191/2023

Maximum : 100 marks

Time : 1 hour and 30 minutes

1. The endocrine gland which becomes inactive and shrinks after puberty :

(A) Pancreas (B) Thyroid

(C) Thymus (D) Pituitary

2. The vitamin which act both as vitamin and hormone :

(A) Vitamin A (B) Vitamin B

(C) Vitamin C (D) Vitamin D

3. The cranial nerves which act both as sensory and motor nerves :

(A) 5, 7, 9, 10 (B) 1, 3, 5, 6

(C) 2, 4, 11, 12 (D) 1, 3, 5, 8

4. The pigment which gives light yellow colour to the urine :

(A) Uric Acid (B) Urea

(C) Urochrome (D) Bilirubin

5. Part of the brain that controls heartbeat :

(A) Medulla oblongata (B) Cerebrum

(C) Cerebellum (D) None of these

6. The three pairs of vertebrochondral ribs :

(A) 1, 2, 3 (B) 8, 9, 10

(C) 5, 6, 7 (D) 4, 5, 6

7. The type of joint between knee joints :

(A) Ball and socket (B) Pivot

(C) Gliding (D) Hinge

8. The connective tissue that connects two bones to each other :

(A) Tendons (B) Ligaments

(C) Cartilage (D) Muscles

9. The change in electrical potential with the passage of pulse along the membrane of a muscle cell or nerve cell :

(A) Resting potential
(B) Action potential
(C) Half cell potential
(D) None of these

10. EKG stands for :

(A) Electroencephalopathy
(B) Electromyography
(C) Electrocardiography
(D) None of these

11. The wall of heart is made up of :

(A) Epicardium
(B) Myocardium
(C) Endocardium
(D) Both (A), (B) and (C)

12. Which of the following is known as mitral valve?

(A) Tricuspid valve
(B) Bicuspid valve
(C) Semi lunar valve
(D) Spiral valve

13. The conditions that affect normal heart beat are :

(A) Temperature
(B) Composition of blood
(C) Acidity
(D) All of them

14. The opening of aortic arch is guarded by :

(A) Bicuspid valve
(B) Tricuspid valve
(C) Semilunar valve
(D) None of them

15. The space in which heart is located in the thoracic cavity in between lungs is known as :

(A) Diastema
(B) Mediastinum
(C) Pericardial space
(D) Abdominal space

16. The instrument used to evaluate function of heart is :

(A) Electrocardiogram
(B) Electrocardiograph
(C) Electroencephalograph
(D) Electroencephalogram

17. The normal duration of one cardiac cycle is :

(A) 0.8 second
(B) 0.7 second
(C) 0.5 second
(D) 0.6 second

18. Intercalated discs are present in :

(A) Striated muscle
(B) Smooth muscle
(C) Cardiac muscle
(D) In both (A), (B) and (C)

19. Coronary artery supply blood to :

(A) Lungs
(B) Kidney
(C) Pituitary
(D) Heart

20. ECG is used to determine which parameter of heart :

(A) Abnormal electric conduction
(B) Coronary artery disease
(C) Effects of drugs
(D) All of them

21. Pulmonary circulation start from :

(A) Right ventricle
(B) Left ventricle
(C) Left auricle
(D) Right auricle

22. Sphygmomanometer is the instrument used to measure :

(A) Pulse
(B) Heart rate
(C) Blood pressure
(D) Haemoglobin

23. The correct sequence of conducting system of heart is :

(A) AV node – SA node – Purkinje fibres – Bundle of His
(B) SA node – AV node – Bundle of His – Purkinje fibres
(C) Bundle of His – SA node – AV node – Purkinje fibres
(D) Purkinje fibres – AV node – SA node – Bundle of His

24. The first sound in heart beat is caused by :

(A) Opening of AV valve
(B) Closing of AV valve
(C) Closing of semilunar valve
(D) All of them

25. Normal value of stroke volume is :

(A) 70 ml
(B) 90 ml
(C) 50 ml
(D) 100 ml

26. Double circulation is present in :

(A) Aves and Reptiles
(B) Reptiles and Mammals
(C) Aves and Mammals
(D) Fishes and Amphibians

27. Which of the following statement is correct?
(A) Volume of blood ejected from left ventricle per heart beat is stroke volume
(B) Volume of blood ejected from left ventricle per hour is stroke volume
(C) Volume of blood pumped from left ventricle per day is stroke volume
(D) None of them

28. Which one of the following is known as pacemaker of human heart?
(A) AV Node
(B) SA Node
(C) Chordae tendinae
(D) Mitral valve

29. A person with headache and chest pain consulted a Physician. Doctor checked his blood pressure and said it is due to hypertension. Which of the following is his possible systolic pressure?
(A) 120
(B) 75
(C) 115
(D) 146

30. Chamber of heart which receive deoxygenated blood from all parts of the body is :
(A) Left auricle
(B) Left ventricle
(C) Right auricle
(D) Right ventricle

31. Increase in heartbeat is :
(A) Tachycardia
(B) Bradycardia
(C) Angina
(D) Ischemia

32. In ECG QRS complex represent :
(A) Repolarisation of ventricle
(B) Depolarisation of ventricle
(C) Depolarisation of auricle
(D) Repolarisation of auricle

33. The muscle which is immune to fatigue is :
(A) Cardiac muscle
(B) Striated muscle
(C) Non striated muscle
(D) None of them

34. The average cardiac output of a normal resting person is :
(A) 7 litres /minute
(B) 10 litres /minute
(C) 3 litres /minute
(D) 5 litres/minute

35. Which of the following has thickest wall?
(A) Right auricle
(B) Right ventricle
(C) Left ventricle
(D) Left auricle

36. Which of the following is not a reason for myocardial oxygen supply demand imbalance?

(A) Plaque rupture with thrombosis

(B) Fixed atherosclerosis

(C) Coronary vasodilation

(D) Supply demand mismatch without coronary obstruction

37. Which of the following is non fibrin specific fibrinolytic agent?

(A) Tenecteplase (B) Reteplase

(C) Alteplase (D) Streptokinase

38. Least commonly involved cardiac valve in rheumatic heart disease is :

(A) Pulmonary valve (B) Tricuspid valve

(C) Aortic valve (D) Mitral valve

39. Electro Cardiography recording on thermal paper is done using :

(A) Indian ink on heated stylus

(B) Heated stylus alone without any ink

(C) Chinese ink in heated stylus

(D) Prefilled imported black ink in heated stylus

40. Atrial fibrillation affects :

(A) Right atrium only (B) Left atrium only

(C) Both atria are involved (D) None of the above

41. Which of the following statement is wrong regarding basic life support if no normal breathing or no pulse felt in adult patient?

(A) Provide rescue breathing, 1 breath every 6 seconds or 10 breaths/min

(B) Check pulse every 2 minutes; if no pulse, start CPR

(C) If possible opioid overdose, administer naloxone if available per protocol

(D) Connect to ventilator and defibrillator even before starting other measures

42. If there is single rescuer and adult patient has no breathing or only gasping, pulse not felt, the Cardiopulmonary Resusciatation [CPR] until the arrival of automatic external defibrillator should be :

(A) Perform cycles of 30 chest compressions and 3 breaths

(B) Perform cycles of 10 compressions and 2 breaths

(C) Perform cycles of 30 compressions and 2 breaths

(D) Perform cycles of 15 compressions and 2 breaths

43. Regarding the chest compression during cardiopulmonary resusciatation of adult patient, which of the following statement is true?

(A) Limit interruptions in chest compressions to not more than 15 seconds

(B) 80-100 compressions per minute

(C) Allow for full chest recoil after each compression

(D) Compression depth should be 5-6 inches

44. For pediatric age group cardiopulmonary resusciatation, when two rescuers are available the ratio of compression to breath is :

(A) 2 : 1 (B) 5 : 1

(C) 15 : 2 (D) 15 : 1

45. What is the default mode of cardioverter defibrillator kept in emergency departments worldwide?

(A) Asynchronous (B) Synchronous

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

46. Regarding standardization of ECG which of the following is correct?

(A) In normal standardization 1 mV equals 10 mm

(B) In half standardization 0.5 mV equals 10 mm

(C) In double standardization 2 mV equals 10 mm

(D) All of the above

47. ECG lead wire tip with green colour code corresponds to :

(A) Right arm (B) Left arm

(C) Right leg (D) Left leg

48. Which of the following statements is/are correct regarding arm lead reversal?

(i) Complexes are negative in lead I

(ii) Lead aVR looks like lead aVL

(iii) Precordial transition is reversed

(A) Only (i) and (iii) (B) Only (i) and (ii)

(C) All of the above (i), (ii) and (iii) (D) Only (ii) and (iii)

49. Prominent U waves in ECG are seen in :

(A) Hypothermia (B) Hypocalcemia

(C) Hypokalemia (D) Hyponatremia

50. In an ECG with normal QRS axis :

(A) QRS is positive in lead I and negative in lead aVF

(B) QRS is positive in lead I and positive in lead aVF

(C) QRS is negative in lead I and positive in lead aVF

(D) QRS is negative in lead I and negative in lead aVF

51. Underdamping in ECG results in all except :

(A) Spikes at the corners

(B) Narrowing of the complexes

(C) Increased amplitude of waves

(D) Elevation of ST segment

52. RR interval variation in an ECG is caused by all except :

(A) Sinus arrhythmia

(B) Atrial fibrillation

(C) Early repolarization

(D) Atrioventricular block

53. PR interval in ECG represents :

(A) Conduction through atria

(B) AV Nodal conduction

(C) Conduction through bundle of His

(D) All of the above

54. Which of the following is not feature of left ventricular hypertrophy?

(A) Increased QRS voltage

(B) ST segment depression

(C) T wave inversion

(D) Right axis deviation

55. Chronological order of ECG changes in acute myocardial infarction :

(A) Tall T waves, Q waves, ST segment elevation

(B) ST segment elevation, Tall T waves, Q waves

(C) Tall T waves, ST segment elevation, Q waves

(D) Q waves, Tall T waves, ST segment elevation

56. Artefacts in ECG can be produced by all except :

(A) Lead misplacement

(B) Improper grounding

(C) Electrode movement artefact

(D) External interference

57. Which of the following comes in the bandwidth recommended for diagnostic ECG in adults is?

(A) 0.05-100 Hz

(B) 100-200 Hz

(C) 200-300 Hz

(D) 300-500 Hz

58. T wave in ECG is caused by :

(A) Atrial repolarization

(B) Ventricular depolarisation

(C) Atrial depolarization

(D) Ventricular repolarization

59. Pre-requisites for a good ECG recording include all except :

(A) Good contact between skin and electrode

(B) ECG machine should be properly standardized

(C) Patient should hold respiration during recording

(D) Electronic equipment in contact with Patient can produce artefacts

60. Pathological Q wave in ECG is best described by :

(A) Depth more than 10% of R wave and width more than 1mm

(B) Depth more than 25% of R wave and width more than 1 mm

(C) Depth more than 50% of R wave and width more than 1 mm

(D) None of the above

61. Technical dextrocardia is caused by :

(A) Right and left arm lead reversal

(B) Right arm and left leg lead reversal

(C) Left arm and right leg lead reversal

(D) Right leg and left leg lead reversal

62. How will you calculate heart rate from ECG if the patient is in atrial fibrillation?

(A) 1500/R-R interval in number of small squares

(B) 300/R-R interval in number of large squares

(C) Number of QRS complexes in 6 seconds $\times$ 10

(D) None of the above methods is accurate

63. Position of horizontal lead V_6 is :

(A) Fifth left intercostal space mid axillary line

(B) Fifth left intercostal space posterior axillary line

(C) Fourth left intercostal space midclavicular line

(D) Fifth left intercostal space anterior axillary line

64. All are causes of ST segment elevation in ECG except :

(A) Pericarditis

(B) Early repolarization

(C) Myocardial infarction

(D) Subendocardial ischemia

65. Low voltage complexes in ECG is not seen in :

(A) Children

(B) Obesity

(C) Emphysema

(D) Pericardial effusion

66. Lewis lead in ECG is used :

(A) recording ventricular activity

(B) recording Purkinje fibre potential

(C) recording His bundle potential

(D) recording atrial activity

67. Patient tremor artefacts closely mimics which of the following in ECG?

(A) Asystole (B) Atrial fibrillation

(C) Ventricular fibrillation (D) Ventricular tachycardia

68. T wave inversion leads V_1 to V_3 is seen :

(A) Persistent juvenile pattern (B) Frail elderly persons

(C) Hyperkalemia (D) Left ventricular hypertrophy

69. Wide QRS is seen in all except :

(A) Bundle branch block (B) Paced rhythm

(C) Fascicular block (D) Ventricular ectopics

70. Augmented unipolar limb leads were introduced by :

(A) Einthoven (B) Wilson

(C) Goldberger (D) Waller

71. Normal PR interval in an adult patient is :

(A) 40-100 msec (B) 80-110 msec

(C) 120-200 msec (D) 200-280 msec

72. The rate of fibrillary waves in atrial fibrillation is :

(A) 100-200 per minute (B) 350-600 per minute

(C) 250-350 per minute (D) 600-800 per minute

73. Which of the following electrolyte change in the body causes prolongation of QT interval of ECG?

(A) Hyponatremia (B) Hypernatremia

(C) Hypercalcemia (D) Hypocalcemia

74. Which of the following treadmill protocol is suitable for frail patients or those who recover from a recent myocardial infarction?

(A) Bruce protocol (B) Naughton protocol

(C) Modified Bruce protocol (D) Ellestad protocol

75. Position of the V_3 precordial lead is :

(A) 4^{th} left intercostal space towards left of sternum

(B) 5^{th} left intercostal space in midclavicular line

(C) 5^{th} left intercostal space in mid axillary line

(D) midway between V2 and V4 leads

76. 1 mm in the horizontal plane on ECG paper corresponds to :

(A) 40 msec (B) 0.04 sec

(C) Both (A) and (B) (D) 60 msec

77. The range of blood pressure that can be measured with a common sphygmomanometer is :

(A) 100-200 mm Hg (B) 0-100 mm Hg

(C) 0-200 mm Hg (D) 0-300 mm Hg

78. Which of the following is not a cause for hypertension?

(A) Hypothyroidism (B) Hyperthyroidism

(C) Pheochromocytoma (D) Addison's disease

79. All of the following are absolute contraindications for treadmill test EXCEPT :

(A) Moderate mitral regurgitation

(B) Uncontrolled cardiac arrhythmias

(C) Acute MI within 3-5 days

(D) Acute heart failure

80. Absolute indications for termination of exercise test are all EXCEPT :

(A) ST elevation >1mm in leads without a Q wave

(B) Subjects desire to stop

(C) Dizziness or syncope

(D) Appearance of multifocal ventricular ectopics

81. Which of the following is specific for continuous wave doppler when compared to pulsed wave doppler in echocardiography?

(A) Range Specificity (B) Aliasing

(C) Ability to record higher frequencies (D) All of the above

82. Which of the following is the more specific echocardiographic view to diagnose Mitral valve prolapse?

(A) Short axis view (B) Subcostal view

(C) Apical four chamber view (D) Parasternal long axis view

83. Mason Likar modification is employed during which of the following investigations :

(A) Coronary Angiography
(B) Treadmill Test
(C) Head up tilt test
(D) Ambulatory BP monitoring

84. Stage 3 of Bruce protocol is equivalent to :

(A) 6.4 METS
(B) 7.2 METS
(C) 9.2 METS
(D) 10.1 METS

85. Which among the following is not an absolute contraindication for treadmill testing?

(A) Moderate aortic stenosis
(B) Acute myocardial infarction< 2 days
(C) Acute pulmonary embolism
(D) Decompensated heart failure

86. Which among the following is the least specific exercise ECG change for inducible ischemia?

(A) Downsloping ST depression
(B) Horizontal ST depression
(C) Rapidly Upsloping ST depression
(D) Slowly upsloping ST depression

87. All of the following are coronary intravascular imaging modalities except :

(A) OCT
(B) IVUS
(C) Excimer laser
(D) NIRS

88. All of the following are echocardiographic ultrasound modes except :

(A) M mode
(B) B mode
(C) G mode
(D) A mode

89. Holter monitoring is useful in the diagnosis of all of the following except :

(A) LV dysfunction
(B) Sick sinus syndrome
(C) AV blocks
(D) Ventricular Tachycardia

90. All are components of the cardiac ICU monitor except :

(A) Alarm system
(B) X ray tube
(C) Skin electrodes
(D) Rate meter

91. What is the maximum predicted heart rate for a male patient of age 45 years?

(A) 160
(B) 165
(C) 170
(D) 175

92. All of the following are shockable heart rhythms except :

(A) Ventricular Fibrillation
(B) Pulseless Electrical activity
(C) Atrial fibrillation
(D) Ventricular tachycardia

93. Seller's grading is for :

(A) Mitral regurgitation
(B) Aortic regurgitation
(C) Both of the above
(D) None of the above

94. Following are methods to invasively assess cardiac output except :

(A) Gorlin's formula
(B) Indicator dilution method
(C) Fick's Oxygen method
(D) Thermodilution method

95. According to the Revised NASPE/BPEG Generic Code for antibradycardia pacing all of the following are correct except :

(A) Position III-Response to sensed signal
(B) Position IV-Multisite pacing
(C) Position II-Chambers sensed
(D) Position I-Chambers paced

96. Diseases of _____ produces sensorineural hearing loss.

(A) External ear
(B) Middle ear
(C) Semicircular canals
(D) Cochlea

97. Parts of pure tone audiometer are all except :

(A) Ear phones
(B) Oscillator
(C) Probe
(D) Amplifier

98. Conductive pathway of hearing includes all except :

(A) Vestibulocochlear nerve
(B) External ear
(C) Ossicles
(D) Tympanic membrane

99. Pure Tone audiogram measures the :

(A) Ability to understand speech
(B) Threshold of hearing
(C) Acoustic reflex
(D) Electrical activity in the auditory pathways

100. Sound waves travel fastest in :

(A) Solids
(B) Liquids
(C) Vacuum
(D) Gas

SPACE FOR ROUGH WORK

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