OPSC
Asst. Prof.
Previous Year Paper
(C.T.V.S)
11 Sept, 2022

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

T. B. C. : AP(SS) – 1-21/22

Test Booklet Series

A

TEST BOOKLET

ASSISTANT PROFESSOR (SUPER SPECIALITY)

(C. T. V. S)

Sl. No. 1017

Time Allowed : 3 Hours | *Maximum Marks : 200*

: INSTRUCTIONS TO CANDIDATES :

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET **DOES NOT** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET OF THE SAME SERIES ISSUED TO YOU.
2. ENCODE CLEARLY THE TEST BOOKLET SERIES **A, B, C** OR **D**, AS THE CASE MAY BE, IN THE APPROPRIATE PLACE IN THE ANSWER SHEET USING BALL POINT PEN (BLUE OR BLACK).
3. You have to enter your **Roll No.** on the Test Booklet in the Box provided alongside. **DO NOT** write *anything else* on the Test Booklet.
4. **YOU ARE REQUIRED TO FILL UP & DARKEN ROLL NO., TEST BOOKLET / QUESTION BOOKLET SERIES IN THE ANSWER SHEET AS WELL AS FILL UP TEST BOOKLET / QUESTION BOOKLET SERIES AND SERIAL NO. AND ANSWER SHEET SERIAL NO. IN THE ATTENDANCE SHEET CAREFULLY. WRONGLY FILLED UP ANSWER SHEETS ARE LIABLE FOR REJECTION AT THE RISK OF THE CANDIDATE.**
5. This Test Booklet contains 200 items (questions). Each item (question) comprises four responses (answers). You have to select the correct response (answer) which you want to mark (darken) on the Answer Sheet. In case, you feel that there is more than one correct response (answer), you should mark (darken) the response (answer) which you consider the best. In any case, choose **ONLY ONE** response (answer) for each item (question).
6. You have to mark (darken) all your responses (answers) **ONLY** on the **separate Answer Sheet** provided, by **using BALL POINT PEN (BLUE OR BLACK)**. See instructions in the Answer Sheet.
7. All items (questions) carry equal marks. All items (questions) are compulsory. Your total marks will depend only on the number of correct responses (answers) marked by you in the Answer Sheet. **For each wrong answer, 0.25 marks shall be deducted from the marks awarded for correct answer.**
8. Before you proceed to mark (darken) in the Answer Sheet the responses (answers) to various items (questions) in the Test Booklet, you have to fill in some particulars in the Answer Sheet as per the instructions sent to you with your **Admission Certificate**.
9. After you have completed filling in all your responses (answers) on the Answer Sheet and after conclusion of the examination, you should hand over to the Invigilator the *Answer Sheet* issued to you. You are allowed to take with you the candidate's copy / second page of the Answer Sheet along with the **Test Booklet**, after completion of the examination, for your reference.
10. Sheets for rough work are appended in the Test Booklet at the end.

DO NOT OPEN THIS TEST BOOKLET UNTIL YOU ARE ASKED TO DO SO

SEAL

1. All of the following are true about Interrupted Aortic Arch (IAA) except :

(A) In type B IAA, the interruption occurs between the left subclavian and left common carotid arteries.

(B) Type A IAA is frequently associated with DiGeorge's syndrome compared to type B IAA.

(C) There is nearly always a large venricular septal defect with the exception being cases of IAA with aortopulmonary window, of which a majority have an intact ventricular septum.

(D) IAA is incompatible with life without patency of the ductus arteriosus or an alternative pathway for perfusion of the lower body.

2. Which of the following structure is seen in middle mediastinum ?

(A) Thymus

(B) Sympathetic chain

(C) Vagus nerve

(D) Distal azygos vein

3. All of the following are true about aortopulmonary window except :

(A) There is abnormal septation of the truncus arteriosus into the aorta and pulmonary artery.

(B) The presence of an aortopulmonary window must always be excluded in infants with an interrupted aortic arch and an intact ventricular septum.

(C) The presence of an aortopulmonary window is an indication for repair unless severe pulmonary vascular disease has occurred.

(D) Simple ligation is the most preferred technique for repair.

4. Which of the following is false about pulmonary artery sling ?

(A) The left pulmonary artery arises aberrantly from the right pulmonary artery and courses between the trachea and esophagus.

(B) The aberrant pulmonary artery courses posteriorly over the right mainstem bronchus and passes between the trachea and esophagus.

(C) Infants with pulmonary artery sling are mostly asymptomatic.

(D) Surgical intervention is indicated in any patient with a pulmonary artery sling and symptoms of significant respiratory obstruction.

5. Which of the following is not a third generation ventricular assist device ?

(A) Ventracor VentrAssist

(B) Thoratec Heart Mate II

(C) Terumo DuraHeart

(D) WorldHeart Levacor

6. Which of the following is not true about coronary artery fistula ?

(A) Coronary artery fistula is the most common hemodynamically significant coronary artery anomaly.

(B) The most common manifestation is angina pectoris.

(C) In congenital coronary artery fistulas, the right coronary artery is most often involved and most commonly communicates with right ventricle.

(D) The spontaneous closure of coronary artery fistula depends on the size of fistula.

7. All of the following are true about cor triatriatum except :

(A) The classic form of cor triatriatum was described by Church in 1868.

(B) Cor triatriatum dexter is a membranous division of the right atrium, unrelated to cor triatriatum sinistrum.

(C) Cor triatriatum is rarely associated with the presence of a left superior vena cava.

(D) The clinical presentation is usually in infancy and is manifested by symptoms and signs of pulmonary venous congestion and pulmonary hypertension.

8. Which of the following anatomial valve lesion in not seen in type II Carpentier's functional classification of mitral regurgitation ?

(A) Chordal elongation

(B) Papillary muscle elongation

(C) Excess valvular tissue

(D) Annular dilatation

9. Which of the following is true about Ebstein's anomaly ?

(A) The septal tricuspid leaflet is least severely involved.

(B) The atrialized ventricle is characteristically thinned and dilated.

(C) Patients who have high GOSE score (grades 3 and 4) have a very good prognosis.

(D) Cardiomegaly is rarely seen in Ebstein's anomaly

10. All of the following are true abot warfarin except :

(A) Vitamin K antagonist.

(B) The close monitoring of the degree of anticoagulation effect of warfarin is done by blood test measuring the International Normalized Ratio (INR).

(C) Warfarin is rapidly absorbed from the gastrointestinal tract, with peak plasma concentrations reached 1 to 4 hours after ingestion.

(D) Warfarin is nonteratogenic drug.

11. Which of the following is true about mitral valve ?

(A) The anterior leaflet is trapezoidal attached to two fifths of the annular circumference.

(B) The atrial surface of the leaflets consists of peripheral rough zone and central smooth zone.

(C) The mitral annulus is thinnest at the insertion site of the anterior leaflet.

(D) The anterolateral papillary muscle is more commonly affected by myocardial ischemia than the postero-medial papillary muscle.

12. All of the following are true about left ventricular aneuysm except :

(A) The majority of left ventricular aneurysms are due to acute transmural myocardial infarction with its resultant muscle necrosis followed by scar formation.

(B) Most of the left ventricular aneurysms are located anterolaterally near the apex of the heart.

(C) Almost all posterior aneurysms are false aneurysms.

(D) Manifestations of peripheral embolization occur rarely.

13. All of the following are true about Ventricular Septal Defect (VSD) except :

(A) Conoventricular (or membranous) defect is the most common type of ventricular septal defect.

(B) Malaligned conoventricular VSD and inlet type VSD are most likely to close spontaneously amongst all the ventricular septal defects.

(C) A large patent ductus arteriosus is present in about 25% of symptomatic neonates or infants with ventricular septal defects.

(D) The first VSD closure was performed in 1954 by Lillehei using controlled cross-circulation between the child and parent.

14. The initial selection criteria (ten commandments) for Fontan procedure in tricuspid atresia included all of the following except :

(A) Normal caval drainage

(B) Mean pulmonary artery pressure < 15 mm Hg

(C) Pulmonary arterial resistance > 4 U/m^2

(D) Competent left atrioventricular valve

15. All of the following are ture about patent ductus arteriosus except :

(A) It was apparently first described by Galen.

(B) Postnatal closure occurs in two stages and usually begins at the pulmonary end.

(C) Infective endocarditis as a complication, is seen more commonly in large patent ductus arteriosus compared to small and moderate-sized patent ductus arteriosus.

(D) In infants with a large patent ductus arteriosus, mode of death is usually heart failure.

16. Which of the following is not true about postinfarction ventricular septal defect ?

(A) The first sign is development of a pansystolic murmur, usually at the left lower sternal border.

(B) Occasionally, mitral regurgitation may be associated with acute septal rupture, particularly when the infarction is posterior.

(C) Repair of postinfarction ventricular septral defect 2 to 3 weeks or more after septal rupture is relatively safe.

(D) Hospital mortality after ventricular septal defect is approximately 1% to 5%.

17. All of the following are true about Sinus of Valsalva Aneurysm (SVA) except :

(A) The essential lesion of congenital SVA is separation of the aortic media of the sinus from the media adjacent to the hinge line of the aortic valve cusp.

(B) Aneurysms of the right aortic sinus of Valsalva are most common.

(C) Windsock deformity is typical in lesions originating from the noncoronary sinus and communicating with the right atrium.

(D) Acute symptoms occur in about 35% of patients with rupture of the aneurysm.

18. All of the following are true about Total Anomalous Pulmonary Venous Connection (TAPVC) except :

(A) Supracardiac type of TAPVC is most common.

(B) Important pulmonary venous obstruction exists in nearly all patients with supracardiac TAPVC.

(C) Nearly always, an atrial septal defect or patent foramen ovale is present.

(D) The most common modes of hospital death after repair are cardiac failure and hypertensive pulmonary artery crises.

19. Which of the following is not seen in straddling and overriding atrioventricular value ?

(A) It always occur in relation to a ventricular septal defect close to the valve.

(B) They seem to be more prevalent in hearts with atrioventricular concordant connection than in those with atrioventricular discordant connections.

(C) Coexisting cardiac anomalies, not straddling and overriding of the atrioventricular valve, generally determine the clinical syndrome, natural history and diagnostic features in these patients.

(D) Cardiac transplantation is reserved for patients with associated severe secondary cardiomyopathy.

20. All of the following are true about supravalvular aortic stenosis except :

(A) The vascular patholgy of supravalvular aortic stenosis and Williams syndrome results from mutations involving the elastin gene on chromosome 7q 11.23.

(B) Most often the narrowing is diffuse.

(C) The most common associated anomaly is multiple stenoses in the peripheral pulmonary arteries.

(D) Operation is advisable in patients when peak pressure gradient across the stenosis is 50 mm Hg or more.

21. Which of the following is not a continuous flow ventricular assist device ?

(A) HeartMate II

(B) MicroMed-DeBakey

(C) Novacor

(D) DuraHeart

22. Which of the following is true about tricuspid valve ?

(A) The leaflets and chordae tendineae are thicker than those of the mitral valve.

(B) The anterior leaflet is the smallest of the three leaflets.

(C) The anterior papillary muscle is smaller than the medial papillary muscle.

(D) The posterior leaflet is attached wholly to the ventricular free wall.

23. All of the following are true about diaphragmatic dysfunction from phrenic nerve injury following open-heart surgery except :

(A) It has been noted in 3-5% of patients following open-heart surgery.

(B) Most patients with unilateral phrenic nerve paresis have few respiratory symptoms and are extubated uneventfully.

(C) Bilateral phrenic nerve palsy usually produces tachypnea, paradoxical abdominal breathing and CO_2 retention during attempts to wean from mechanical ventilation.

(D) Use of insulation cooling pads, minimizing systemic hypothermia, intermittently pouring cold saline over the heart (the "shallow technique"), and avoiding iced slush reduce the incidence of phrenic nerve paresis.

24. Which of the following is not true about bronchopulmonary carcinoids ?

(A) They are the most common primary lung tumor in children.

(B) Typical carcinoid turmors are located more frequently in the lung periphery.

(C) Atypical carcinoid tumors metastasize in more than 40% of cases.

(D) Complete surgical resection with preservation of normal lung tissue and lymph node staging remains the only curative treatment of bronchopulmonary carcinoids.

25. All of the following are true about Atrioventricular Septal Defect (AVSD) except :

(A) There is deficiency or absence of the AV septum, resulting in an ostium primum defect immediately above the AV valves and a deficiency in the inlet portion of the ventricular septum immediately below the AV valves.

(B) The AV node is displaced inferiorly (caudally) and lies in the posterior right atrial wall between the orifice of the coronary sinus and ventricular crest.

(C) The left ventricular outflow tract is characteristically elongated and narrowed.

(D) Down syndrome is more commonly seen in patients with partial AVSD compared to those with complete AVSD.

26. All of the following are true about cardiac myxoma except :

(A) Ventricular myxomas are found commonly on the left ventricular free wall.

(B) Systemic emboli occur in 30% to 45% of patients with left atrial myxomas.

(C) Myxomas are usually benign, but rarely the tumor metastasizes

(D) Surgical removal is indicated whenever diagnosis of cardiac myxoma is made.

27. Which of the following structure pass through the inferior vena cava hiatus in diaphragm ?

(A) Right phrenic nerve

(B) Vagus nerve

(C) Azygos vein

(D) Thoracic duct

28. Which of the following is true about pulmonary sequestrations ?

(A) Intralobar sequestrations are most frequently found within the posterior segment of the right lower lobe.

(B) Intralobar and extralobar sequestrations are both derived from foregut tissue.

(C) Intralobar sequestrations receive arterial blood supply from the branches of pulmonary artery.

(D) Intralobar sequestrations are more commonly associated with congenital anomalies compared to extralobar sequestrations.

29. All of the following are true about pulmonary hamartoma except :

(A) Hamartomas are the most common benign lung lesions.

(B) Cartilage is present in most of the lesions and is diagnostic of a hamartoma.

(C) Most of the hamartomas are centrally located.

(D) Carney's triad consists of a gastric epitheloid leiomyosarcoma, a functioning extra-adrenal paraganglioma and a pulmonary hamartoma.

30. All of the following are true about pectus excavatum except :

(A) It is the most frequent anterior chest wall deformity.

(B) The left side is frequently more depressed than the right side of the chest wall.

(C) The majority of affected children with pectus excavatum are identified at birth or within the first year of life.

(D) The patients have a characteristic physique — a broad thin chest, dorsal lordosis, hook shoulder deformity, coastal flaring and poor posture.

31. Which of the following is not true about diaphragmatic hernias ?

(A) The most frequent diaphragmatic hernia is the paresophageal hernia.

(B) Dull aching pain along the right subcoastal area is the most frequent presenting symptom in the foramen of Morgagni hernia.

(C) Most of the foramen of Bochdalek hernias are larger in size requiring patch closure.

(D) A sliding or type I hiatal hernia accounts for about 95% of paraesophageal hernias.

32. The most efficient means of renal replacement therapy in removing solute and correcting severe acid-base abnormalities is :

(A) Intermittent hemodialysis

(B) Slow continuous ultrafiltration

(C) Continuos veno-venous hemofiltration

(D) Continuous veno venous hemodialysis

33. All of the following are true about coarctation of aorta except :

(A) A shelf, or infolding of the aortic media into the lumen is most prominent in the anterior and rightward wall of aorta.

(B) Patent ductus arteriosus is present in almost 100% of neonates and in most infants with a preductal type of coarctation.

(C) Inflow into the collateral circulation across coarctation segment of aorta is widespread and is primarily from branches of both subclavian arteries, particularly internal thoracic, vertebral, costocervical, and thyrocervical trunks.

(D) Almost all patients who first present at age 1 to 14 years are asymptomatic unless they have important associated anomalies.

34. All of the following are true about anomalous connection of left coronary artery to pulmonary trunk except :

(A) The anomalous left main coronary artery connects most often to the sinus of Valsalva immediately above the right cusp of the pulmonary trunk.

(B) The left ventricle is always hypertrophied and usually greatly dilated, with dilatation often involving primarily the left ventricular apex.

(C) The cardinal symptom is poor feeding.

(D) Diagnosis of anomalous connection of left coronary artery to pulmonary trunk in an infant, regardless of clinical status, is an indication for urgent operation.

35. Which of the following is true about Double Outlet Right Ventricle (DORV) ?

(A) The ventricular septal defect is usually smaller in size with restrictive flow.

(B) Taussig-Bing Heart is a form of DORV in which the ventricular septal defect is subpulmonary and associated with malalignment of the infundibular septum

(C) In patients with DORV and subaortic ventricular septal defect, conus is usually absent.

(D) Aorta is mostly anterior and to the left of the pulmonary trunk.

36. All of the following are included in major criteria for diagnosis of infective endocarditis as per modified Duke criteria except :

(A) Typical microorganisms for infective endocarditis from two separate blood cultures in absence of a primary focus.

(B) Oscillating intracardiac mass on valve or supporting structures, or in path of regurgitant jets, or on implanted material, in absence of an alternative anatomic explanation.

(C) Glomerulonephritis, Osler nodes, Roth spots, rheumatoid factor

(D) Endocardial abscess

37. Which of the following describe the mechanism of mitral regurgitation in type I Carpentier's functional classification ?

(A) Elongation or rupture of chordae

(B) Leaflet perforation

(C) Commissural fusion

(D) Elongation or rupture of papillary muscle

38. All of the following are absolute recipient contraindications to Heart Transplantation except :

(A) Pulmonary hypertension, with a pulmonary vascular resistance greater than 3 to 4 Wood units despite maximal vasodilator therapy.

(B) Diabetes mellitus with secondary organ damage.

(C) Active malignancy (excluding certain skin cancers)

(D) Active infection

39. All of the following are true about bronchogenic cysts except :

(A) Bronchogenic cysts are part of the spectrum of bronchopulmonary foregut abnormalities.

(B) Bronchogenic cysts are lined by ciliated columnar epithelium.

(C) Bronchogenic cysts usually communicate with the tracheobronchial tree.

(D) Symptoms are present in the occasional patient, usually from compression of adjacent structures or recurrent infection.

40. All of the following are ture about ventricular septal defect and aortic regurgitation except :

(A) The ventricular septal defect is doubly committed subarterial, perimembranous (with outlet extension or simply juxta-aortic), or rarely outlet muscular.

(B) The most widely accepted predominant mechanism of aortic cusp prolapse is the Venturi effect.

(C) The Venturi effect as the predominant cause of aortic cusp prolapse and subsequent aortic regurgitation requires a large ventricular septal defect.

(D) When aortic regurgitation is moderate or severe and often when it is mild, the aortic valve is repaired.

41. Which of the following is not true about slow continuous ultra-filtration ?

(A) The blood flow rate is set at 50-80 ml/mm.

(B) The ultrafiltrate rate is set at about 5 ml/min.

(C) The filter is more prone to clotting.

(D) It is highly effective for uremia or hyperkalemia.

42. All of the following are true about thymomas except :

(A) Thymomas are the most common thymic tumor.

(B) The most widely used clinical classification scheme is that proposed by Masaoka and colleagues in 1981.

(C) 3% to 5% of thymomas are associated with clinical myasthenia gravis.

(D) The most common type of cytopenia associated with thymoma is pure red cell aplasia.

43. The vacuum pressure for vacuum assisted venous return during cardiopulmonary bypass is usually set at :

(A) -20 to -40 cm H_2O

(B) -40 to -60 cm H_2O

(C) -60 to -80 cm H_2O

(D) -80 to -100 cm H_2O

44. 1 mg of protamine neutralizes approximately :

(A) 55 units of Heparin

(B) 65 units of Heparin

(C) 75 units of Heparin

(D) 85 units of Heparin

45. A right bundle branch pattern together with a relatively low amplitude R wave in right sided chest leads and right atrial hypertrophy are characteristic of :

(A) Double outlet right ventricle

(B) Ebtstein anomaly

(C) Tetralogy of Fallot

(D) Atrioventricular septal defect

46. Which of the following is not the cardinal sign of hypertrophic obstructive cardiomyopathy ?

(A) Late-onset systolic ejection murmur between the left sternal edge and apex

(B) Bifid arterial pulse

(C) Palpable left atrial contraction

(D) Mid diastolic murmur

47. All of the following are examples of complete vascular ring except :

(A) Double aortic arch

(B) Left aortic arch and retroesophageal right subclavian artery

(C) Right aortic arch with mirror branch imaging with retroesophageal ligamentum arteriosum

(D) Left aortic arch and right descending aorta with right ligamentum arteriosum or patent ductus arteriosus

48. The most common presentation of vascular sling is :

(A) Dysphagia

(B) Hoarseness of voice

(C) Cyanosis

(D) Wheezing and stridor with prolonged expiratory phase, harsh cough and intercoastal indrawing

49. Electrocardiogram almost always shows the pattern of incomplete right bundle branch block and a clockwise frontal loop in :

(A) Atrial septal defect

(B) Ventricular septal defect

(C) Atriventricular septal defect

(D) Aortopulmonary window

50. Angiocardiographic features of atrioventricular septal defect include all of the following except :

(A) Absence of the atrioventricular septum and deficiency of the inlet portion of the ventricular septum

(B) Elongation of the left ventricular outflow tract in relationship to the inflow tract

(C) Depression and posterior displacement of the aortic valve vis-a-vis the atrio-ventricular valves

(D) The anomalous relationship of anterior components of the left atrioventricular valve to the aorta

51. The most common primary cardiac tumor in children is :

(A) Rhabdomyoma

(B) Myxoma

(C) Fibroma

(D) Sarcoma

52. The dominant physiology in carcinoid heart disease is that of :

(A) Tricuspid regurgitation

(B) Mitral regurgitation

(C) Aortic regurgitation

(D) Mitral stenosis

53. _____ thymomas are associated with clinical myasthenia gravis.

(A) 5-10%

(B) 10-20%

(C) 30-50%

(D) 70-80%

54. The mean molecular weight of low molecular weight Heparin is :

(A) 3000 daltons

(B) 4000 daltons

(C) 5000 daltons

(D) 6000 daltons

55. Cryoprecipitate contains all of the followig except :

(A) Factor VIII C

(B) Factor V

(C) Factor XIII

(D) vWF

56. All of the following are true about transfusion related acute lung injury except :

(A) It usually develops within 6 hours of a transfusion.

(B) It is most often seen after transfusion of the plasma containing blood components such as FFP and platelets.

(C) It usually resolves after 72 hours.

(D) Therapy for TRALI is supportive.

57. Which of the following is not true about constrictive pericarditis ?

(A) Prominent "y" descent in central venous pressure tracing

(B) "Square root" sign in the right and left ventricular diastolic filling pressure waveforms

(C) Significant difference in central venous, pulmonary artery and capillary wedge pressures in diastole

(D) Kussmaul's sign

58. The most common complication of alcohol septal ablation for hypertrophic obstructive cardio-myopathy is :

(A) Right bundle branch block

(B) Complete heart block

(C) Coronary dissection

(D) Ventricular arrhythmia

59. Which of the following precipitates digoxin toxicity ?

(A) Hyperkalemia

(B) Hypermagnesemia

(C) Hypocalcemia

(D) Hypokalemia

60. The most commonly found microorganism in deep sternal wound infection is :

(A) Staphylococcus aureus

(B) Staphylococcus viridans

(C) Escherichia coil

(D) Pseudomonas aeruginosa

61. The diameter of the aortic annulus exceeds the diameter of the sinotubular junction of the aortic root in young patients by :

(A) 5-10%

(B) 10-20%

(C) 20-30%

(D) 30-40%

62. Marfan syndrome is caused by mutations in the gene that encodes fibrillin-1 (FBN1) on :

(A) Chromosome 12

(B) Chromosome 13

(C) Chromosome 14

(D) Chromosome 15

63. The most common mode of death in patients with untreated acute type A aortic dissection is :

(A) Intrapericardial rupture culminating in cardiac tamponade

(B) Malperfusion syndrome

(C) Acute cardiac failure

(D) Myocardial infarction

64. Beck's triad in cardiac tamponade include all of the following except :

(A) Muffled heart sounds

(B) Elevated Jugular venous pressure

(C) Hypotension

(D) Rapid breathing

65. Prosthetic valve endocarditis is seen more commonly in :

(A) Aortic position

(B) Mitral position

(C) Pulmonary position

(D) Tricuspid position

66. The timing of firing of CO_2 laser in transmyocardial laser revascularization is synchronized with _____ electrocardiogram (ECG).

(A) P wave

(B) Q wave

(C) R wave

(D) S wave

67. The most common site of drainage of coronary-cameral fistula is :

(A) Right ventricle

(B) Right atrium

(C) Pulmonary artery

(D) Coronary sinus

68. All of the following are true about coronary artery aneurysm except :

(A) The aneurysms are usually solitary.

(B) The right coronary artery is more frequently involved than the left.

(C) Atherosclerosis, either by stenosis with poststenotic dilatation or by primary destruction of the coronary intima and media, accounts for approximately 50% of coronary aneurysms.

(D) The clinical courses of patients with coronary artery aneurysms usually depend on the severity of the associated atherosclerotic stenosis.

69. The most common primary malignant cardiac tumor is :

(A) Angiosarcoma

(B) Fibrosarcoma

(C) Liposarcoma

(D) Mesothelioma

70. Myocardial oxygen consumption decreases by 50% for every _____decrease in myocardial temperature.

(A) 5°C

(B) 10°C

(C) 15°C

(D) 20°C

71. Deep hypothermic circulatory arrest allows cessation of the circulation for maximum period of about _____, often without detectable organ injury.

(A) 20 to 40 minutes

(B) 40 to 60 minutes

(C) 60 to 80 minutes

(D) 80 to 100 minutes

72. During cardiopulmonary bypass, platelet count usually decreases by :

(A) 10 % – 20%

(B) 20 % – 30%

(C) 30 % – 50%

(D) 50 % – 70%

73. All of the following increase the activated clotting time except :

(A) Hypothermia

(B) Protamine

(C) Aprotinin

(D) Surgical incision

74. Target activated clotting time to be achieved before initiating cardiopulmonary bypass under normothermia is above :

(A) 300 seconds

(B) 400 seconds

(C) 480 seconds

(D) 600 seconds

75. Antithrombin independent mechanisms of heparin resistance include all of the following except :

(A) Heparin binding proteins

(B) Thrombocytopenia

(C) Septicemia

(D) Hypereosinophilic syndrome

76. Danaparoid sodium, a synthetic heparinoid compound, consists of all of the following except :

(A) Heparan sulfate

(B) Dermatan sulfate

(C) Chondroitin sulfate

(D) Magnesium sulfate

77. In typical onset Heparin Induced Thrombocytopenia (HIT), the fall in platelet count usually occurs _____ days after the initial dose of heparin was administered.

(A) 1-5

(B) 5-10

(C) 10-15

(D) 15-20

78. Type III protamine reaction consists of :

(A) Systemic hypotension secondary to rapid administration

(B) Anaphylactic reaction

(C) Noncardiogenic pulmonary edema

(D) Catastrophic pulmonary vasoconstriction

79. Type I protamine reaction is mediated by :

(A) Histamine

(B) IgE antibody

(C) IgG antibody

(D) Thromboxane

80. Aprotinin, a nonspecific serine protease inhibitor is derived from :

(A) Bovine lung

(B) Porcine lung

(C) Bovine intestine

(D) Porcine intestine

81. All of the following are characteristics of cold agglutinins except :

(A) Lytic

(B) Active in saline at 20^{o} Celsius

(C) Almost always IgG antibodies

(D) Bind complement

82. Which of the following is not true about Mounier-Kuhn syndrome ?

(A) Excessive dilatation of the trachea and main bronchi

(B) Diverticulosis pattern

(C) Associated conditions include Ehlers-Danlos syndrome, Marfan syndrome, Kenny-Caffey syndrome, Brachmann-de Lange syndrome and ankylosing spondylitis

(D) Surgery is the mainstay of treatment

83. Azygos lobe is an abnormal lobation usually seen in :

(A) Right upper lobe

(B) Right lower lobe

(C) Left upper lobe

(D) Left lower lobe

84. Congenital lobar emphysema is most frequently seen in :

(A) Right upper lobe

(B) Right lower lobe

(C) Left upper lobe

(D) Left lower lobe

85. All of the following are true about Congenital Cystic Adenomatoid Malformation (CCAM) except :

(A) Usually only one lobe is affected, and that lobe generally has a solitary lesion.

(B) In most cases, CCAM manifests as neonatal acute respiratory distress with or without associated lung infections.

(C) The most commonly associated anomaly is pectus excavatum.

(D) Type III lesions (Stocker classification) have very good prognosis.

86. Pulmonary arteriovenous malformation include all of the following except :

(A) Almost all patients have associated Hereditary Hemorrhagic Telangiectasia (HHT).

(B) They are frequently subpleural in location.

(C) Children are more likely to have diffuse lesions associated with cyanosis and congestive failure.

(D) If the patient has HHT or is symptomatic, if the lesion is large, or if the diagnosis is questionable, surgical resection may be necessary.

87. Which of the following is not true about clear cell tumor (sugar tumor) of lung ?

(A) It is a benign lesion of the lung.

(B) It originates from either Clara cells or epithelial serous cells.

(C) The lesion are often central in location.

(D) Excision is curative.

88. All of the following are true about Goodpasture syndrome except :

(A) It is characterized by the presence of pulmonary hemorrhage and glomerulonephritis.

(B) In most cases, patients present with hemoptysis and occasionally hematuria.

(C) Bronchoalveolar lavage and lung biopsy are diagnostic.

(D) Therapy consists of plasmapheresis and immunosuppressants.

89. The most common organism responsible for community acquired pneumonia is :

(A) Streptococcus pneumoniae

(B) Haemophilus influenzae

(C) Staphylococcus aureus

(D) Mycoplasma pneumonia

90. Which of the following is not true about aspiration pneumonia ?

(A) It accounts for 5% to 15% of community acquired pneumonia.

(B) The acute lung injury or pneumonitis from gastric aspiration is termed as Mendelson syndrome.

(C) In supine position, the dependent lung segments (posterior aspects of upper lobes, superior segments of lower lobes) are affected most frequently.

(D) In upright individuals, the basilar segments, particularly on the left side,are at greatest risk of infection.

91. Ideal circumstances for lung volume reduction surgery in patients of emphysema who remain symptomatic despite optimal medical therapy include all of the following except :

(A) Marked hyperinflation

(B) Heterogeneous distribution of disease

(C) FEV1 > 20%

(D) Hypercapnia

92. Which of the following is not an absolute contraindication for lung transplantation ?

(A) Cutaneous squamous cell carcinoma

(B) Noncurable chronic extrapulmonary infection including chronic active viral hepatitis B, hepatitis C and human immunodeficiency virus

(C) Significant chest wall or spinal deformity

(D) Nonadherence or inability to follow through with medical therapy or hospital follow-up

93. Most common cause of primary graft dysfunction after lung transplantation is :

(A) Ischemia-reperfusion injury

(B) Donor lung infection

(C) Donor lung aspiration

(D) Donor lung contusion

94. The most common postoperative infection in lung transplant recipient is caused by :

(A) Cytomegalovirus

(B) Pseudomonas aeruginosa

(C) Staphylococcus aureus

(D) Candida albicans

95. The majority of episodes of acute rejection after lung transplantation occur :

(A) Within 3 months

(B) 3 months to 6 months

(C) 6 months to 9 months

(D) 9 months to 12 months

96. Which of the following is not true about carcinoid tumorlets ?

(A) They are less than 5 mm in size.

(B) They develop form Kulchitsky cells.

(C) Mostly asymptomatic

(D) There is a high risk of fibrotic lung disease secondary to carcinoid tumorlets.

97. The most frequent anterior chest wall deformity is :

(A) Pectus excavatum

(B) Pectus carinatum

(C) Cleft sternum

(D) Ectopia cordis

98. All of the following can be seen in Poland syndrome except :

(A) Bulky pectoralis major and minor muscles

(B) Syndactyly

(C) Complete absence of the anterior portions of the second to fifth ribs and coastal cartilages

(D) Amastia

99. The cleft sternum involves primarily the :

(A) Upper sternum

(B) Mid sternum

(C) Lower sternum

(D) Almost complete sternum

100. The most common benign chest wall tumor is :

(A) Chondroma

(B) Osteochondroma

(C) Fibrous dysplasia

(D) Neurofibroma

101. Scalene triangle is formed by all of the following except :

(A) Scalenus anticus

(B) Scalenus medius

(C) First rib

(D) Subclavian vessels

102. Which of the following is true about Thoracic Outlet Syndrome (TOS) ?

(A) Vascular manifestations are observed more frequently than neurogenic ones.

(B) Objective physical findings are more common in patients with primarily neural rather than vascular compression.

(C) Surgery is the mainstay of treatment in patients with neurogenic TOS.

(D) Ulnar nerve conduction velocity less than 70 m/sec across the outlet is consistent with TOS.

103. Indications for immediate drainage of parapneumonic effusion include all of the following except :

(A) Large effusion

(B) Loculated effusion

(C) pH greater than 7.20

(D) Presence of frank pus on aspiration

104. Chylothorax is characterized by :

(A) Triglyceride level in pleural fluid < 110 mg/dl

(B) Cholesterol/triglyceride ratio > 1

(C) Presence of chylomicrons

(D) All of these

105. Surgical intervention in postoperative chylothorax is indicated in all of the following except :

(A) Chyle drainage > 500 ml/day for 5 days

(B) If chylothorax doesn't subside over 2 weeks.

(C) Severe nutritional imbalnce

(D) Severe metabolic imbalance

106. The most common benign pleural tumor is :

(A) Lipoma

(B) Solitary fibrous tumor

(C) Schwannoma

(D) Lipoblastoma

107. Askin tumor is :

(A) Desmoid tumor

(B) Primitive neuroectodermal tumor

(C) Mesothelial tumor

(D) Spindle cell tumor

108. The diaphragm begins to develop during _____ weeks of gestation.

(A) 3rd to 4th

(B) 5th to 6th

(C) 6th to 7th

(D) 7th to 8th

109. Which of the following is not the embryonic component of diaphragm ?

(A) Septum transversum

(B) Body wall musculature

(C) Pleuroperitoneal membrane

(D) Pericardioperitoneal canal

110. In recurrent congenital diaphragmatic hernia, detachment of the prosthetic patch is usually seen at its :

(A) Anterior-medial aspect

(B) Posterior-medial aspect

(C) Anterior-lateral aspect

(D) Posterior-lateral aspect

111. Which of the following is also known as retrosternal hernia ?

(A) Bochdalek hernia

(B) Morgagni hernia

(C) Pericardial hernia

(D) Hiatal hernia

112. Stress myocardial perfusion imaging variables associated with worse prognosis in coronary artery disease include all of the following except :

(A) Multivessel disease pattern

(B) Large reversible (ischemic) defect

(C) Decreased pulmonary uptake of ^{201}Tl

(D) Large scar, > 14% of left ventricle

113. Cardiopulmonary bypss induced vasoplegic syndrome include all of the following except :

(A) An arterial pressure of less than 50 mm Hg

(B) Cardiac index < 2.5 liter/ min/m^2

(C) Right atrial pressure < 5 mm Hg

(D) Systemic vascular resistance < 800 dyne. sec/cm^5

114. Brain receives _____ of cardiac output in healthy adults under resting conditions.

(A) 5%

(B) 10%

(C) 15%

(D) 30%

115. In Kidney Disease Improving Global Outcomes (KDIGO) criteria, acute kidney injury is defined by all of the following except :

(A) 0.3 mg/dl increase in serum creatinine from baseline within 48 hours of surgery

(B) Decrease in glomerular filtration rate > 25%

(C) 50% increase in serum creatinine within 7 days of surgery

(D) Decrease in urine output below 0.5 mg/kg/hr for 6 hours

116. Which of the following is not true about centrifugal pump ?

(A) These devices are expensive compared to roller pump.

(B) Venous drainage to the reservoir from the patient is dependent on gravity drainage.

(C) These devices are susceptible to air locks.

(D) These devices are not valved, and if rotation stops without clamping the outflow, rapid retrograde flow the arterial line occurs in milliseconds, potentially exsanguinating the patient.

117. The negative pressure in vacuum-assisted closure therapy for deep sternal wound infection ranges from :

(A) – 20 mm Hg to – 50 mm Hg

(B) – 50 mm Hg to – 70 mm Hg

(C) – 75 mm Hg to – 125 mm Hg

(D) – 130 mm Hg to – 165 mm Hg

118. The most common mode of death in patients early after operation for postinfarction ventricular septal defect is :

(A) Cardiac failure

(B) Bleeding

(C) Sepsis

(D) Stroke

119. Which of the following is not a class I indication for Implantable Cardioverter Defibrilator (ICD) therapy in patients with severe systolic heart failure ?

(A) Left Ventricular Ejection Fraction (LVEF) less than 35% due to prior Myocardial Infarction (MI) who are at least 40 days post-MI and are in New York Heart Association (NYHA) functional class II or III.

(B) Ischemic dilated cardio-myopathy who have an LVEF of 45% or less and are in NYHA functional class I or II.

(C) LV dysfunction due to prior MI who are at least 40 days post-MI, have an LVEF less than 30% and are in NYHA functional class I.

(D) Nonsustained ventricular tachycardia due to prior MI, LVEF less than 40%, and inducible ventricular fibrillation or sustained ventricular tachycardia at electro-physiological study.

120. Ventricular septal defect closure using a heart-lung machine was first performed by :

(A) Clarence Walton Lillehei

(B) John Webster Kirklin

(C) Wilfred Gordon Bigelow

(D) Denton Cooley

121. All of the following are included in major Ghent criteria for Marfan syndrome except :

(A) Mutation in FBN1

(B) Aortic root dilatation

(C) Dissection of ascending aorta

(D) Mitra valve prolapse

122. Dextroposition is associated with all of the following except :

(A) Scimitar syndrome

(B) Right lung hypoplasia

(C) Left sided diaphragmatic hernia

(D) Right sided pleural effusion

123. During embryonic development, primary heart field forms :

(A) Right atrium

(B) Right ventricle

(C) Left atrium

(D) Left ventricle

124. The cardiac tube begins to bend on day _____ and the formation of cardiac loop is completed by day _____ of embryonic development.

(A) 15, 20

(B) 19, 24

(C) 23, 28

(D) 28, 33

125. During embryonic development, once the cardiac tube is formed, the venous portion is specified by :

(A) NKX2.5

(B) Retinoic acid

(C) FGF8

(D) TBX5

126. Holt-Oram syndrome is caused by mutations in gene :

(A) NKX2.5

(B) PITX2

(C) TBX5

(D) Tinman

127. Which of the following occurs when the conotruncal septum fails to follow its normal spiral course and runs straight down ?

(A) Transposition of great vessels

(B) Truncus arteriosus

(C) Aortopulmonary window

(D) Tetralogy of Fallot

128. Primary heart field defects incude all of the following except :

(A) Double outlet right ventricle

(B) Transposition of the great vessels

(C) Ventricular septal defect

(D) Interrupted aortic arch

129. The target tissue during embryonic development in Tetralogy of Fallot is :

(A) Primary heart field

(B) Secondary heart field

(C) Heart tube

(D) Atrioventricular canal end-ocardial cushions

130. The most frequently occuring abnormality of the conotruncal region is :

(A) Truncus arteriosus

(B) Tetralogy of Fallot

(C) Transposition of the great vessels

(D) Aortopulmonary window

131. Common carotid artery develops from :

(A) 1st aortic arch

(B) 2nd aortic arch

(C) 3rd aortic arch

(D) 4th aortic arch

132. Which of the following is a pulmonary arch ?

(A) 2nd aortic arch

(B) 3rd aortic arch

(C) 4th aortic arch

(D) 6th aortic arch

133. Coronary arteries are derived from the :

(A) Endocardium

(B) Myocardium

(C) Epicardium

(D) None of these

134. Left superior vena cava is caused by obliteration of the common cardinal and proximal part of the anterior cardinal veins on the right side and persistence of the :

(A) Left anterior cardinal vein

(B) Left posterior cardinal vein

(C) Left subcardinal vein

(D) Left supracardinal vein

135. The interventricular septum is formed by all of the following except :

(A) Superior endocardial atrio-ventricular cushion

(B) Inferior endocardial atrio-ventricular cushion

(C) Right conus swelling

(D) Left conus swelling

136. All of the following are true about sinus node and atrioventricular node except :

(A) Sinus node is superficial, lying beneath the epicardial surface in the sulcus terminalis.

(B) Atrioventricular node is triangular in shape.

(C) Atrioventricular node is located within triangle of Koch.

(D) The sinoatrial nodal artery arises from the right coronary artery in about 60% cases.

137. Which of the following is not ture about pulmonary valve ?

(A) Pulmonary valve cusps are supported by freestanding musculature, having no direct relationship with the ventricular septum.

(B) The pulmonary valve normally has 3 cusps, with a nodule at the midpoint of each free edge.

(C) Pulmonary valve cusps have heavier construction than the aortic valve cusps.

(D) The pulmonary valve is lifted away from the ventricular septum by the subpulmonary infundibulum.

138. All of the following are class III antiarrhythmic drugs except :

(A) Digoxin

(B) Amiodarone

(C) Dofetilide

(D) Ibutilide

139. All of the following are axial flow ventricular assist devices except :

(A) HeartMate II

(B) Thoratec

(C) Heartmate XVE

(D) Novacor

140. Which of the following is true about cardiac myxomas ?

(A) Myxomas occur in younger adults and are two three times more common in men than in women.

(B) Most atrial myxomas (whether left of right) arise from the free wall.

(C) Most ventricular myxomas are found on the left ventricular free wall.

(D) A major feature of cardiac myxomas is embolization.

141. The half-life of protamine is :

(A) 5 minutes

(B) 10 minutes

(C) 15 minutes

(D) 20 minutes

142. Which of the following is true about coexisting cardiac anomalies in complete Transposition of the Great Arteries (TGA) ?

(A) About 60% of patients with TGA have a large or small ventricular septal defect.

(B) Important structural anomalies of the mitral valve are present in 5% of hearts with TGA, mostly in patients without ventricular septal defect.

(C) Right aortic arch occurs in about 5% of patients with TGA, mostly in combination with ventricular septal defect.

(D) Aortic obstruction is seen in 2% of patients with TGA and ventricular septal defect.

143. All of the following structures pass through cervicoaxillary canal except :

(A) Subclavian vein

(B) Subclavian artery

(C) Axillary vein

(D) Brachial plexus

144. Heparin resistance is present when a heparin dose of _____ fails to raise the Activated Clotting Time (ACT) to an adequate level (> 480 seconds).

(A) 3 mg/kg

(B) 4 mg/kg

(C) 5 mg/kg

(D) 6 mg/kg

145. The major anatomic landmark of the high paratracheal lymph node level is :

(A) Common carotid artery

(B) Subclavian artery

(C) Innominate artery

(D) Superior vena cava

146. All of the following are true about Hypertrophic Cardiomyopathy (HCM) except :

(A) Ventricular septal hpertropy is the most common type of asymmertic hypertrophy with midventricular and apical types occurring much less frequently.

(B) Hypertrophic Obstructive Cardiomyopathy (HOCM) is characterised by a variable dynamic obstruction that is usually subaortic and is associated with abnormal systolic anterior motion of the anterior mitral leaflet.

(C) Structural abnormalities of the mitral valve besides those typically associated with HOCM exist in approximately 20-30% of patients undergoing surgical treatment of HOCM.

(D) Septal myectomy should be considered for any patient who remains symptomatic (NYHA III or IV) after appropriate medical therapy, septal ablation or pacemaker therapy, and who has an LV subaortic gradient of more than 50 mmHg.

147. Masaoka clinical classification is described for :

(A) Thymic cyst

(B) Thymoma

(C) Thymic carcinoma

(D) Thymic carcinoid

148. All of the following structures are seen in posterior mediastinum except :

(A) Sympathetic chain

(B) Proximal azygos vein

(C) Distal azygos vein

(D) Posterior paraesophageal lymph nodes

149. All of the following structures pass through aortic hiatus in diaphragm except :

(A) Aorta

(B) Right phrenic nerve

(C) Thoracic duct

(D) Azygos vein

150. The heart begins to beat at approximately _____ days of gestation.

(A) 15

(B) 17

(C) 19

(D) 21

151. The electrocardiogram in acute massive pulmonary artery embolism may demonstrate all of the following except :

(A) T wave inversion

(B) Tachycardia

(C) S1Q3T3 pattern

(D) ST elevation

152. Current thrombolytic therapy most commonly involves use of :

(A) Streptokinase

(B) Recombinant human tissue plasminogen activator

(C) Urokinase

(D) Anistreplase

153. The most common benign cause of superior vena cava syndrome is :

(A) Postradiation therapy

(B) Tuberculosis

(C) Mediastinitis

(D) Thymoma

154. All of the following are true about tracheal web except :

(A) Web-like diaphragms most often occur at the subcricoid region.

(B) These webs typically involve a significant length of the trachea.

(C) Bronchoscopy is the primary diagnostic tool.

(D) Bronchoscopic removal, laser therapy and balloon dilatation are the treatment options.

155. The first line drug for pharmacologic conversion of postoperative atrial fibrillation to sinus rhythm is :

(A) Metoprolol

(B) Verapamil

(C) Amiodarone

(D) Digoxin

156. In Heparin Induced Throbocytopenia (HIT) syndrome, IgG antiheparin/PF4 antibodies usually disappear within :

(A) 1 to 2 months

(B) 2 to 3 months

(C) 3 to 4 months

(D) 4 to 5 months

157. The chest tubes placed during cardiac surgery are attached to a container with a negative pressure of about :

(A) 5 to 15 cm H_2O

(B) 20 to 30 cm H_2O

(C) 30 to 40 cm H_2O

(D) 50 to 60 cm H_2O

158. The auscultatory findings in chronic severe mitral stenosis include all of the following except :

(A) Loud S1

(B) Opening snap

(C) Mid-diastolic rumbling murmur with presystolic accentuation

(D) Mid-systolic murmur

159. The Wilkins scoring system for mitral valve morphology include all of the following parameters except :

(A) Leaflet mobility

(B) Leaflet thickening

(C) Valve calcification

(D) Annular dilatation

160. Which of the following is contraindication for balloon mitral commissurotomy ?

(A) Left atrial thrombus

(B) Mild mitral regurgitation

(C) Mitral valve calcification

(D) New onset atrial fibrillation

161. The primary cause of organic tricuspid valve disease in developing world is :

(A) Rheumatic fever

(B) Infective endocarditis

(C) Degenerative

(D) Carcinoid

162. All of the following are seen in congenital valvular aortic stenosis except :

(A) Small pulse volume

(B) Ejection systolic murmur at the base radiating to the carotid vessels

(C) Systolic ejection click

(D) Early diastolic murmur

163. Generally accepted contra-indications for the bidirectional superior cavopulmonary shunt include all of the following except :

(A) Age younger than 6 weeks

(B) Mean pulmonary artery pressure greater than 30 mm Hg regardless of pulmonary vascular resistance

(C) Pulmonary venous obstruction

(D) Pulmonary vascular resistance greater than 2 Wood units/m^2

164. All of the following are seen in Scimitar syndrome except :

(A) Partial anomalous pulmonary venous drainage of the right lung to the superior vena cava

(B) Hypoplasia of the right lung

(C) Dextrocardia

(D) Systemic pulmonary arterial supply from the abdominal aorta to the lower lobe of the right lung

165. The most common pattern seen in mixed type total anomalous pulmonary venous drainage is :

(A) Common confluence to which all pulmonary veins drain, and then the confluence itself drains to the systemic veins at separate sites

(B) Bilateral and symmetrical connections, with separate anomalous connections of all veins from each lung forming confluences and then connecting to the systemic veins at separate sites

(C) Bilateral and asymmetrical connections, with three pulmonary veins typically draining to a common site and one pulmonary vein to a remote site

(D) All pulmonary veins drain separately at separate sites without making confluence

166. Hemitruncus is :

(A) Absent true branch pulmonary arteries with aortopulmonary collaterals

(B) Branch pulmonary arteries with widely spaced origins

(C) The anomalous origin of the right pulmonary artery from the ascending aorta with normal origin of the left pulmonary artery from the main pulmonary artery, usually in the absence of a VSD

(D) Branch pulmonary arteries arising from the main pulmonary artery off the common trunk with associated interrupted aortic arch and a patent ductus arteriosus

167. Based on the anatomic findings during surgery in Ebstein anomaly, type IV atrialized right ventricle chamber size corresponds to :

(A) Small

(B) Moderately large

(C) Large

(D) Nearly the entire right ventricle cavity is atrialized

168. Ventricular septal defect in truncus arteriosus is characterized by all of the following except :

(A) High in position

(B) Anterior location

(C) Usually large in size

(D) Superior margin is formed by infundibular septum

169. Electrocardiogram in Anomalous connection of Left Coronary Artery to Pulmonary Artery (ALCAPA) usually shows Q waves and ST segment elevation in :

(A) Leads II, III

(B) Leads I, aVL

(C) Leads V1, V2

(D) Leads III, aVF

170. The most common coronary pattern in complete transposition of the great vessels is :

(A) 1 LCx-2R

(B) 1 L-2CxR

(C) 1 Cx-2RL

(D) 1 R-2LCx

171. Large aortopulmonary collateral arteries in tetralogy of Fallot with pulmonary atresia most commonly originate from :

(A) Mid-descending thoracic aorta

(B) Arch of aorta

(C) Low-descending thoracic aorta

(D) Left subclavian artery

172. In tetralogy of Fallot with pulmonary atresia, all of the following are true about aortopulmonary collateral arteries except :

(A) Large aortopulmonary collateral arteries are present in about 60% of patients having tetralogy of Fallot with pulmonary atresia

(B) Aortopulmonary collateral arteries are large discrete arteries, typically from one to six in number but sometimes more, most commonly originating from the upper or mid-descending thoracic aorta.

(C) Extensive areas of intimal proliferation (intimal pads) are prominent at the origin of aortopulmonary collaterals.

(D) These intimal pads eventually result in stenosis in about 60% of collateral arteries.

173. All of the following are target values on cardiopulmonary bypass in adult cardiac surgery except :

(A) Mean arterial pressure 50-70 mm Hg

(B) Activated Clotting Time (ACT) > 480 seconds in non-heparin coated circuits and > 400 seconds in heparin-coated circuits

(C) Mixed venous oxygen saturation > 65%

(D) Hematocrit > 30%

174. Which of the following may result in a drop in the blood level in venous reservoir during cardiopulmonary bypass ?

(A) Airlock in the venous line

(B) Kinking of the venous line in the operating field or close to the reservoir

(C) Malposition of the venous cannula

(D) All of these

175. In case of significant systemic air embolism during cardiopulmonary bypass, all of the following should be done except :

(A) Continue bypass

(B) Immediate venting of air from the aorta with a needle or through a stopcock on the aortic line and then removal of air from the bypass circuit

(C) Steep Trendelenburg position

(D) Retrograde SVC perfusion

176. All of the following may be seen in chest radiograph of a patient having tetralogy of Fallot with absent pulmonary valve except :

(A) Tubular supracardiac mediastinal shadow

(B) Considerable cardiomegaly in severe cases

(C) Segmental or lobar atelectasis

(D) Hyperlucent portions of lung fields

177. All of the following are seen in Double Chamber Right Ventricle (DCRV) except :

(A) It is always associated with a small or moderate-sized ventricular septal defect.

(B) Large thin walled infundibular chamber

(C) The right and left branch pulmonary arteries are virtually always large.

(D) Diagnosis of DCRV is an indication for elective repair.

178. All of the following are helpful in the management of vasodilatory shock post pump except :

(A) Amiodarone

(B) Phenylephrine

(C) Vasopressin

(D) Methylene blue

179. In retrograde cerebral perfusion, oxygenated cold blood is perfused into the superior vena cava at a flow rate of up to _____ and a pressure of up to _____.

(A) 500 ml/min, 20 mm Hg

(B) 600 ml/min, 30 mm Hg

(C) 700 ml/min, 40 mm Hg

(D) 800 ml/min, 50 mm Hg

180. The inflow to a centrifugal pump in left-heart bypass for thoracic aortic surgery is preferentially from :

(A) Body of left atrium

(B) Left atrial appendage

(C) Superior pulmonary vein

(D) Inferior pulmonary vein

181. Veno-Venous extracorporeal membrane oxygenation has a role in which of the following ?

(A) Refractory cardiogenic shock

(B) Cardiac arrest

(C) Advanced respiratory failure

(D) Progressively worsening heart failure

182. Target SaO_2 for patients on Veno-Arterial (VA) and Veno-Venous (VV) Extracorporeal Membrane Oxygenation (ECMO) are :

(A) > 75% VA ECMO, > 60% VV ECMO

(B) > 80% VA ECMO, > 65% VV ECMO

(C) > 85% VA ECMO, > 70% VV ECMO

(D) > 90% VA ECMO, > 75% VV ECMO

183. Bretschneider cardioplegia solution contains all of the following except :

(A) Histidine

(B) Tryptophan

(C) Ketoglutarate

(D) Glutamate

184. Single dose Custodiol cardioplegia solution can provide myocardial protection for up to :

(A) 30 – 60 minutes

(B) 60 – 90 minutes

(C) 90 – 120 minutes

(D) 120 – 180 minutes

185. The desired flow rate for warm retrograde cardioplegia is approximately :

(A) 100 ml/min

(B) 150 ml/min

(C) 200 ml/min

(D) 250 ml/ min

186. General guidelines for re-exploration for bleeding after adult cardiac surgery include all of the following except :

(A) > 400 ml/hr for 1 hr

(B) > 300 ml/hr for 2-3 hrs

(C) > 200 ml/hr for 4 hrs

(D) > 100 ml/hr for 3 hrs

187. In intraaortic balloon pump, inflation is set for the :

(A) Peak of the T wave

(B) Peak of the R wave

(C) Beginning of P wave

(D) Beginning of T wave

188. If blood appears in the ballon tubing in intraaortic balloon pump :

(A) The balloon must be repositioned immediately.

(B) The balloon must be removed immediately.

(C) The balloon augmentation is decreased.

(D) It is not alarming.

189. All of the following are indications for biventricular assist device except :

(A) Left atrial pressure > 20 mm Hg

(B) Right atrial pressue > 20-25 mm Hg

(C) Severe tricuspid regurgitation

(D) Inability to maintain left ventricular assist device flow > 2.0 L/MIN/M^2 with right atrial pressure > 20 mm Hg

190. All of the following are contra-indications to the use of left ventricular assist device except :

(A) Aortic regurgitation

(B) Tricuspid regurgitation

(C) Aortic dissection

(D) Left heart thrombus

191. All of the following have a role in the management of atrial fibrillation after open heart surgery except :

(A) Amiodarone

(B) Metoprolol

(C) Diltiazem

(D) Atrioventricular sequential pacing

192. All of the following drugs may precipitate Torsades de Pointes except :

(A) Metoclopramide

(B) Digoxin

(C) Haloperidol

(D) Amiodarone

193. Which of the following rhythm change is not seen in digoxin toxicity ?

(A) Sinus bradycardia

(B) Premature ventricular complexes

(C) Ventricular fibrillation

(D) First degree atrioventricular block

194. All of the following are intraoperative measures during cardiopulmonary bypass to reduce the risk of acute kidney injury except :

(A) Use of leukocyte-reducing filter

(B) Maintain a high perfusion pressure (75-80 mm Hg) on bypass

(C) Maintain moderate to severe hypothermia

(D) Use hemofiltration to remove excess fluid

195. All of the following are seen in prerenal azotemia except :

(A) Blood urea nitrogen/ creatinine > 20 : 1

(B) Urine / plasma creatinine > 40

(C) Urine / plasma osmolality < 1.3

(D) Urine sodium < 20 mEq/L

196. All of the following have a role in acute treatment of hyperkalemia except :

(A) Magnesium sulphate

(B) Regular insulin

(C) Sodium bicarbonate

(D) Calcium gluconate

197. All of the following are true about the management of Postpericardiotomy Syndrome (PPS) except :

(A) Pericardiectomy is required in all the patients with PPS.

(B) The best initial treatment for PPS is a combination of aspirin and colchicine, given with a proton pump inhibitor.

(C) As an alternative to aspirin, ibuprofen can be given.

(D) Prednisolone has a role in the patients with recurrent PPS.

198. Which of the following is not true about Bivalirudin ?

(A) It is a direct thrombin inhibitor.

(B) It is highly immunogenic.

(C) It has a plasma half-life of about 25 minutes.

(D) It has minimal effect on the International Normalized Ratio (INR).

199. Antibiotic prophylaxis for dental procedures is recommended for all of the following patients except :

(A) Prosthetic heart valves and grafts

(B) Previous infective endocarditis

(C) Cardiac transplant recipients with valvular regurgitation due to a structurally abnormal valve

(D) Unrepaired acyanotic congenital heart disease

200. In a patient with a prolonged period of groin cannulation, a compartment pressure greater than _____ in leg is generally consistent with a compartment syndrome.

(A) 15 mm Hg

(B) 20 mm Hg

(C) 25 mm Hg

(D) 35 mm Hg

SPACE FOR ROUGH WORK

SEAL