



श्री चित्रा तिरुनाल आयुर्विज्ञान और प्रौद्योगिकीसंस्थान, तिरुवनंतपुरम्-11
SREE CHITRA TIRUNAL INSTITUTE FOR MEDICAL SCIENCES & TECHNOLOGY
THIRUVANANTHAPURAM—695 011

ENTRANCE EXAMINATION - ACADEMIC SESSION JANUARY 2019

PG DIPLOMA IN CLINICAL PERFUSION

Time:90 Minutes

Max.Marks: 100

(Select the most appropriate answer)

(There are **no negative** marks for wrong answers)

1. Impulse of heart beat originates from
 - a. AV Node
 - b. SA Node
 - c. Vagus Nerve
 - d. Atrial muscle
2. Cancerous cells can easily be destroyed by radiation due to
 - a. Induced mutation
 - b. Genetic drift
 - c. Rapid cell division
 - d. Fast mutation
3. Digestive juice having minimum pH
 - a. Saliva
 - b. Gastric juice
 - c. Bile
 - d. Pancreatic juice
4. Nicotinamide is synthesized from
 - a. Phenylalanine
 - b. Tryptophan
 - c. Tyrosine
 - d. Valine
5. Continuous bleeding from an injury is due to the deficiency of vitamin
 - a. A
 - b. D
 - c. E
 - d. K

6. The volume of air breathed in and out during normal breathing is called
 - a. Vital capacity
 - b. Residual volume
 - c. Tidal volume
 - d. ERV
7. World AIDS day is organized every year on
 - a. December 1
 - b. December 6
 - c. December 15
 - d. December 30
8. Which gland in human body secretes flight, fright and fight hormones?
 - a. Pituitary
 - b. Adrenal
 - c. Pineal
 - d. Thyroid
9. Blood circulation was discovered by
 - a. Karl Landsteiner
 - b. William Harvey
 - c. Watson and Crick
 - d. Ronald Ross
10. Histamine is secreted by
 - a. Fibroblast
 - b. Plasma cell
 - c. Mast cell
 - d. Macrophage
11. Drugs which induce dreamy state of consciousness are called
 - a. Sedatives
 - b. Stimulants
 - c. Depressants
 - d. Hallucinogens
12. Thromboplastin required for blood clotting is produced by
 - a. Platelets
 - b. Erythrocytes
 - c. Monocytes
 - d. Lymphocytes
13. In human beings, the number of lobes in right and left lungs are
 - a. 2 and 3
 - b. 3 and 2
 - c. 2 and 2
 - d. 3 and 3
14. Oxygenated blood from lungs is carried by
 - a. Pulmonary artery
 - b. Pulmonary vein
 - c. Bronchial artery
 - d. Bronchial vein

15. Name of a disease connected with Rh factor is
- Hemophilia
 - Erythropoiesis
 - Erythroblastosis
 - Myxoedema
16. Layer covering heart is called
- Pericardium
 - Peritoneum
 - Pleura
 - Meninges
17. Cardiac output is blood
- Received by heart in a cardiac cycle
 - Received by heart in a minute
 - Pumped by ventricles in a cardiac cycle
 - Pumped by ventricles in a minute
18. Volume of urine is regulated by
- Aldosterone
 - Aldosterone and ADH
 - Aldosterone, ADH and testosterone
 - ADH
19. Heart lung machine is invented by
- John Gibbon
 - Lillehei
 - Buckberg
 - Melrose
20. Who performed the first heart transplantation?
- Charles Drew
 - Norman Schumway
 - Denton Cooley
 - Christian Bernard
21. ECMO is
- An assist device for oxygenation
 - Bacterial filter in circuit
 - Arterial filter in circuit
 - None
22. The main function of white blood cells in the body is to
- Protect the body from diseases
 - Carry oxygen
 - Carry food
 - Help in formation of clot
23. Largest serous membrane in the body
- Peritoneum
 - Pleura
 - Meninges
 - Pericardium

24. Blood circulates from arteries to veins through microscopic vessels called
- Villi
 - Corpuscles
 - Capillaries
 - Venules
25. Why is arterial wall thicker than venous?
- So that they can carry more oxygen in them
 - So that they may bear the pressure of blood
 - As they have no valves in them
 - As they do not need to supply oxygen through their walls
26. The bone of mammals contain Haversian canals which are connected by transverse canals known as
- Inguinal canals
 - Bidder's canals
 - Semicircular canals
 - Volkman's canals
27. Tube in a tube plan is exhibited by the phylum
- Coelentrata
 - Aschelminthes
 - Annelida
 - Arthropoda
28. Life cycle of malarial parasite in mosquito was first discovered by
- Ross
 - Celli
 - Grassi
 - Lavern
29. Wharton's duct is associated with
- Liver
 - Salivary gland
 - Pancreas
 - Kidney
30. In intestine, pH value is
- 5.5 - 6.00
 - 6.5 - 7.00
 - 7.50 - 8.00
 - 8.50 - 9.00
31. The greatest quantity of air that can be expired after a maximum inspiratory effort is
- Residual volume
 - Vital capacity
 - Tidal volume
 - Inspiratory capacity
32. Respiratory centre is situated in
- Lungs
 - Cerebrum
 - Cerebellum
 - Medulla oblongata

33. Cations necessary for blood coagulation
- Sodium
 - Potassium
 - Calcium
 - Magnesium
34. A gland which has both exocrine and endocrine secretions
- Thyroid
 - Pancreas
 - Adrenal
 - Pituitary
35. Disease caused by insufficient hemoglobin synthesis
- Polycythemia
 - Thalassemia
 - Leukemia
 - Lymphoma
36. Malaria characterized by 48 hour development cycle, cerebral symptoms, remittent fever, hemoglobinuria etc
- P. falciparum*
 - P. malariae*
 - P. vivax*
 - P. ovale*
37. Net gain of energy from 1g mol of glucose during aerobic respiration is
- 2
 - 4
 - 24
 - 38
38. Substances which bring down body temperature are known as
- Antipyretics
 - Analgesics
 - Sedatives
 - Antidepressants
39. Insulin is
- Protein
 - Fat
 - Carbohydrate
 - Vitamin
40. Valve between right atrium and ventricle is
- Tricuspid valve
 - Bicuspid valve
 - Mitral valve
 - Semilunar valve
41. Antiageing hormone is
- Thyroxine
 - Melatonin
 - Estrogen
 - Testosterone

42. Carbohydrate which cannot be utilized directly by human
- Starch
 - Glycogen
 - Cellulose
 - Glucose
43. Which is levo rotatory?
- Glucose
 - Fructose
 - Sucrose
 - None
44. True mixed venous blood is drawn from
- Right atrium
 - Right ventricle
 - Pulmonary artery
 - Venacavae
45. Vascular resistance is determined by
- Arteries
 - Arterioles
 - Capillaries
 - Venules
46. Ecg is least effective in detecting abnormalities of
- Position of heart in chest
 - AV conduction
 - Rhythm
 - Contractility
47. Constriction of a blood vessel to half of its resting diameter increases resistance by a factor of
- 4
 - 8
 - 12
 - 16
48. Greatest percentage of blood volume is seen in
- Heart
 - Arterial system
 - Capillaries
 - Venous system
49. Cerebral blood flow may be increased by increasing
- pH
 - Cerebral venous pressure
 - pCO₂
 - CSF pressure

50. When a person moves from supine position to standing position, there is an increase in
- Heart rate
 - CVP
 - Stroke volume
 - BP
51. Wall of blood capillary is formed of
- Hemocytes
 - Parietal cells
 - Endothelial cells
 - Oxyntic cells
52. Which is the principal cation in the plasma of the blood?
- Potassium
 - Magnesium
 - Calcium
 - Sodium
53. AIDS is caused by HIV that principally affects
- All lymphocytes
 - Activator B cells
 - Cytotoxic T cells
 - T4 lymphocytes
54. A person is undergoing prolonged fasting. His urine will be found to contain abnormal quantities of
- Fats
 - Amino acids
 - Glucose
 - Ketones
55. Sternum is connected to ribs by
- Bony matter
 - White fibrous cartilage
 - Hyaline cartilage
 - Areolar tissue
56. The functions of Kupffer cells are
- Only supporting functions for the sinusoids
 - Carry out the main metabolic function
 - Carry out the degradation
 - Carry out the main immune function
57. Foramen of Panizza is found in
- Skull of vertebrates
 - Heart of reptiles
 - Urostyle of frog
 - Auditory capsule of mammals

58. The protein part of respiratory enzyme
- Coenzyme
 - Apoenzyme
 - Dehydrogenase
 - Phosphomutase
59. The Doppler measures
- Flow velocity
 - Volume flow
 - Systolic pressure
 - Peripheral resistance
60. Sella tursica is a
- Covering of kidney
 - Depression in skull
 - Protruberance in brain
 - Covering of testis
61. Brunner's glands and Crypts of Liberkuhn are found in
- Oesophagus
 - Stomach
 - Ileum
 - Caecum
62. Tectorial membrane is found in
- Eye of frog
 - Tongue of frog
 - Ear of mammal
 - Eye of mammal
63. Hormone that promotes reabsorption of water by nephrons is
- Androgen
 - Parathormone
 - Vasopressin
 - Oxytocin
64. Casein is a milk
- Bacterium
 - Adulterant
 - Protein
 - Fat
65. Chloride shift is essential for the transport of
- O₂
 - CO₂
 - N₂
 - HCO₃
66. Megaloblastic anemia is due to deficiency of
- Vitamin B12
 - Vitamin B1
 - Vitamin B2
 - Vitamin B3

67. Slow respiration, slow pulse rate and constriction of pupil occur due to addiction to
- Morphine and opium
 - Cocaine and heroin
 - Alcohol and thalidomide
 - Nicotine and caffeine
68. Insulin acts as a
- Antibody
 - Hormone
 - Enzyme
 - Carrier
69. Anaerobic respiration occurs in human body inside
- Liver
 - Kidneys
 - Red muscles
 - White muscles
70. Crus cerebri is a part of
- Cerebrum
 - Pons
 - Mid brain
 - Medulla
71. Heart burn is most often a manifestation of
- Reflux esophagitis
 - Peptic ulcer
 - Gastric ulcer
 - Ca stomach
72. Which of the following is NOT true about neutrophils?
- They are motile
 - They cannot leave circulation
 - They contain lysosomes
 - Increase during acute infection
73. What force holds helices of DNA together?
- Ionic bond
 - Hydrogen bond
 - van der Waal's force
 - Covalent force
74. Which of the following is the most electronegative element?
- Fluorine
 - Chlorine
 - Bromine
 - Iodine
75. The first virus to be cultured in human cells was
- Polio
 - Dengue
 - Influenza
 - HIV

76. Gland which secretes tears
- Sebacous gland
 - Lacrimal gland
 - Ocular gland
 - Meibomian gland
77. In the presence of which substance, does glucose get converted into glycogen?
- Glucagon
 - Amylase
 - Insulin
 - Synthetase
78. Which is the best method of myocardial protection in open heart surgery?
- Systemic cooling
 - Topical cooling
 - Cardioplegic arrest
 - Circulatory arrest
79. Valves are necessary in veins but not in arteries because
- Pressure in veins is low
 - Pressure in veins is high
 - Veins have muscular wall
 - Veins are thick walled
80. In an emergency situation, when there is no time to cross match the blood which group can be given to the patient?
- AB+
 - AB-
 - O+
 - O-
81. The function of Eustachian tube is to
- Equalize the pressure in the middle and extenal ears
 - Keep middle ear in proper shape
 - Keep dirt off middle ear
 - Provide air to the ear ossicles
82. The most important function of platelets
- Destroying bacteria
 - Fighting infection
 - Increasing metabolism
 - Blood clotting
83. Removal of fallopian tube in the human female is called
- Vasectomy
 - Tubectomy
 - Ovariectomy
 - Oophorectomy
84. The machine used to increase heart rate is called
- IABP
 - ECMO
 - Oxygenator
 - Pacemaker

85. Lung disease produced by chronic smoking is
- Hypercapnoea
 - Pulmonary edema
 - Emphysema
 - Hypoxia
86. Which organ converts ammonia to urea, in man?
- Liver
 - Spleen
 - Kidneys
 - Pancreas
87. The following medicine is used to neutralize the effect of heparin after cardiopulmonary bypass
- Fragmin
 - Protamine
 - Histamine
 - Prothrombin
88. Evolutionary history of an organism is known as
- Ontogeny
 - Phylogeny
 - Ancestry
 - Paleontology
89. The term "New Systematics" was introduced by
- Bentham and Hooker
 - Linnaeus
 - Julian Huxley
 - Darwin
90. *E. coli* is used extensively in biological research as it is
- Easily cultured
 - Easily available
 - Easy to handle
 - Easily multiplied in host
91. Chlorophyll in chloroplasts is located in
- Grana
 - Pyrenoid
 - Stroma
 - Both grana and stroma
92. Which of the following represents the best stage to view the shape, size and number of chromosomes?
- Prophase
 - Metaphase
 - Anaphase
 - Telophase

93. Respiratory Quotient is
- CO₂ produced to substrate consumed
 - CO₂ produced to O₂ consumed
 - O₂ produced to water consumed
 - O₂ produced to CO₂ consumed
94. Oxidative phosphorylation is production of
- ATP in photosynthesis
 - NADPH in photosynthesis
 - ATP in respiration
 - NADH in respiration
95. The four elements that make up 99% of all elements found in a living system is
- C,H,O,P
 - C,N,O,P
 - C,N,O,H
 - C,H,O,S
96. Which of the following serves as a terminal codon?
- UAG
 - AGA
 - AUG
 - GCG
97. Hemophilia is more common in males because
- Recessive character carried by Y chromosome
 - Dominant character carried by Y chromosome
 - Dominant trait carried by X chromosome
 - Recessive trait carried by X chromosome
98. At high altitude, the RBCs in the human blood will
- Increase in number
 - Decrease in number
 - Increase in size
 - Decrease in size
99. Lungs are enclosed in
- Periosteum
 - Pericardium
 - Pleura
 - Peritoneum
100. Hemoglobin is a type of
- Carbohydrate
 - Respiratory pigment
 - Vitamin
 - Skin pigment