



श्री चित्रा तिरुनाल आयुर्विज्ञान और प्रौद्योगिकी संस्थान, त्रिवेंद्रम, केरल- 695 011
(एक राष्ट्रीय महत्व का संस्थान, विज्ञान एवं प्रौद्योगिकी विभाग, भारत सरकार)
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ENTRANCE EXAMINATION - ACADEMIC SESSION JANUARY 2025

Program: PG Diploma in Clinical Perfusion

Time: 90 Minutes

Max. Marks: 100

(Select the most appropriate answer)

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

- Binomial nomenclature was introduced by
 - Linnaeus
 - Darwin
 - Bentham and Hooker
 - Aristotle
- Which of the following is less general in characters as compared to genus?
 - Species
 - Division
 - Class
 - Family
- Virus has
 - DNA
 - RNA
 - both (a) and (b)
 - either DNA or RNA
- Aquatic reptiles are
 - Ureotelic
 - ureotelic on land
 - ammonotelic
 - uricotelic in water
- The long bones are hollow and connected by air passage. They are characteristic of
 - Aves
 - Mammalia
 - reptilia
 - sponges
- The desert plants in order to tolerate water stress show
 - sunken stomata
 - reduced leaves
 - well developed root system
 - all of these

7. Endodermis is a part of
- cortex
 - pericycle
 - medulla
 - epidermis
8. Which of the following blood group can be given to any patient ?
- A
 - B
 - O
 - AB
9. Which of the following chamber of heart has the thickest muscular wall ?
- Left auricle
 - Left ventricle
 - Right ventricle
 - Right auricle
10. Hirudin is
- A protein produced by *Hordeum vulgare*, which is rich in lysine.
 - A toxic molecule isolated from *Gossypium hirsutum*, which reduces human fertility.
 - A protein produced from transgenic *Brassica napus*, which prevents blood clotting.
 - An antibiotic produced by a genetically engineered bacterium, *Escherichia coli*.
11. Arteries supplying blood to the heart are called
- carotid arteries
 - hepatic arteries
 - coronary arteries
 - pulmonary arteries
12. The end product of ornithine cycle is
- urea
 - uric acid
 - NH_3
 - CO_2
13. Reabsorption in tubules of nephrons occurs by
- osmosis
 - diffusion
 - active transport
 - both (b) & (c)
14. Toxic substances are detoxified in human body in
- kidney
 - lungs
 - liver
 - stomach

15. In ornithine cycle, enzyme arginase breaks down arginine into
- Citrulline and ammonia
 - Ornithine and ammonia
 - Ornithine and urea
 - Citrulline and urea.
16. Cranium of human contains
- 12 bones
 - 8 bones
 - 14 bones
 - 20 bones
17. Which of the following is made up of a single bone in mammal ?
- Dentary
 - Hyoid
 - Upper jaw
 - All of these
18. The shoulder blade is made of
- clavicle
 - humerus
 - ilium
 - scapula
19. The sensation of fatigue in the muscles after prolonged strenuous physical work, is caused by
- a decrease in the supply of oxygen
 - minor wear and tear of muscle fibres
 - the depletion of glucose
 - the accumulation of lactic acid
20. The vagus nerve is the cranial nerve numbering
- 10th
 - 9th
 - 5th
 - 8th
21. Otorhinolaryngology is the study of
- brain cells
 - bird anatomy
 - locomotary organs
 - ENT
22. The black pigment in the eye which reduces the internal reflection is located in
- retina
 - iris
 - cornea
 - sclerotic

23. Fenestra ovalis is the opening of
- Cranium
 - Tympanum
 - Tympanic cavity
 - Brain
24. Fusion of male and female gametes (sex cells) produced by the same individual is known as
- apomixis
 - fragmentation
 - self fertilization
 - cross fertilization
25. Cessation of menstrual cycle in women is called
- menopause
 - lactation
 - ovulation
 - parturition
26. XO chromosomal abnormality in humans causes
- Turner's syndrome
 - Down's syndrome
 - Patau's syndrome
 - Klinefelter's syndrome
27. Which disease has XXY chromosome constitution?
- Down's syndrome
 - Turner's syndrome
 - Klinefelter's syndrome
 - Okazaki syndrome
28. The branch of science dealing with process of improvement of human race by selective breeding is called
- Eugenics
 - Euthenics
 - Euphenics
 - Obstetrics
29. "*Homo sapiens*" implies
- chordates
 - human beings
 - modern Man
 - None of these
30. Anti-viral substance in human body is
- Antigen
 - Antibody
 - interferon
 - antibiotic

31. Influenza is caused by
- Virus
 - Bacteria
 - Alga
 - Fungus
32. Which type of cancer is found in lymph nodes and spleen?
- Carcinoma
 - Sarcoma
 - Lymphoma
 - Lukemia
33. Inflammatory response, in allergy is caused by the release of
- Antigen
 - Histones
 - Histamines
 - Antibodies
34. "Cell drinking" is called
- Phagocytosis
 - Apoptosis
 - Pinocytosis
 - Necrosis
35. Decrease secretion of growth hormone causes
- Cretinism
 - Dwarfism
 - Acromegaly
 - Gigantism
36. In Sickle cell anaemia glutamic acid is replaced by valine. Which one of the following triplets code for valine?
- AAG
 - GAA
 - GGG
 - GUG
37. Which of the following is not a true amphibian animal?
- Frog
 - Salamander
 - Tortoise
 - Toad
38. symbiotic association between algae and fungi
- Lichens
 - Fern
 - Algae
 - Fungi

39. The letter T in T- lymphocytes refers to
- Thalamus
 - Thyroid
 - Thymus
 - Tonsil
40. Albumin produced in
- Spleen
 - Liver
 - Kidney
 - Erythropoietin
41. Most abundant immunoglobulin present is
- IgA
 - IgM
 - IgG
 - IgE
42. Thrombocytopenia is a condition
- Increased WBCs
 - Decreased platelets
 - Decreased RBCs
 - Increased RBCs
43. Heart beat increases at the time of interview because of
- Renin
 - rennin
 - adrenaline
 - DiureticADH
44. Which of the following is a viral disease of poultry birds?
- Anthrax
 - Ranikhet
 - Coccidiosis
 - None of these
45. Corpus luteum is a mass of cells found in
- Brain
 - ovary
 - pancreas
 - spleen
46. Cranial nerve that senses the smell is
- Hypoglossal
 - Vagus
 - Olfactory
 - Glossal
47. Life span of RBC is
- 120 days
 - 20-30 days
 - 30 days
 - less than 10 days

48. The process of producing concentrated urine by kidney is
- Diffusion
 - Countercurrent mechanism
 - Osmosis
 - Facilitate transport
49. Respiratory centre is located in
- Medulla oblongata
 - Cerebrum
 - Cerebellum
 - Spinal cord
50. Sternum is connected to ribs by
- Bony matter
 - Hyalin cartilage
 - White fibrous cartilage
 - Aerolar tissue
51. Maximum amount CO₂ transfer in body as
- Carbide
 - Carbon monoxide
 - Bicarbonate
 - Amylase
52. In which part of the respiratory system, gaseous exchange takes place?
- Alveoli
 - Pharynx
 - Larynx
 - Trachea
53. Which of the following functions by filtering and keeping the mucus and dirt away from our lungs?
- Cilia
 - Bronchioles
 - Hairs in the lungs
 - All of the above
54. The average number of alveoli present in the human lungs is estimated to be around
- 1 million
 - 200-500 million
 - 600-800 million
 - 1500 million
55. Which one of the following statements is false about the trachea?
- Has C-shaped rings
 - It is covered by epiglottis
 - It splits into the right and left lungs
 - None of the above

56. The maximum volume of air contained in the lung by a full forced inhalation is called
- Tidal volume
 - Vital capacity
 - Ventilation rate
 - Total lung capacity
57. Which of the following is the function of the trachea?
- Gaseous Exchange
 - passage the air into and out of the lung
 - Filters the air we breathe
 - All of the above
58. In Aves, the exchange of gases occurs within the
- Lungs
 - Air sacs
 - Air sacs and Lungs
 - None of the above
59. Which of the following is also known as "Voice Box"
- Lungs
 - Trachea
 - Larynx
 - Oesophagus
60. The normal diastolic blood pressure in a normal healthy adult human is
- 80 mm Hg
 - 60 mm Hg
 - 90 mm Hg
 - 110 mm Hg
61. _____ is a condition where plaque builds up on the inside of arteries.
- Arthrocentesis
 - Arthralgia
 - Arthritis
 - Atherosclerosis
62. _____ carries deoxygenated blood to the lungs from the right ventricle.
- Pulmonary artery
 - Pulmonary vein
 - Aorta
 - None of the above
63. _____ forms clots when blood vessels get damaged
- Platelets
 - Cellulose
 - Haemoglobin
 - None of the above

64. In humans, _____ is the difference between systolic and diastolic pressure
- a) 40 mm Hg
 - b) 20 mm Hg
 - c) 0 mm Hg
 - d) None of the above
65. _____ is a blood disorder where the haemoglobin is defective
- a) Heterochromia
 - b) Alopecia
 - c) Haemolysis
 - d) Sickle cell anaemia
66. Severe loss of blood due to trauma is called
- a) Exsanguination
 - b) Haemolysis
 - c) Concussion
 - d) None of the above
67. Anemia is deficiency of
- a) Platelets
 - b) Leucocytes
 - c) Hemoglobin
 - d) Proteins
68. Conversion of larvae into adult is
- a) Metagenesis
 - b) Metamerism
 - c) Metamorphosis
 - d) Metastasis
69. Cold blooded animals is known as
- a) Homoeotherms
 - b) Endotherms
 - c) Poikilotherms
 - d) None of the above
70. Structure within a cell that distinguishes it as eukaryotic or prokaryotic is
- a) Ribosome
 - b) Cell membrane
 - c) Cell wall
 - d) Nucleus
71. Robert Brown discovered
- a) Chloroplast
 - b) Photometer
 - c) Nucleus
 - d) Nucleolus

90-110

72. Sphincter between esophagus and stomach
- Pyloric
 - Cardiac
 - Sphincter of Oddi
 - Anal
73. Trypsin digests
- Carbohydrates
 - Proteins
 - Fats
 - None of the above
74. The process of stomach muscle contraction to propel food through the digestive tract
- Peristalsis
 - Regurgitation
 - Secretion
 - Synthesis
75. Introduction of foreign gene for improving genotype is called
- tissue culture
 - genetic engineering
 - vernalization
 - eugenics
76. Beta cells of pancreas produces
- Insulin
 - Glucagon
 - Both
 - None
77. The function of vitamin K is in
- Regulation of Ca and P metabolism
 - Carbohydrate metabolism
 - Clotting
 - Respiration
78. Sarcolemma is seen in
- Muscle fibre
 - Nerve fibre
 - Viscera
 - Spinal cord
79. First human hormone produced by recombinant DNA is
- Insulin
 - Estrogen
 - Thyroxin
 - Progesterone
80. Which blood vessel in mammals would normally carry the largest amount of urea?
- Dorsal aorta
 - Hepatic vein
 - Hepatic Porta Vein
 - Renal Vein

81. Which is the example of conditioned reflex ?
- a) Eyes closed when anything enter into it.
 - b) Hand took up when piercing with needle
 - c) Salivation in a hungry dog in response to ringing of a bell.
 - d) Digestion food goes forward in alimentary canal.
82. Which of the following organ is differentiated first during development?
- a) Heart
 - b) Skin
 - c) Brain
 - d) Neural tube
83. Steroid hormones are similar in structure to
- a) Tryosine
 - b) Cholesterol
 - c) Coenzyme A
 - d) Glycerol
84. Which one of the following hormones contains iodine?
- a) Thyroxine
 - b) Testosterone
 - c) Insulin
 - d) Adrenaline
85. The primary function of the cerebrospinal fluid is to:
- a) Protect the brain
 - b) Provide nutrients to the surrounding tissues
 - c) Remove waste products
 - d) All of the above
86. Humans have ____ lobes in the left lung.
- a) 3
 - b) 2
 - c) 4
 - d) 1
87. Which of the following organisms have book lungs?
- a) Spider
 - b) Ant
 - c) Penguin
 - d) Sealion
88. The lungs are protected by:
- a) Sternum
 - b) Rib cage
 - c) Backbone
 - d) All of the above

89. Altitude sickness is typically caused due to:
- a) The partial pressure of oxygen
 - b) Increased levels of CO₂ in blood
 - c) Cold temperatures
 - d) None of the above
90. The component of blood which prevents its coagulation in the blood vessels is
- a) Hemoglobin
 - b) Plasma
 - c) Thrombin
 - d) Heparin
91. Pituitary gland is located in –
- a) intestine
 - b) liver
 - c) brain
 - d) kidney
92. Night blindness and xerophthalmia are generally conditions associated with the deficiency of which vitamin?
- a) Vitamin B
 - b) Vitamin K
 - c) Vitamin B₂
 - d) Vitamin A
93. A malfunction of the lymph nodes would most likely interfere with the
- a) release of carbon dioxide into the lymph
 - b) filtering of glucose from the lymph
 - c) release of oxygen into the lymph
 - d) filtering of bacteria from the lymph
94. Oxidative breakdown of respiratory substrates with the help of O₂ is called as
- a) fermentation
 - b) anaerobic respiration
 - c) R. Q.
 - d) aerobic respiration
95. Severe Acute Respiratory Syndrome (SARS)
- a) is caused by a variant of *Pneumococcus pneumoniae*.
 - b) is caused by a variant of the common cold virus (corona virus).
 - c) is an acute form of asthma.
 - d) affects non-vegetarians much faster than the vegetarians.
96. Much developed larynx of human male is called
- a) Aristotle's lantern
 - b) Syrinx
 - c) Adam's apple
 - d) Muller's organ

97. In humans, the concentration of carbon dioxide in the plasma
- a) Causes increased production of hydrochloric acid.
 - b) regulates gastric acid production by forming carbonic acid.
 - c) regulates breathing rate by its effect on the medulla.
 - d) causes inflammation of the tissues of the bronchial tubes
98. Approximately 70% of carbon-dioxide absorbed by the blood will be transported to the lungs.....
- a) as bicarbonate ions
 - b) in the form of dissolved gas molecules
 - c) by binding to RBC
 - d). as carbamino – haemoglobin
99. Who is known as the "Father of Genetics"?
- a) Gregor Mendel
 - b) Glenn Morgan
 - c) William Bateson
 - d) James Watson
100. The first heart transplant was performed by
- a) James Watson
 - b) William Harvey
 - c) Har Gobind Khurana
 - d) Christiaan Barnard

