic of the persistent carotid-vertebrobasilar anastomoses?
- (1) Persistent hypoglossal artery (2) Persistent stapedial artery
(3) Persistent trigeminal artery (4) Proatlantal intersegmental artery
65. A 20-year-old woman with a normal quadruple screen has a sonogram at 18-weeks gestational age and is found to have bilateral choroid plexus cysts. What is the most appropriate next step?
- (1) Perform an amniocentesis to assess for trisomy 21.
(2) Perform a chorionic villous sampling to assess for trisomy 18.
(3) Perform a fetal survey to assess for morphologic abnormalities.
(4) No further follow up is needed.
66. Which of the following is TRUE concerning sacrococcygeal teratomas?
- (1) Excision of the lower sacrum is necessary to prevent recurrence.
(2) Currarino triad includes sacrococcygeal teratoma sacral defect and posterior meningocele.
(3) Sacrococcygeal teratomas contain elements of all three germ cell layers.
(4) A type IV lesion is located below the sacrum and is visible externally.
67. Which of the following ovarian masses in children is associated with abnormal sexual development?
- (1) Cystic teratoma (2) Dysgerminoma
(3) Granulosa cell tumor (4) Endodermal sinus tumor

68. In a case of anaphylaxis, the proper dose of adrenaline injection is -
- (1) 1 mL of 1:1000 adrenaline IV (2) 0.5 mL of 1:1000 adrenaline IM
(3) 1 mL of 1:10,000 adrenaline IV (4) 0.5 mL of 1:10,000 adrenaline IM
69. Which of the following is not a HRCT feature of Nonspecific Interstitial Pneumonia (NSIP)?
- (1) Basal and peripheral predominance of ground-glass opacity and reticulation
(2) Extensive honey combing
(3) Relative subpleural sparing in the dorsal regions of the lower lobes
(4) Mild fibrosis, traction bronchiectasis and interlobular interstitial thickening
70. A mildly enlarged pancreas with loss of signal intensity on T1W images with a hypointense rim around the pancreas which shows a characteristic delayed enhancement is suggestive of -
- (1) Chronic pancreatitis (2) Hereditary pancreatitis
(3) Pancreatic adenocarcinoma (4) Autoimmune pancreatitis
71. Commonest site for aortic trauma is -
- (1) Ascending aorta (2) Proximal DTA close to ductal remnant
(3) Juxta renal abdominal aorta (4) Aortic bifurcation
72. Physician who performed the first angioplasty was -
- (1) Charles Dotter (2) Thomas Dotter
(3) John Dotter (4) James Dotter
73. The "ears of lynx" sign is describe for which of the following conditions -
- (1) Amyotrophic lateral sclerosis (2) Hereditary spastic paraplegia
(3) Spinocerebellar ataxia (4) Wilson disease
74. Reversal agent for heparin is -
- (1) Prothrombin complex concentrates (2) Protamine
(3) FFP (4) Vitamin K
75. Method of reduction of radiation dose to operator is -
- (1) Use magnification
(2) Use more continuous fluoroscopy than pulsed fluoroscopy
(3) Use extension tubing for injectors
(4) Avoid under table shields

76. Which of the following is a stochastic effect of radiation?
- (1) Cancer
 - (2) Cataract
 - (3) Infertility
 - (4) Skin burns
77. Chemical name for "Glue" is -
- (1) N acetyl cyanoacrylate
 - (2) N butyl cyanoacrylate
 - (3) N methyl cyanoacrylate
 - (4) None
78. Which of the following is not a collateral pathway between mesenteric vasculature?
- (1) Arc of Riolan
 - (2) Marginal artery of Drummond
 - (3) Winslow's pathway
 - (4) Arc of Buhler
79. If a patient has a duplicated IVC, the ideal location of an IVC filter would be -
- (1) Infrarenal right IVC
 - (2) Suprarenal IVC
 - (3) Infrarenal left IVC
 - (4) Filter is contraindicated and thrombolysis should be performed
80. Regarding Pulmonary Arteriovenous Malformations (PAVMs), which of the following is true?
- (1) They cause left-to-right shunt
 - (2) Majority of patients with PAVMs have hereditary hemorrhagic telangiectasia
 - (3) Majority of PAVMs occur in upper lobes
 - (4) Polyvinyl alcohol particles are the embolising agent of choice
81. Identify the false statement -
- (1) Bronchial arteries arise most commonly from descending aorta at the T5/T6 level.
 - (2) Bronchial arteries also supply blood to the esophagus.
 - (3) Rasmussen's aneurysm usually arises from the bronchial arteries.
 - (4) When searching for a cause of massive hemoptysis the subclavian arteries should also be examined.

82. Which of the following is the best prophylactic agent/method to prevent contrast induced nephropathy?
- (1) N-acetyl cysteine
 - (2) Saline infusion to maintain adequate pre procedure hydration
 - (3) Mannitol
 - (4) Furosemide
83. Regarding AERB guidelines for “dose limitation”, identify the true statement -
- (1) Whole body occupational radiation exposure must not exceed 20 mSv/ year.
 - (2) The annual dose for the public should not exceed 10 mSv under any circumstance.
 - (3) For pregnant radiation workers, after declaration of pregnancy 5 mSv on the embryo/fetus should not exceed.
 - (4) Radiation equivalent dose of lens of eye must not exceed 100 mSv/year.
84. Which of the following statement is false about skull foramina which transmit the named cranial nerves?
- (1) Superior orbital fissure – VIth cranial nerve
 - (2) Inferior orbital fissure – IIIrd cranial nerve
 - (3) Internal auditory meatus – VIIth cranial nerve
 - (4) Foramen rotundum – maxillary division of Vth cranial nerve
85. Triple density sign is seen in -
- (1) Usual interstitial pneumonia
 - (2) Hypersensitivity pneumonitis
 - (3) Nonspecific interstitial pneumonia
 - (4) Chronic sarcoidosis
86. Third M^ogul sign on frontal chest radiograph is due to enlargement of -
- (1) Aortic knuckle
 - (2) Left atrial appendages
 - (3) Right atrial appendages
 - (4) Main pulmonary artery
87. A patient presented to emergency in shock after road traffic accident. Contrast CT abdomen showing an irregular nodular arterial phase enhancing lesion at the periphery of mid pole of spleen on arterial phase. On venous phase this enlarges and become denser and confined to the splenic capsule. This injury is classified into which grade as per 2018 AAST classification -
- (1) Grade II
 - (2) Grade III
 - (3) Grade IV
 - (4) Grade V

88. Which of the following is false with regards to thoracic duct?
- (1) Largest lymphatic vessel
 - (2) Superior continuation of the cisterna chyli at the T10-L3 level
 - (3) Enters the thoracic cavity through the oesophageal hiatus
 - (4) It crosses right to left in upper thorax before opening into left internal jugular vein
89. The detector used in the TLD is -
- (1) $\text{CaSO}_4:\text{Dy}$
 - (2) Gas detector
 - (3) CdSO_4
 - (4) Ag_2O
90. Choose the true statement -
- (1) The CT number is based on the linear attenuation coefficient of the water only.
 - (2) The CT number is based on the linear attenuation coefficient of the water and the material of interest.
 - (3) The CT number is based on the linear attenuation coefficient of the material of interest only.
 - (4) The CT number is never based on the linear attenuation coefficient of the material of interest.
91. A patient undergoing barium swallow is exposed with optimal tube potential and tube current parameters. The temporal resolution is observed to be inadequate. Which of the following can improvise the temporal resolution further?
- (1) Increase in tube potential
 - (2) Increase in tube current
 - (3) Decrease in tube potential
 - (4) Increase in pulse rate
92. In MRI, noise can be decreased by -
- (1) Long TR
 - (2) Short TR
 - (3) Long TE
 - (4) Smaller voxel sizes
93. Renal cortical nephrocalcinosis is seen in all of the following, except:
- (1) Ethylene glycol poisoning
 - (2) Chronic transplant rejection
 - (3) Snake bite
 - (4) Cystinuria

94. In bladder exstrophy, which of the following is incorrect?
- (1) There is frequently a bifid clitoris in affected females.
 - (2) There is diastasis of the pubic symphysis.
 - (3) In closed exstrophy, the mucosa of the bladder is continuous with the skin.
 - (4) There is a frequent association with cryptorchidism.
95. Regarding pheochromocytoma, which of the following statement is incorrect?
- (1) The incidence of malignancy is lower in extra adrenal compared to adrenal pheochromocytoma.
 - (2) Extra adrenal tumors occur most commonly at the aortic bifurcation.
 - (3) There is an association with parathyroid adenoma.
 - (4) MIBG scintigraphy has a 10% false negative rate for tumor detection.
96. Regarding renal neoplasms, which of the following is correct?
- (1) Oncocytomas can be confidently differentiated from renal cell carcinomas on imaging.
 - (2) Calcification is seen in majority of oncocytomas.
 - (3) Juxtaglomerular cell tumors (reninomas) are typically vascular tumors.
 - (4) Renal involvement is more common in non-Hodgkin's lymphoma than Hodgkin's lymphoma.
97. In pheochromocytoma, elevated level of amylase is due to -
- (1) Damaged pulmonary endothelium
 - (2) Associated pancreatitis
 - (3) Sialolithiasis
 - (4) All of the above
98. Which of the following statement regarding osteomalacia is incorrect?
- (1) Looser's zones show increased uptake on radionuclide bone scan.
 - (2) Looser's zones are most commonly seen along the medial border of the humeral neck.
 - (3) There is an association with Neurofibromatosis (NF).
 - (4) It causes loss of lamina dura of the teeth.

99. Which of the following is incorrect regarding osteosarcoma?
- (1) There is an association with pineoblastoma.
 - (2) There is an increased incidence in osteopetrosis.
 - (3) Telangiectatic osteosarcoma typically demonstrates fluid-fluid levels on MRI.
 - (4) It frequently metastasizes to other bones.
100. Which of the following can present as a spiculated lesion on mammography?
- (1) Fat necrosis
 - (2) Medullary carcinoma
 - (3) Cystosarcoma phyllodes
 - (4) Plasma cell mastitis
101. Which of the following is incorrect about calcifications detected on mammography?
- (1) Skin calcifications typically have central lucent centres.
 - (2) Milk of calcium has a typical appearance on the cranio-caudal view.
 - (3) Suture calcifications are usually linear in appearance.
 - (4) Bilateral scattered punctate calcifications are probably benign.
102. Which of the following is incorrect regarding MRI and heart disease?
- (1) Infarcted myocardium is typically high signal on T2-weighted imaging.
 - (2) There is marked enhancement of infarcted myocardium following intravenous gadolinium contrast.
 - (3) Infarcted myocardium appears low signal on post contrast inversion recovery sequences.
 - (4) In acute myocardial infarction, systolic wall thickening is reduced.
103. Regarding Total Anomalous Pulmonary Venous Drainage (TAPVD), which of the following is incorrect?
- (1) The supracardiac type is the most common.
 - (2) The left atrium is not enlarged.
 - (3) The infracardiac type may drain into the hepatic veins.
 - (4) Pulmonary edema in the presence of a normal size heart is a feature of cardiac type TAPVD.

104. Which of the following ultrasonographic signs is not seen in full thickness rotator cuff tear of the shoulder?
- (1) Non visualization of the rotator cuff.
 - (2) Full thickness hyperechogenicity of the rotator cuff.
 - (3) Focal thinning of the rotator cuff.
 - (4) Fluid in the subacromial bursa.
105. Regarding choanal atresia, which of the following is incorrect?
- (1) It is usually due to membranous obstruction of choanae.
 - (2) Urgent treatment is required if the condition is bilateral.
 - (3) It is associated with cleft face, nose and palate.
 - (4) The vomer is typically thickened on CT.
106. Which of the following is "hot" on a Tc-99m MDP bone scan?
- (1) Fibrous dysplasia
 - (2) Acute fracture (first 12 hours after injury)
 - (3) Bone island
 - (4) Multiple myeloma
107. All of the following chest conditions take up Ga-67 citrate avidly except -
- (1) Kaposi's sarcoma
 - (2) Pneumocystis carinii pneumonia
 - (3) Lymphoma
 - (4) Bacterial pneumonia
108. Which of the following lesions may show signal loss on out-of-phase (opposed phase) MRI?
- (1) Hepatocellular carcinoma
 - (2) Cholangiocarcinoma
 - (3) Lymphoma
 - (4) Hemangioma
109. All of the following are neurocutaneous syndromes, except -
- (1) Ataxia telangiectasia
 - (2) Gomez-Lopez-Hernandez syndrome
 - (3) Nijmegen breakage syndrome
 - (4) Peutz-Jeghers syndrome
110. Which of the following is specialized response assessment criteria for GIST after imatinib treatment?
- (1) WHO
 - (2) RECIST
 - (3) CHOI
 - (4) PERSIST

111. All of the following are imaging findings of groove pancreatitis, except -
- (1) Soft tissue density within the pancreaticoduodenal groove.
 - (2) Small cystic lesions along the medial wall of duodenum.
 - (3) An intense early enhancement of the lesion.
 - (4) Biliary strictures seen in 50% cases.
112. A 2-year-old has an elbow radiograph performed following a fall. Which one of the following epiphysis should be visible?
- (1) Capitellum
 - (2) Medial epicondyle
 - (3) Olecranon
 - (4) Radial head
113. A concertina like arrangement of small bowel loops with a narrow posterior base, adherence of the bowel to the anterior abdominal wall are the imaging findings seen in -
- (1) Mesenteric lipodystrophy
 - (2) Spontaneous bacterial peritonitis
 - (3) Sclerosing encapsulating peritonitis
 - (4) Mesenteric oedema
114. How will you retrieve a broken catheter in main pulmonary artery?
- (1) Through femoral artery
 - (2) Through femoral vein
 - (3) Through radial artery
 - (4) Any of the above routes
115. Which of the following statement is incorrect about Juvenile angiofibromas?
- (1) Biopsy is contraindicated.
 - (2) Widening of the pterygopalatine fossa is only seen in advanced cases.
 - (3) Is the commonest benign nasopharyngeal tumor.
 - (4) Invasion of the sphenoid sinus occurs in up to two thirds of cases.
116. A 18-year-old female presented with hip pain and was found to have a well-defined lesion in her greater trochanter. Which was ultimately proven to be a chondroblastoma. What pattern of mineralisation is typical?
- (1) Normal surrounding bone, no mineralisation in lesion.
 - (2) Normal surrounding bone, rings and arcs within lesion.
 - (3) Surrounding sclerosis, no mineralisation in lesion.
 - (4) Surrounding osteopenia, dense sclerosis within lesion.

117. Which of following is false with respect to invasive pulmonary aspergillosis?
- (1) More commonly associated with severely immunocompromised patients & transplant recipients.
 - (2) On CT a classical halo sign is seen with dense central nodule surrounded by a halo of ground glass opacity.
 - (3) Air crescent sign is an early finding.
 - (4) In some cases may invade the wall of trachea or bronchi.
118. A previously healthy male has been diagnosed with active primary tubercular infection. What feature on imaging would suggest primary rather than reactivated pulmonary tuberculosis?
- (1) Cavity formation
 - (2) Calcification
 - (3) Non-specific pneumonitis
 - (4) Tuberculoma
119. A 52-year-old gentleman with exertional dyspnoea was referred by his cardiologist for a stress cardiac MR study. His medical history includes hyperlipidaemia, asthma and hypertension. Which of the following pharmacological stress agents is best suited for this patient?
- (1) Adenosine
 - (2) Dobutamine
 - (3) Atenolol
 - (4) Verapamil
120. Pentalogy of Cantrell consist of -
- (1) Umbilical hernia
 - (2) Thoracoabdominal ectopia cordis
 - (3) Dextrocardia
 - (4) Pericardial effusion
121. A 20-year-old male with a recent history of medulloblastoma now present with vague abdominal pain, PR bleeding and weight loss. Innumerable colonic polyps are demonstrated on colonoscopy. What is the most likely unifying diagnosis?
- (1) Familial adenomatous polyposis
 - (2) Turcot syndrome
 - (3) Gardner syndrome
 - (4) Chronic inflammatory bowel disease
122. A young female with seizures and skin lesions shows B/L hypointense signals on T1 and T2WI in B/L amygdala, diagnosis is -
- (1) lipoid proteinosis
 - (2) tuberous sclerosis
 - (3) Sturge-Weber syndrome
 - (4) incontinentia pigmenti

- 123.** 27 weeks twin pregnancy, twin A show normal length and curvature in the lower extremities, twin B shows short and vertically bowed tibia and femur absent fibula, talipes equinovarus and hypoplastic scapulae, most likely diagnosis is -
- (1) Osteogenesis imperfecta
 - (2) Campomelic dysplasia
 - (3) Hypophosphatasia congenita
 - (4) Heterozygous achondroplasia
- 124.** The criteria for malignancy on dynamic MR mammogram is -
- (1) Homogeneous contrast enhancement of mass lesion
 - (2) B/L symmetrical NMLE
 - (3) Non enhancing mass
 - (4) Type III curve
- 125.** Vacuum assisted biopsy in breast is useful, except -
- (1) For biopsy of lesion more than 5mm.
 - (2) Near complete removal of malignant lesion.
 - (3) Biopsy of microcalcification cluster.
 - (4) Suspected intraductal papillomas.
- 126.** A multilocular cystic lesion with expansile scalloped margins is seen lying adjacent to the left lower first molar on an OPG of a 30-year-old man. The cyst has thin septated margins and the root of the molar is absorbed. What is the likely diagnosis?
- | | |
|----------------------|-------------------|
| (1) Brown tumor | (2) Metastasis |
| (3) Dentigerous cyst | (4) Ameloblastoma |
- 127.** All are features of MEN 1 syndrome, except -
- | | |
|-------------------------|-----------------------|
| (1) Hyperparathyroidism | (2) Pancreatic tumors |
| (3) Pituitary tumors | (4) Pheochromocytoma |
- 128.** Most preferred agent used in vertebroplasty is -
- | | |
|----------|------------------|
| (1) PMMA | (2) Coils |
| (3) PVA | (4) Microspheres |

129. In contrast to digital radiography, all are true, except -

- (1) The detector plate acquires a digital image without having to be physically taken to a scanner.
- (2) Direct digital radiography systems use amorphous silicon Thin Film Transistor (TFT) arrays.
- (3) Indirect system use a phosphor to absorb X-rays and release light photons which produce the image.
- (4) Digital radiography is more expensive than computed radiography.

130. Regarding the Compton effect -

- (1) A photo electron is ejected in a collision with a photon.
- (2) The free electrons described in Compton scanner are often bound within the valence shell of atoms.
- (3) The probability of Compton effect is proportional to the atomic number (Z) cubed.
- (4) The mass attenuation coefficient for the Compton effect for bone is twice that of soft tissue.

131. Concerning MR angiography -

- (1) On a SE sequence, slow flowing blood appears dark (flow-void).
- (2) In GRE flowing blood appears bright only after administration of intravenous gadolinium.
- (3) Pulsatile movement artefact is most apparent in the phase-encoding direction.
- (4) Vessel calcification will produce a high signal which can mask a stenosis.

132. Regarding quality assurance, all are true, except -

- (1) The installer on RPA can complete the critical examination of new equipment.
- (2) Tests on all equipment, annually at least are mandatory.
- (3) Requires the equipment used for testing to be calibrated.
- (4) Is a requirement under IRMER 2000.

133. Most common indication for stereotactic biopsy is -
- (1) evaluation of microcalcification in breast.
 - (2) for evaluation of small lesion of breast.
 - (3) to assess asymmetry.
 - (4) to assess accessory breast malignancy.
134. Which projection is used to demonstrate both sphenoidal and posterior ethmoidal air sinuses?
- (1) Submento-vertical
 - (2) Vertico-mental
 - (3) Anterior oblique
 - (4) Occipito-mental
135. True sequence regarding the steps of bottom up Evidence Based Practice (EBP) -
- (1) Ask → Search → Apply → Appraise
 - (2) Ask → Search → Appraise → Apply
 - (3) Ask → Apply → Search → Appraise
 - (4) Ask → Appraise → Search → Apply
136. Velocity of ultrasound in tissue is affected by all, except -
- (1) frequency of ultrasound
 - (2) temperature
 - (3) tissue compressibility
 - (4) tissue density
137. BGR artefact is seen with -
- (1) Doppler USG
 - (2) Elastography
 - (3) MRI
 - (4) CT scan

138. Split notochord syndrome occurs due to -
- (1) Abnormal persistent connection between dorsal ectoderm and ventral endoderm of embryonic disc.
 - (2) Persistent connection between dorsal ectoderm and ventral mesoderm of embryonic disc.
 - (3) Persistent connection between mesoderm and endoderm of embryonic disc.
 - (4) None of the above
139. Which of these features can differentiate meningioma from paraganglioma within the posterior cranial fossa?
- (1) Meningiomas typically results in hyperostosis of adjacent bone, whereas paragangliomas do not.
 - (2) Paragangliomas may extend through the jugular foramen, whereas meningioma do not.
 - (3) Paragangliomas may have internal calcification, whereas meningiomas do not.
 - (4) Meningiomas typically result in an early arterial contrast blush with rapid washout, whereas paragangliomas do not.
140. Which area in the brain is most involved in X-linked adrenoleukodystrophy in children?
- (1) Frontal lobe
 - (2) Corticospinal tract
 - (3) Parieto-occipital lobe
 - (4) Temporal lobe
141. Which one of these vascular abnormalities is associated with increased risk of arterial injury during otology surgery?
- (1) Congenital absence of the ICA
 - (2) Aberrant ICA
 - (3) Persistent trigeminal artery
 - (4) Arterial infundibulum

142. Features of papilledema secondary to increased intracranial pressure include all of the following, except -
- (1) Enhancement of the optic nerve
 - (2) Dilated optic nerve sheath
 - (3) Flattening of the posterior sclera
 - (4) Protrusion of the optic disc into the globe
143. Which one of the following commonly causes oligohydramnios?
- (1) Unilateral renal agenesis
 - (2) Preterm premature rupture of membranes
 - (3) Esophageal atresia without tracheoesophageal fistula
 - (4) Thanatophoric dysplasia
144. Which one of the following is associated with the highest incidence of fetal morphologic anomalies?
- (1) A poorly-controlled diabetic taking insulin
 - (2) A patient taking a beta blocker for control of hypertension
 - (3) A trauma patient with abdominal plain
 - (4) A patient with prior pregnancy with amniotic band syndrome
145. A periampullary duodenal diverticulum compressing the intra-pancreatic part of the common bile duct with resultant upstream dilatation is known as -
- (1) Lemmel syndrome
 - (2) de Quervain's syndrome
 - (3) Hiatus hernia syndrome
 - (4) Cowden syndrome
146. A 25-year-old man presents to emergency after trauma with unilateral proptosis, chemosis, reduced visual acuity and a bruit over his right orbit. Gadolinium – enhanced MRI of the orbits shows abnormal contrast enhancement of the right periorbital soft tissues and extraocular muscles. The superior ophthalmic vein is also dilated. What is the most likely diagnosis?
- (1) Carotid cavernous fistula
 - (2) Graves' disease
 - (3) Orbital pseudotumor
 - (4) Cavernous haemangioma orbit

147. All of the following are correct regarding congenital lobar emphysema, except -
- (1) It commonly affects the lower lobes
 - (2) Bilateral involvement is rare
 - (3) Underlying vascular markings are present
 - (4) The affected lobe is opaque after birth
148. All are true about Solid Pseudopapillary Neoplasm (SPN) of pancreas, except -
- (1) Encapsulated lesions
 - (2) Solid and cystic components
 - (3) Haemorrhage common
 - (4) Poor survival rates
149. Which of the following interaction of X-ray photon with matter do not occur in diagnostic energy range and no role in diagnostic radiology?
- (1) Coherent scattering
 - (2) Photoelectric effect
 - (3) Compton scattering
 - (4) Pair production
150. In trauma patient 'FAST' denotes -
- (1) Fluid Assessment with Sonography in Trauma
 - (2) Focused Assessment with Sonography in Trauma
 - (3) Fast Assessment with Sonography in Trauma
 - (4) Fine Assessment with Sonography in Trauma
151. Which of the following factor increases the chance of pneumothorax during percutaneous lung biopsy?
- (1) Fissure based lesion
 - (2) Large size lesion
 - (3) Peripheral lesion
 - (4) Use of coaxial technique
152. A 65-year-old man with history of recent surgery presents to the Emergency Department complaining of shortness of breath, pleuritic chest pain and haemoptysis. D-dimer levels were measured and found to be significantly elevated. A CXR is performed as part of the initial set of investigations. Which one of the following is the most likely CXR finding?
- (1) A normal chest radiograph
 - (2) Localised peripheral oligemia
 - (3) Peripheral airspace opacification
 - (4) Pleural effusion

153. Which of the following is the most commonly used catheter for an abdominal aortogram?
- (1) Pigtail (2) Cobra
(3) Judkins (4) RDC
154. Modality of choice to diagnose recurrent cervical tumor is -
- (1) MRI (2) CT
(3) Transvaginal ultrasound (4) Transabdominal ultrasound
155. On MRI (on T1W image) a dermoid cyst can be mimicked by -
- (1) Pedunculated fibroid (2) Hemorrhagic adnexal cyst
(3) Carcinoma ovary (4) Functional cyst
156. Medial deviation of bladder shadow during an endovascular procedure is indicative of -
- (1) Contrast nephropathy (2) Malpositioned foley's catheter
(3) Evolving retroperitoneal hematoma (4) None of the above
157. Which of the following scenario is a medical exposure?
- (1) Exposure to scattered radiation by the patient comforters
(2) Exposure to background radiation
(3) Exposure to stray radiation by the patients waiting at the waiting area
(4) Exposure to scattered radiation by the radiation worker
158. Which of the following is incorrect regarding benign cardiac tumors?
- (1) Recurrence after excision of papillary fibroelastomas is common.
(2) Rhabdomyomas of the heart typically seen in children less than 1 year of age.
(3) Rhabdomyoma is associated with tuberous sclerosis.
(4) Cardiomegaly is the most common radiological finding in patients with cardiac fibromas.
159. Which of the following structures does not pass through foramen ovale?
- (1) Mandibular nerve
(2) Greater petrosal nerve
(3) Emissary vein
(4) Accessory meningeal artery

160. Which of the following is incorrect regarding lesions of the jaw?
- (1) Ameloblastoma occurs more frequently in the maxilla.
 - (2) A dentigerous cyst develops around an unerupted tooth.
 - (3) Dentigerous cysts are associated with basal cell nevi.
 - (4) Radicular cysts arise in relation to the tooth apex.
161. Only tarsal which is devoid of any muscular attachment is -
- (1) Talus
 - (2) Calcaneum
 - (3) Navicular
 - (4) Cuboid
162. Following is not the branch of Internal Carotid Artery -
- (1) Anterior Cerebral Artery
 - (2) Middle Cerebral Artery
 - (3) Posterior Cerebral Artery
 - (4) Posterior Communicating Artery
163. Systemic effect that is common to both acute & chronic inflammation is -
- (1) high grade fever
 - (2) anaemia
 - (3) amyloidosis
 - (4) lymphadenitis
164. Following is not the function of oestrogen -
- (1) Oogenesis
 - (2) growth of sex organs
 - (3) development of secondary sexual characters
 - (4) prepares endometrium for implantation of fertilized ovum
165. True about Chordoma is -
- (1) Most commonly involve skull base.
 - (2) Women are affected twice as frequently as men.
 - (3) Skull base chordomas generally affect older population.
 - (4) These tumors are almost always midline or paramedian in location.
166. First step in investigation of patient with suspected Sub Arachnoid Hemorrhage -
- (1) Lumbar puncture
 - (2) Non-enhanced CT
 - (3) CT angiography
 - (4) MRI

167. In modern image intensifier –

- (A) Input phosphor is caesium iodide
- (B) Output phosphor is zinc cadmium sulphate
- (1) Both statements A & B are true
- (2) Both statements A & B are false
- (3) Only statement A is true
- (4) Only statement B is true

168. Match the column –

<u>CT artefacts</u>	<u>Cause</u>
A) Motion artefact	1) miscalibration
B) Streak artefact	2) heterogeneous X-ray beam
C) Beam hardening artefact	3) high density material
D) Ring artefact	4) patients motion

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

169. 2D TOF is not used for -

- (1) cerebral angiography
- (2) cerebral venography
- (3) abdominal angiography
- (4) peripheral angiography

170. Not an advantage of Time-resolved MRA -

- (1) useful for unstable & moving patients
- (2) better depiction of AVM feeders, nidus & venous drainage
- (3) low dose of contrast is required
- (4) gives an idea about flow dynamics of AVM/AVF & aneurysms

171. Not an advantage of LCD display monitors used in PACS over CRT monitors -

- (1) light weight
- (2) less power consumption
- (3) longer viewing angle
- (4) aspect ratio is maintained

172. Following molecule best detects bone metastasis in prostate cancer -

- | | |
|----------|----------|
| (1) FDG | (2) FLT |
| (3) FDHT | (4) TK-1 |

173. Match the columns of PET tracers used in evaluation of dementia with their targets -

<u>Radionuclide tracers used in evaluation of dementia</u>	<u>Molecular targets</u>
A) F 18 FDG	- Glucose metabolism
B) F 18 FDDNP	- 5HT2A receptor
C) C 11 PiB	- Amyloid plaques
D) F 18 DOPA	- Dopaminergic neurons

One of these is wrong, which one?

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

174. First generation of modern DEXA scanners used -

- | | |
|-----------------------|----------------------|
| (1) pencil X-ray beam | (2) fan beam |
| (3) cone beam | (4) c-arm technology |

175. Following is ethically wrong for a doctor -

- (1) Advising investigations & procedures in patients interest
- (2) Maintaining confidentiality of patients information regarding illness or disease
- (3) Promising or guaranteeing a cure
- (4) Taking a specialist opinion

176. Concerning acute ovarian torsion, which one is TRUE?

- (1) Presents as hyperechoic small ovary without follicles.
- (2) Majority of patients are postmenopausal.
- (3) Typically managed medically rather than surgically.
- (4) Commonly associated with ovarian neoplasm or cyst.

177. Which of the following variable is not used in Child-Turcotte-Pugh classification of severity of liver disease in cirrhosis?

- | | |
|------------------------------------|----------------------|
| (1) Ascites | (2) Serum creatinine |
| (3) International normalized ratio | (4) Albumin |

178. CO2 angiography can be used in all the following procedures, except -

- (1) Hepatic vein portography
- (2) Abdominal aortography
- (3) Lower extremity angiography
- (4) Cerebral angiography

179. A neonate with respiratory distress, X-ray showing right side complete opaque hemithorax with ipsilateral mediastinal shift. The CT showing normal left lung and non-visualized right lung with presence of short blind ending bronchus on right side, so final diagnosis is -

- (1) Pulmonary agenesis
- (2) Pulmonary aplasia
- (3) Pulmonary hypoplasia
- (4) Complete collapse of right lung

180. Which of the following statement is true with regards to Dual Energy CT in chest?

- (1) Dual Energy CT is useful in cases of pulmonary thromboembolism.
- (2) Iodine maps may be useful to look for small pulmonary embolism.
- (3) It can quantitatively measure the perfusion in lung parenchyma.
- (4) The pulmonary arteries are better seen at high kV value.

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