- 1. Hirschprung's disease is due to:
  - (A) Loss of anterior longitudinal cells.
  - (B) Loss of ganglionic cell in paravertebral sympathetic chain.
  - (C) Failure of migration of neural crest cell from cranial to caudal direction.
  - (D) Idiosyncratic.
- 2. Internal organs in the fetus develop at:
  - (A) 24 weeks.
  - (B) 12 weeks.
  - (C) 10 weeks.
  - (D) 6 weeks.
- 3. All are developed from ectoderm except:
  - (A) Lens.
  - (B) Brain.
  - (C) Spinal cord.
  - (D) Retinal vascular endothelium.
- 4. Which of the following is true regarding vessels in the umbilical cord:
  - (A) Two arteries & two veins.
  - (B) One arteries & one vein.
  - (C) Two arteries & the left vein.
  - (D) Two veins & the left artery.
- 5. The Glossopharyngeal nerve supplies the posterior part of the tongue because it develops from the:
  - (A) Hyoid arch.
  - (B) Tuberculum impar.
  - (C) Mandibular arch.
  - (D) Hypobranchial eminence.
- 6. Patent foramen ovale is due to failure of fusion of:
  - (A) Ostium primum with Endocardial cushion.
  - (B) Ostium primum with Ostium Secundum.
  - (C) Ostium primum with Septum primum.
  - (D) Septum primum with septum secundum.
- 7. Anatomical closure of ductus arteriosus ocuurs at:
  - (A) Birth.
  - (B) 3-4 day.
  - (C) 10 day.
  - (D) 30 day.
- 8. The membranous part of the atrio ventricular part of interventricular septum is between:
  - (A) RA & LV.
  - (B) LV & RV.
  - (C) RA & RV.
  - (D) LA & LV.

- Meckel's diverticulum is a remnant of:
  (A) Stenson's duct.
  (B) Wolffian duct.
  (C) Mullerian duct.
  (D) Vitellointestinal duct.
- 10. Scrotum is analogus to:
  - (A) Labia minora.
  - (B) Labia majora.
  - (C) Uterus.
  - (D) Vagina.
- 11. Origin of ovary is from:
  - (A) Wolffian duct.
  - (B) Genital duct.
  - (C) Genital ridge.
  - (D) Genital tubercle.
- 12. Inferior obliqueis supplied by the.....cranial nerve:
  - (A) 3<sup>rd</sup>.
  - (B)  $4^{th}$ .
  - (C) 5<sup>th</sup>.
  - (D)  $6^{th}$ .
- 13. Which of the following is not true about the Trochlear nerve?
  - (A) Has the longest intracranial course.
  - (B) Supplies the ipsilateral superior oblique muscle.
  - (C) Only cranial nerve that arises from the dorsal aspect of the brainstem.
  - (D) Enters orbit through the superior orbital fissure outside the annulus of Zinn.
- 14. Which is not a content of Superior Orbital fissure:
  - (A) Optic nerve.
  - (B) Oculomotor nerve.
  - (C) Ophthalmic division of 3<sup>rd</sup> nerve.
  - (D) Trochlear nerve.
- 15. Which is not a content of tympanic cavity?
  - (A) Maleus.
  - (B) Chorda tympani.
  - (C) Stapedius.
  - (D) Post. auricular N.
- 16. Pinna is supplied by:
  - (A) Vagus nerve.
  - (B) Auriculotemporal nerve.
  - (C) Greater auricular nerve.
  - (D) Lesser petrosal nerve.

17.	The sensory supply of the palate is through all of the following, except: (A) Facial nerve. (B) Hypoglossal nerve. (C) Glossopharyngeal nerve. (D) Maxillary division of trigeminal nerve
18.	Excessive hemorrhage in tonsillectomy result from injury to: (A) Ascending palatine artery. (B) Venous commitants of facial ovary. (C) Palatine vein. (D) Internal carotid artery.
19.	Oral diaphragm is formed by:  (A) Mylohyoid.  (B) Geniohyoid.  (C) Hyoglossus.  (D) Buccinator.
20.	All are suprahyoid muscle except:  (A) Mylohyoid.  (B) Geniohyoid.  (C) Omohyoid.  (D) Digastric.
21.	Eustachian tube is supplied by: (A) Tympanic plexus. (B) Carotico tympanic nerve. (C) Glossopharyngeal nerve. (D) All.
22.	Laryngeal skeleton has ' 'Cartilages: (A) 3 paired, 2 unpaired. (B) 3 paired, 3 unpaired. (C) 2 paired, 3 unpaired. (D) 2 paired, 2 unpaired.
23.	Which laryngeal cartilage is above glottis?  (A) Arytenoid.  (B) Epiglottis.  (C) Cricoid.  (D) Thyroid.
24.	Larynx extends from: (A) C2 – C7. (B) C1 – C4. (C) C5 – C6. (D) C3 – C6.

- 25. Adult larynx extends from cervical spine:
  - (A) C3 to C6.
  - (B) C1 to T1.
  - (C) C3 to C4.
  - (D) C2 to C4.
- 26. The commonest cartilage to ossify is:
  - (A) Hyaline.
  - (B) Elastic.
  - (C) Fibrous.
  - (D) Fibroelastic.
- 27. The level of branching of the common carotid artery is:
  - (A) Upper border of thyroid cartilage.
  - (B) Lower border of cricoid.
  - (C) Upper border of cricoid.
  - (D) Hyoid.
- 28. Name the paired cartilages:
  - (A) Thyroid.
  - (B) Cricoid.
  - (C) Corniculate.
  - (D) Hyoid.
- 29. Abductor of the vocal cord is:
  - (A) Posterior cricoarytenoid.
  - (B) Lateral cricoarytenoid.
  - (C) Cricothyroid.
  - (D) Thyroepiglottis.
- 30. Internal laryngeal nerve supplies:
  - (A) Cricothyroid muscle.
  - (B) Vocalis.
  - (C) Mucous membrane below vocal fold.
  - (D) None of the above.
- 31. Nerve supply of mucosa of larynx is:
  - (A) External laryngeal and recurrent laryngeal.
  - (B) Internal laryngeal.
  - (C) External laryngeal.
  - (D) Superior laryngeal.
- 32. Following are the T.M.joint ligaments except:
  - (A) Stylomandibular.
  - (B) Temporomandibular.
  - (C) Tympanomandibular.
  - (D) Sphenomandibular.

33.	Opening of jaw done by:  (A) Masseter.  (B) Temporalis.  (C) Medial pterygoid.  (D) Lateral pterygoid.
34.	The parotid duct can be palpated when: <ul> <li>(A) Angle of the mandible is depressed.</li> <li>(B) Anterior margin of the masseter is tensed.</li> <li>(C) Posterior margin of the masseter is relaxed.</li> <li>(D) Through the buccal mucosa.</li> </ul>
35.	Isthmus of the thyroid gland is across tracheal ring:  (A) 2 <sup>nd</sup> to fourth.  (B) 3 <sup>rd</sup> to fifth.  (C) 5 <sup>th</sup> and 6 <sup>th</sup> .  (D) 4 <sup>th</sup> only.
36.	Middle thyroid vein drains in tovein.  (A) External jugular.  (B) Anterior jugular.  (C) Internal jugular.  (D) Brachiocephalic.
37.	Parathyroid glands are supplied by which artery: <ul> <li>(A) Common carotid.</li> <li>(B) Superior thyroid.</li> <li>(C) Middle thyroid.</li> <li>(D) Inferior thyroid.</li> </ul>
38.	Trachea bifurcates at: (A) T4-T5. (B) T5-T6. (C) T6-T7. (D) T7-T8.
39.	Not a midline swelling is:  (A) Branchial cyst.  (B) Suprasternal lymph nodes.  (C) Thyroglossal cyst.  (D) Submental lymph nodes.
40.	In emergency tracheostomy all structures are damaged except: <ul> <li>(A) Isthmus of thyroid.</li> <li>(B) Inferior thyroid artery.</li> <li>(C) Thyroid ima.</li> <li>(D) Inferior thyroid vein.</li> </ul>

Largest fraction of CO<sub>2</sub> is present in blood as:

41.

(A) Attached with RBC. (B) Dissolved in blood. (C) With Hb as carbaminohemoglobin. (D) Bicarbonate. 42. Gas used in IABP is: (A) Helium. (B) Xenon. (C) CO<sub>2</sub>.  $(D) O_2$ . 43. The normal value of P50 on oxyhaemoglobin dissociation curve in an adult is: (A) 1.8 kPa. (B) 2.7 kPa. (C) 3.6 kPa. (D) 4.5 kPa. 44. Arterial blood O<sub>2</sub> in ml of O<sub>2</sub> per dL: (A) 12.1. (B) 19.8. (C) 15.6. (D) 27.8. 45. The normal value of PO<sub>2</sub> in healthy man is: (A) 45 mm Hg. (B) 110 mm Hg. (C) 80 mm Hg. (D) 60 mmHg. Arterial carbon dioxide level: 46. (A) 40 mm Hg. (B) 37 mm Hg. (C) 45 mm Hg. (D) 60 mm Hg. 47. The fraction of inspired air in mouth-to mouth respiration is: (A) 0.16. (B) 0.19. (C) 0.21.(D) 0.26. The oxygen hemoglobin dissociation curve is sigmoid because: 48. (A) Binding of one oxygen molecule increases the affinity of binding other O<sub>2</sub>, molecules. (B) Binding of one oxygen molecule decrease the affinity of binding other O<sub>2</sub> molecules. (C) Oxygen affinity of Hemoglobin decreases when the pH of blood falls.

(D) Binding of oxygen to hemoglobin reduces the affinity of Hb for CO<sub>2</sub>.

- 49. In anemia, the concentration of 2, 3-DPG is:
  - (A) Decreased.
  - (B) Increased.
  - (C) A or B.
  - (D) Not changed.
- 50. Role of 2, 3 DPG in hemoglobin:
  - (A) Unloading oxygen to tissues.
  - (B) Increased affinity for oxygen.
  - (C) Buffering capacity.
  - (D) Osmotic fragility.
- 51. During exercise increase in O<sub>2</sub> delivery to muscles is because of all except:
  - (A) Oxygen dissociation curve shifts to left.
  - (B) Increased stroke volume.
  - (C) Increased extraction of oxygen from the blood.
  - (D) Increased blood flow to muscles.
- 52. Tidal volume is calculated by:
  - (A) Inspiratory capacity minus the inspiratory reserve volume.
  - (B) Total lung capacity minus the reserve volume.
  - (C) Functional residual capacity minus residual volume.
  - (D) Vital capacity minus expiratory reserve volumes.
- 53. Total lung capacity depends upon:
  - (A) Size of airway.
  - (B) Closing volume.
  - (C) Lung compliance.
  - (D) Residual volume.
- 54. Routine spirometry can't estimate:
  - (A) FRC.
  - (B) VC.
  - (C) RV.
  - (D) ERV.
- 55. During exercise increase in O<sub>2</sub> delivery to muscles is because of all except:
  - (A) Oxygen dissociation curve shifts to left.
  - (B) Increased stroke volume.
  - (C) Increased extraction of oxygen from the blood.
  - (D) Increased blood flow to muscles.
- Arterial blood gas analysis of a patient in ICU shows Ph 7.3, PaO<sub>2</sub> 60 mm Hg, PCO<sub>2</sub> 30 mm Hg, HCO<sub>3</sub> 29 mm Hg. What is the likely diagnosis?
  - (A) Metabolic acidosis.
  - (B) Metabolic alkalosis with respiratory acidosis.
  - (C) Respiratory alkalosis.
  - (D) Metabolic acidosis with respiratory alkalosis.

- 57. Chest X ray of a 60-year-old man with post-TB haemoptysis revealed right-sided cavitary lesion with mass inside. The likely diagnosis is:
  - (A) Lung abscess.
  - (B) Hydatid cyst.
  - (C) Aspergilloma.
  - (D) Tuberculoma.
- 58. ABG of a 70 year-old with septicaemia admitted in the emergency dept, shows marked hypokalemia. Find the likely associated condition:
  - (A) Metabolic acidosis.
  - (B) Metabolic alkalosis.
  - (C) Respiratory alkalosis.
  - (D) Respiratory acidosis.
- 59. Systolic murmur with Non-ejection click is classically seen in:
  - (A) Severe mitral regurgitation.
  - (B) Mitral regurgitation with pulmonary stenosis.
  - (C) Mitral regurgitation with LV outflow obstruction.
  - (D) Mitral valve prolapse.
- 60. What is the most specific diagnostic sign in acute pericarditis?
  - (A) Pericardial friction rub.
  - (B) Kussmaul sign.
  - (C) Pulsus tardus.
  - (D) Pulsus paradoxus.
- 61. Pulsus bisferiens commonly see in:
  - (A) Aortic stenosis.
  - (B) Aortic regurgitation.
  - (C) Pulmonary stenosis.
  - (D) Tricuspid stenosis.
- 62. Atrial septal defect with mitral stenosis is known as:
  - (A) William's syndrome.
  - (B) Holt oram syndrome.
  - (C) Lutembacher syndrome.
  - (D) Leriche syndrome.
- 63. Which arterial graft has shown best longterm patency after CABG?
  - (A) Radial artery.
  - (B) Left internal thoracic artery.
  - (C) Right internal thoracic artery.
  - (D) Gastro-epiplooc artery.
- 64. Internal thoracic artery is a branch of:
  - (A) Vertebtral artery.
  - (B) Subclavian artery.
  - (C) Arch of aorta.
  - (D) Internal carotid artery.

- 65. Coronary arteries arise from:
  - (A) Ascending aorta.
  - (B) Arch of aorta.
  - (C) Descending thoracic aorta.
  - (D) Vertebral artery.
- 66. Which structure lines the inferior margin of the triangle containing AV node?
  - (A) Limbus fossa ovalis.
  - (B) IVC valve.
  - (C) Posterior tricuspid leaflet.
  - (D) Patent foramen ovale.
- 67. Dysphagia lusoria is due to:
  - (A) Corrosive esophageal stricture.
  - (B) Esophageal tumour.
  - (C) Aberrent subclavian artery.
  - (D) Achalasia.
- 68. Tension pneumothorax should preferably be managed with:
  - (A) Bronchoscopy and aspiration.
  - (B) Urgent intercostal chest drain.
  - (C) Artificial ventilation.
  - (D) Emergency surgery.
- 69. Water seal chest drain is essntial to avoid:
  - (A) Infection.
  - (B) Pneumothorax.
  - (C) Hemothorax.
  - (D) Chylothorax.
- 70. In a flail chest following is correct:
  - (A) Pulmonary contusion is uncommon.
  - (B) Hemothorax which is a common acute sequela.
  - (C) Acute respiratory distress syndrome is rare.
  - (D) Surgical therapy is the mainstay of treatment.
- 71. A lower than normal hematocrit appears desirable during hypothermic CPB (cardiopulmonary bypass):
  - (A) For microcirculation.
  - (B) For its high shear rates.
  - (C) For better neurologic function.
  - (D) Better pulmonary function.
- 72. Myocardial infarction can lead to ventricular aneurysm which is:
  - (A) Discrete scar.
  - (B) Well delineated transmural fibrous scar.
  - (C) Scar with normal ejection function.
  - (D) Endocardial surface remains trabeculated.

- 73. Aortic hiatus of the diaphragm is at the level of:
  - (A) T8 vertebra.
  - (B) T9 vertebra.
  - (C) T10 vertebra.
  - (D) T12 vertebra.
- 74. The principal risk factor for peripheral arterial occlusive disease with limb loss is:
  - (A) Hypertension.
  - (B) Hyperlipidemia.
  - (C) Diabetes mellitus.
  - (D) Cigarette smoking.
- 75. ECG in Atrial fibrillation shows:
  - (A) Irregular p-p interval.
  - (B) Irregular R-R interval.
  - (C) Large Q waves.
  - (D) Large T waves.
- 76. Diagnosis of infective endocarditis is made most often by:
  - (A) Fever and septic emboli.
  - (B) Fever and change in pre-existing murmur.
  - (C) Positive blood culture and a cardiac lesion.
  - (D) Positive blood culture and sepsis.
- 77. Left Ventricular aneurysms have stenotic coronary artery disease mostly confined to:
  - (A) Left anterior descending artery.
  - (B) Left main coronary artery disease.
  - (C) Right coronary artery.
  - (D) Circumflex coronary artery disease.
- 78. Post-infarction VSD usually located in:
  - (A) Apical septum.
  - (B) Membranous septum.
  - (C) Muscular septum.
  - (D) Basal septum.
- 79. The normal mitral valve orifice area in an adult is:
  - (A) 5 to 6 cm $^2$ .
  - (B) 4 to 5 cm $^2$ .
  - (C)  $3 \text{ to } 4 \text{ cm}^2$ .
  - (D) 2 to 3 cm $^{2}$ .
- 80. In pure mitral stenosis, following morphological finding is common:
  - (A) Left atrium is severely enlarged.
  - (B) Left ventricular mass and volume are normal.
  - (C) Left ventricle is enlarged.
  - (D) Severe increase in pulmonary vascular resistance is common.

- 81. Following is true in a case of large Ventricular septal Defects (VSD):
  - (A) An apical diastolic murmur suggests a large blood flow.
  - (B) Cardiomegaly is not evident in Chest radiograph.
  - (C) Cardiomegaly is evident in Chest radiograph.
  - (D) Precordial systolic murmur is prolonged.
- 82. Hallmark finding in Chest radiograph in a case of large Ventricular septal Defects (VSD) with severe pulmonary hypertension is:
  - (A) Decreased pulmonary vascularity.
  - (B) Cardiomegaly.
  - (C) Large aorta.
  - (D) Small pulmonary trunk.
- 83. Aortic Regurgitation in association with VSD is:
  - (A) A congenital lesion.
  - (B) An acquired lesion.
  - (C) Not associated with cusp prolapse.
  - (D) Not associated with structural defect in the base of the aortic sinus.
- 84. Which of the following is true in PDA?
  - (A) A continuous murmur is audible when associated with severe heart failure.
  - (B) When PDA is large, aortic and pulmonary pressures are essentially equal.
  - (C) Not associated with recurrent respiratory tract infection.
  - (D) Normal cardiac size.
- 85. Which of the following is true in PDA?
  - (A) Early closure is not indicated when associated with heart failure.
  - (B) Persistent PDA needs to be closed during the first year of life.
  - (C) Has to be operated upon in the neonatal stage.
  - (D) Older age is a contraindication to closure of an isolated PDA in the absence of severe pulmonary vascular disease.
- 86. Tetralogy of Fallot (TOF) is associated with:
  - (A) Left ventricular hypertrophy.
  - (B) Overriding of Aorta.
  - (C) Muscular VSD.
  - (D) Left atrial hypertrophy.
- 87. The commonest cardiac anomaly associated with Tetralogy of Fallot (TOF) is:
  - (A) Multiple VSDs.
  - (B) Complete atrioventricular septal defect.
  - (C) PDA.
  - (D) ASD
- 88. The following is true in Tetralogy of Fallot (TOF):
  - (A) Differential cyanosis is common.
  - (B) Clubbing of fingers and toes are present in infants.
  - (C) Jugular Venous pressure is increased.
  - (D) Heart is not enlarged.

## JEMAS(PG) 2022 M.Sc. CCS

89. The Left Anterior Decending Coronary Artery Courses in the following groove: (A) Right Atrio-Ventricular Groove. (B) Posterior Inter-Ventricular Groove. (C) Anterior interventicular Groove. (D) Lateral interventicular Groove. 90. When the distance between 2 QRS complexes is 4 large squares in ECG grid, the heart rate will be: (A) 100. (B) 75. (C) 60.(D) 50. The first vessel from the aortic arch is: 91. (A) Left internal mammary artery. (B) Left common carotid artery. (C) Left Subclavian artery. (D) The innominate artery. 92. Pericardial Sac Enclosing the heart normally contains approximately: (A) 50ml. (B) 100ml. (C) 120ml. (D) 150ml. 93. Regarding venous drainage of heart all are true except: (A) Great Cardiac Vein runs beside LAD. (B) Small Cardiac Vein runs along the RCA. (C) Cardiac Veins do not have Valves. (D) Coronary Sinus drainage into left atrium. 94. In a low dose this drug cause renal vasodilatation: (A) Dopamine. (B) Dobutamine. (C) Adrenaline. (D) Digoxin. 95. Cardiac tumor commonly involves: (A) Right atrium. (B) Left atrium. (C) Right ventricle. (D) Left ventricle. The most important complication of DVT is:

96.

(A) Cerebral embolism. (B) Pulmonary embolism. (C) Coronary embolism. (D) Splanchnic embolism.

- 97. Drug to counteract metabolic acidosis is:
  - (A) NaCl.
  - (B) NaHCO<sub>3</sub>.
  - (C) MgCl<sub>2</sub>.
  - (D) CaCl<sub>2</sub>.
- 98. Nitroglycerin is usually not used in which route?
  - (A) Oral.
  - (B) IM.
  - (C) IV
  - (D) Sublingual.
- 99. CO<sub>2</sub> is primarily transported in the arterial blood as:
  - (A) Dissolved CO<sub>2</sub>.
  - (B) Carbonic Acid.
  - (C) Carbamino-hemoglobin.
  - (D) Bicarbonate.
- 100. In Diabetics ringer lactate priming fluid causes:
  - (A) Hyperglycemia.
  - (B) Hypoglycemia.
  - (C) Hypokalemia.
  - (D) Hyponatremia.