

**SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES
& TECHNOLOGY, THIRUVANANTHAPURAM – 695 011**

ENTRANCE TEST: ACADEMIC SESSION 2017

Cardio vascular imaging & vascular interventional radiology
(DM & PDCC)

Time: 90 Mts

Max. marks : 100

(Select the most appropriate answer)

1. Which of the following is not the indication of a micturating cystourethrogram in children
 - a. Thick walled bladder in ultrasound
 - b. Antenatally detected hydronephrosis
 - c. Any haematuria in children
 - d. All boys under 4 years with UTI

2. Which of the following is not the cause of increased echogenicity of the neonatal kidneys
 - a. Tuberosus sclerosis
 - b. Cytomegalovirus infection
 - c. Multilocular cystic nephroma
 - d. Acute tubular necrosis

3. Which of the following angiograms would best depict the vascularity of a transplant kidney
 - a. Thoracic aortogram
 - b. Left femoral angiogram
 - c. Abdominal aortogram
 - d. Iliac angiogram

4. Which of the following does not cause biliary tract obstruction
 - a. Gall bladder malignancy
 - b. Benign pancreatic cyst
 - c. Ascariasis
 - d. Stones

5. Spontaneous intracerebral haemorrhage most commonly occurs in
- Basal ganglion
 - Occipital lobe
 - Temporal lobe
 - Cerebellum
6. Which of the following radiological findings best describe osteogenesis imperfecta
- Exuberant callus formation
 - Multiple fractures with bowed bones
 - Diffuse loss of bone density
 - All of the above
 - None of the above
7. Ebsteins anomaly is characterized by the following except
- Cyanosis
 - Pulmonary plethora
 - Enlarged right atrium
 - Enlarged azygous vein
8. Carcinoma of the oesophagus is more frequent in
- Gastroesophageal junction
 - Middle third
 - Upper third
 - Lower third
9. Which of the following are not associated with hepatocellular carcinoma in children
- Cystic fibrosis
 - Wilson's disease
 - Hepatitis B
 - Glycogen storage disease

10. Which of the following is not a true radiological feature of an infantile haemangioendothelioma

- a. centripetal filling in CT scans
- b. embolisation is curative
- c. feeding vessel is seen in T2 WI
- d. biopsy is done with a 21 G core needle.

11. Which is not a true sign of pneumoperitoneum in a supine film

- a. Free air under the diaphragm
- b. Air in scrotum
- c. Air in lesser sac
- d. Visualization of the urachus

12. Spalding's sign appears within

- a. 2 months
- b. 2 weeks
- c. 2 days
- d. none of the above

13. McLeod's syndrome is characterized by

- a. Pulmonary infarction associated with abscess
- b. Congenital absence of pericardium
- c. Idiopathic pulmonary hypertension
- d. None of the following

14. For a Cantrell's pentalogy, which is true

- a. All the five components are intracardiac
- b. 3 are intracardiac and 2 are intracranial
- c. rotation defects of the gut
- d. fusion defects of the anterior abdominal/chest wall with associated anomalies

15. The most frequent location for the carcinoma in the stomach is

- a. Antrum
- b. Body
- c. Cardia
- d. Fundus

16. The most useful view for skeletal age assessment would be

- a. AP view of pelvis
- b. AP view of the hands including wrist joints
- c. Oblique view of the hands only
- d. Oblique view of the shoulder

17. Flow quantification in MRI would be done by

- a. SSFP sequence
- b. True FISP sequence
- c. HASTE sequence
- d. VENC sequence

18. Cyanosis at birth is observed in

- a. Total anomalous pulmonary venous drainage
- b. Partial anomalous pulmonary venous drainage
- c. Complete transposition of great vessels
- d. Tetralogy of Fallot

19. All is true for a choroid plexus papilloma except

- a. Increased CSF production is the common cause of hydrocephalus
- b. Common in neonatal period
- c. 40% of papillomas undergo malignant conversion
- d. Choroid plexus carcinomas arise from brain parenchyma

20. What is true for Vein of Galen malformation

- a. They do not bleed in children
- b. Present as congestive cardiac failure
- c. Angiography detects it in 100% of cases
- d. Occult malformations are not detected by MRI

21. Floating teeth are not seen with

- a. Osteoid osteoma
- b. Histiocytosis
- c. Ewing's sarcoma
- d. all of the above

22. Which of the following is not a correct combination

- a. Brachycephaly --- coronal suture fusion
- b. Scapocephaly --- premature fusion of sagittal suture
- c. Trigonocephaly --- fusion of metopic suture
- d. Trigonocephaly – coronal suture fusion

23. Which is not a true radiological feature of a Wilms tumor

- a. Stippled calcification
- b. 90 % present with palpable abdominal mass
- c. hypertension is a presenting feature
- d. bilateral tumours are synchronous in majority

24. Premature closure of growth plate is seen in all except

- a. Chronic arthritis
- b. Ollier's disease
- c. Neurofibromatosis
- d. Trauma

25. Osteochondritis dissecans is not associated with which of the following

- a. Perthe's disease
- b. Osgood Schlatter disease
- c. Scheuermann's disease
- d. None of the above

26. Micromelic dwarfism is seen in all except

- a. Jeune syndrome
- b. Thanatophoric dysplasia
- c. Hypophosphatasia
- d. Asphyxiating thoracic Dysplasia

27. Colpocephaly is a feature of all except

- a. Agenesis of corpus callosum
- b. Joubert syndrome
- c. Arnold Chiari malformation
- d. Holoprosencephaly

28. Which of the following is true for the Trigeminal nerve

- a. Gasserian ganglion has cell bodies of all sensory fibres
- b. Has four nuclei
- c. All of the above
- d. None of the above

29. What is not correct of septo-optic dysplasia

- a. De Morsier syndrome
- b. Associated with schizencephaly
- c. Hypertonia
- d. Small optic canals

30. Achondroplasia does not have

- a. Flaring of iliac wings
- b. Hydrocephalus
- c. Frontal bossing
- d. Normal cardiothoracic ratio

31. MRI features of carpal tunnel syndrome are all except

- a. Neurinoma of median nerve
- b. Increased signal intensity of nerve on T2WI
- c. Mass within the carpal tunnel
- d. Volar bowing of flexor retinaculum

32. Extrapulmonary bronchopulmonary sequestration is
- None of the following
 - Drain to the pulmonary veins
 - Symptomatic only in adulthood
 - Comprises of 75% of all bronchopulmonary sequestration
33. True about metastasis to lung is
- 5 % of all SPN are metastatic
 - incidence is 60 % in choriocarcinoma
 - mostly haematogenous
 - all are true
34. What is true about truncus arteriosus
- Type III => Both PA arise posteriorly from the trunk
 - Type II => Both PA arise from either side of the trunk
 - Type I => Main PA & aorta arises from common truncal valve
 - None of the above
35. What is true about subclavian steal syndrome is
- Reversal of vertebral artery flow in Doppler
 - Signs of brachial insufficiency
 - Aggravates with exercise
 - All of the above
36. The chromosomal defect in NF I is
- Short arm of chromosome 17
 - Long arm of Chromosome 17
 - Short arm of chromosome 22
 - Short arm of chromosome 11

37. Which of the following is not the cause of generalized increased bone density
- a. Melorheostosis
 - b. Caffey's disease
 - c. Paget's disease
 - d. Osteopetrosis
38. Ligament calcification does not occur in
- a. Hyperparathyroidism
 - b. Ankylosing spondylitis
 - c. Fluorosis
 - d. Diabetes
39. Commonest site of fracture in osteogenesis imperfecta
- a. Epiphysis
 - b. Metaphysis
 - c. Diaphysis
 - d. All of the above
40. Posterior urethral valve can be best demonstrated by
- a. Ultrasound
 - b. Micturating cystourethrography
 - c. Retrograde urethrography
 - d. Intravenous pyelography
41. Which is true for a neuroblastoma
- a. Location is unknown in 10 %
 - b. Bilateral in 10 %
 - c. Extends into the spinal canal
 - d. All of the above
42. Bladder outflow obstruction is not seen in
- a. Prune belly syndrome
 - b. Neonatal ascites
 - c. Posterior urethral valve
 - d. Polyhydramnios

43. Chassard-Lapine view is for

- a. Pelvic inlet
- b. Sacral hiatus
- c. Thoracic inlet
- d. Foramen rotundum

44. With respect to the double aortic arch, which of the statements is true

- a. Deep posterior indentation on the oesophagus on Barium oesophagogram
- b. Shallow indentation on the left on oesophagogram
- c. Tracheal narrowing
- d. All of the above

45. Wada's Test is carried out for the diagnostic support in which of the following conditions

- a. Testing the patency of sagittal sinus in parasagittal midline meningiomas
- b. Testing if the patient is malingering
- c. Language or speech testing in epilepsy
- d. Language or speech testing in parkinson's disease

46. Cause of scaphoid abdomen in neonates

- a. Esophageal atresia with tracheoesophageal fistula
- b. Duodenal atresia
- c. Pyloric stenosis
- d. Diaphragmatic hernia

47. Which is not a common causes of intestinal obstruction in first three months

- a. Small left colon syndrome
- b. Intussusception
- c. Duplication cyst
- d. Hirschprung's disease

48. Which is not a recognized cause of 11 pair of ribs on a CXR
- Turner's syndrome
 - Down's syndrome
 - Campomelic dysplasia
 - Cleidocranial Dysplasia
49. The most common joint to be affected by osteoarthritis is
- Glenohumeral
 - Tibiofemoral
 - Patellofemoral
 - Acetabulofemoral
50. Type A dissection of the aorta may be a feature of
- Marfan's syndrome
 - Ehler-Danlos syndrome
 - Cystic medial necrosis
 - All of the above
51. Percutaneous injection of thrombin is a treatment for
- Arteriovenous malformations of brain
 - Berry aneurysms
 - Pancreatic pseudo cyst
 - AV fistula
52. Which catheter is used for complex visceral artery catheterisation
- Right coronary catheter
 - Yashiro catheter
 - Pigtail catheter
 - Multipurpose catheter
53. Preferred embolic agent for treating pulmonary arteriovenous fistula is
- Fibred coil
 - Poly vinyl alcohol particles
 - Gel foam
 - N-butyl cyanoacrylate

54. Kissing balloon technique is used for
- Subclavian angioplasty
 - Carotid angioplasty
 - Common iliac angioplasty
 - All of the above
55. False about 4D ultrasound imaging
- Generated by combining B mode and A mode images
 - Real time 3D is called 4D
 - Valuable in echocardiography
 - Probe sweeping has to be rapid
56. Which is not a 3D reconstruction method
- Curved multi planar reconstruction
 - Surface shaded display
 - Maximum intensity projection
 - Filtered back projection reconstruction
57. 'Mask images' in angiogram is
- Used to generate rotational angiogram
 - They are post contrast images
 - Used to generate DSA images
 - Used in volume rendering
58. Small sub pulmonic effusion can be detected by all except
- Ultrasound scan
 - CT scan
 - Lateral decubitous chest X-ray
 - erect Chest PA view
59. In CT low attenuation within enlarged mediastinal lymph nodes are seen in
- Whipples disease
 - Malignant thymic tumor
 - Mesothelioma
 - sarcoidosis
60. Which is not a ultrasound sign of appendicitis
- Non compressible
 - Diameter 6mms or greater
 - No peristalsis
 - Oedema of caecal pole

61. False statement about air bronchogram
- Radiolucent branching structures
 - Abnormality is intra-bronchial
 - Indicates pulmonary consolidation
 - Seen in severe pulmonary fibrosis
62. Kerley B line is seen in all except
- Pneumoconiosis
 - Pulmonary tuberculosis
 - Interstitial pneumonia
 - Lymphangitic carcinomatosa
63. Which is not a feature of sub phrenic abscess
- Usually due to sepsis following abdominal surgery
 - More frequent on the right
 - Basal atelectasis
 - Pneumothorax
64. False statement regarding pleural fibroma
- Known as benign mesothelioma also
 - Presents with finger clubbing
 - May associated with hypertrophic osteoarthropathy
 - Cause massive pleural effusion
65. Which of the following is not radiological feature of acute viral pneumonia
- Peribronchial shadowing
 - Reticulonodular shadowing
 - Patchy consolidation
 - Cavitation
66. Which statement is not true about tissue plasminogen activator in stroke treatment
- GP IIb/IIIa receptor inhibitor
 - Used for intra arterial thrombolysis
 - Intravenously it can be given in the first 4.5hrs of acute stroke
 - Intracranial bleeding is a complication

67. The pathognomonic sign of arterial dissection is
- String sign
 - Tapering occlusion (flame shape)
 - Smooth or scalloped narrowing with distal normalization
 - Double lumen
68. Severe reactions to intravenous iodinated contrast media can be predicted by which of the following?
- Conjunctival testing
 - Intradermal skin testing
 - Small (1.0ml) intravenous test dose prior to the full injection
 - No accurate pretesting is available
69. Formation of urinary calculi is associated with all of the following EXCEPT
- Hyperparathyroidism
 - Hyperoxaluria
 - Renal artery stenosis
 - Nephrogenic diabetes insipidus
70. The most serious complication of Percutaneous antegrade pyelography is
- Obstruction due to clots
 - Excessive pressure with extravasation
 - Bleeding
 - Inadvertent puncture of adjacent organs
71. CT scanning and ultrasonography are superior to standard roentgenographic techniques using iodinated compounds in the evaluation of which of the following?
- Intrinsic urinary tract obstruction
 - Urinary tract incontinence
 - Cystoureteral reflux
 - Extrinsic bladder compression
72. Vesicocolic fistulas are most commonly due to which single cause?
- Neoplasm of the bladder
 - Uterine carcinoma (especially of the cervix)
 - Diverticulitis of the colon
 - Colonic carcinoma

73. Anterior displacement of the trachea may be due to all of the following EXCEPT

- a. Zenker's diverticulum
- b. Neuroenteric cyst
- c. Aneurysm of the ascending aorta
- d. Cardiospasm (achalasia)

74. Asbestosis is characterized by all of the following EXCEPT

- a. Malignant mesothelioma of the peritoneum is most likely due to asbestos.
- b. Development of bronchogenic carcinoma in asbestos workers is most likely due to the combined effects of smoking and asbestos.
- c. Roentgen signs develop early in chronic exposure to this mineral.
- d. Calcific diaphragmatic pleural plaques are characteristic of asbestosis.

75. In all forms of pulmonary sarcoidosis, which of the following is the most predominant finding in roentgenograms of the chest

- a. Involvement of the mediastinal nodes.
- b. Involvement of the pulmonary parenchyma and mediastinal nodes.
- c. Involvement of the lungs in a symmetrical fashion
- d. Involvement of the right paratracheal chain of lymph nodes.

76. Regarding rupture of the thoracic aorta, which of the following is FALSE?

- a. About 40% of patients surviving the initial trauma with complete transection of the aorta will survive.
- b. Thickening of the left apical cap is not the primary or most valuable radiographic sign.
- c. Displacement of an indwelling nasogastric tube to the right suggests mediastinal hematoma.
- d. Most commonly, the aortic rupture is limited to the intima.

77. Which of the following is NOT applicable in regard to rupture of a main-stem bronchus?

- a. Rupture rarely involves a bronchus distal to the main bronchus.
- b. The most common cause is blunt trauma to the anterior chest.
- c. Bronchial rupture is more common on the left due to the greater length of the left compared to the right.
- d. In view of the frequency of bilateral involvement it is important to evaluate both main-stem bronchi if one is found severed / ruptured.

78. In the case of blunt trauma to the chest without penetrating injury, which of the following is correct?

- a. Traumatic pneumatoceles require 5-7 days to develop.
- b. Cavitating pulmonary hematomas develop rapidly, often within 3 days following injury.
- c. Fractured first and second ribs are commonly associated with a ruptured bronchus on the same side.
- d. Traumatic pneumatoceles are more common in older patients than younger ones.

79. Tracheal narrowing as seen by roentgenogram may be due to all of the following EXCEPT

- a. Congenital tracheal stenosis
- b. Congenital laryngeal cyst
- c. Chronic relapsing polychondritis
- d. Tracheomalacia of the Ellis-van Creveld syndrome

80. Severe chest pain with hematemesis and dysphagia, in association with mediastinal emphysema, is characteristic of

- a. Ruptured esophageal varices
- b. Mallory-Weiss syndrome
- c. Boerhaave syndrome
- d. Intramural esophageal rupture

81. Concerning colonic obstruction, which of the following is FALSE?
- a. The rate of recurrence in sigmoid volvulus may be in excess of 50%
 - b. In distal obstruction of the colon the cecum is most likely to rupture.
 - c. The most common single cause of distal colon obstruction is carcinoma
 - d. Because of the danger of bowel wall perforation, water-soluble contrast media should be used in evaluating colonic obstruction
82. Pelvic lipomatosis is LEAST characterized by which of the following?
- a. Greater frequency in men than women
 - b. Ureteral obstruction
 - c. Generalized morbid obesity
 - d. Low attenuation values on computerized tomography of the pelvis
83. The roentgen diagnosis of acute pancreatitis is suggested or supported by all of the following EXCEPT
- a. Blurring of the left psoas and renal shadows
 - b. Massive left pleural effusion
 - c. Reverse figure 3 sign
 - d. On CT scan, swelling confined to the pancreatic head
84. The method of choice in preliminary evaluation of biliary obstruction with clinical jaundice is
- a. Intravenous cholelithography
 - b. CT scan
 - c. Ultrasonography
 - d. Endoscopic retrograde cholangio pancreatography (ERCP)
85. Concerning diverticula of the gastrointestinal tract, which of the following are commonly symptomatic?
- a. Zenker's diverticulum
 - b. Epiphrenic diverticulum
 - c. Duodenal diverticula arising from the second portion
 - d. Diverticula of the proximal jejunum

86. Marked hyperacidity, acute peptic ulceration and non-beta islet cell pancreatic tumors are the hallmark of
- Menetrier's disease
 - Eosinophilic gastroenteritis
 - Benign lymphoid hyperplasia
 - Zollinger-Ellison syndrome
87. Complications of esophageal hiatus hernia include all of the following EXCEPT
- Shortening of the esophagus
 - Bleeding, with or without demonstrable ulceration
 - Shortened esophagus
 - Obstruction from scarring of the smaller sliding herniations
88. Concerning choledochal cysts, which of the following is correct?
- More common in males
 - Most likely related to recurrent cholangitis
 - There is often ultrasonographic demonstration of dilated intrahepatic bile ducts
 - The choledochal cyst is actually the dilated cystic duct.
89. Rectal atresia is often associated with which of the following?
- A patent anus
 - Duodenal obstruction
 - Rectovesical communication
 - Rectovaginal communication
90. Regarding aortic aneurysms, which of the following is LEAST likely?
- Aneurysms in the thoracic aorta are often symptomatic prior to rupture.
 - Rupture of an aneurysm in the ascending aorta is a common cause of death due to cardiac tamponade.
 - The most common cause of a dissecting aneurysm of the aorta is cystic degeneration of the media.
 - Erosion of vertebral bodies by aortic aneurysms is characteristic of the luetic variety.

91. The most common congenital heart defect is
- Interatrial defect, ostium secundum
 - Persistent ductus arteriosus.
 - Ventricular septal defect.
 - Tetralogy of Fallot
92. Variation in transcardiac mensuration on a routine erect teleroentgenogram of the chest between diastole and systole is about
- 1%
 - 3%
 - 5-10%
 - 15%
93. An aneurysm of the sinus of Valsalva usually arises from the
- Left aortic sinus
 - Right aortic sinus
 - Posterior aortic sinus
 - Pulmonary outflow tract
94. Concerning an aberrant right subclavian artery, which of the following is correct?
- It is often symptomatic from compression of the esophagus
 - It is nearly always associated with the right aortic arch
 - It is anterior to the esophagus
 - It is the most common anomaly of the great vessels.
95. In pericardial defects, one expects all of the following EXCEPT
- No specific roentgenologic findings
 - Association with other anomalies of the heart, lung, or diaphragm
 - More marked cardiac motion on fluoroscopy
 - Defects more common on the left.
96. Generally speaking, cardiac enlargement can be expected in all of the following EXCEPT
- Both chronic hypothyroidism and hyperthyroidism.
 - Severe anemia
 - Fenestration of the aortic cusps
 - Maladie de Roger defect

97. The normal limits of pulmonary arterial pressure in systole are

- a. 10-12mmHg
- b. 12-16mmHg
- c. 16-25mmHg
- d. 25-30mmHg

98. Regarding mycotic aneurysms of the aorta, which of the following is correct?

- a. These aneurysms enlarge slowly
- b. A source of infection is usually not identifiable
- c. Due to the infective nature, these are not amenable to surgical repair.
- d. Right-sided bacterial endocarditis as a source of mycotic aneurysms is particularly prevalent in drug addicts.

99. In complete transposition of the great vessels which of the following is NOT found.

- a. Cardiomegaly at birth
- b. Increased pulmonary vascularity after several weeks
- c. Aortic arch is commonly found on the left.
- d. In the absence of ventricular septal defect, improvement accompanies closure of a patent ductus arteriosus or foramen ovale.

100. Interlobar effusion are most commonly associated with

- a. Pericarditis
- b. Tuberculosis
- c. Congestive cardiac failure
- d. Pleural mesothelioma

KEY CARIOVASCULAR IMAGING & INTERVENTIONAL RADIOLOGY 2017			
1	c	51	c
2	c	52	b
3	d	53	a
4	b	54	d
5	a	55	a
6	d	56	d
7	b	57	c
8	c	58	d
9	a	59	a
10	b	60	b
11	a	61	b
12	c	62	b
13	d	63	d
14	d	64	d
15	a	65	d
16	b	66	a
17	d	67	d
18	c	68	d
19	a	69	d
20	b	70	c
21	a	71	d
22	d	72	c
23	a	73	c
24	c	74	c
25	a	75	c
26	d	76	d
27	b	77	d
28	b	78	c
29	c	79	b
30	a	80	c
31	a	81	d
32	a	82	c
33	b	83	d
34	c	84	c
35	d	85	a
36	b	86	d
37	a	87	d
38	a	88	b
39	c	89	a
40	b	90	a
41	d	91	c
42	d	92	c
43	b	93	b
44	d	94	d
45	c	95	a
46	a	96	d
47	b	97	d
48	a	98	d
49	c	99	d
50	d	100	c