



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

ENTRANCE EXAMINATION - ACADEMIC SESSION JANUARY 2020

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)

1.The animal cell was discovered by

- a) Robert Brown
- b) M J Schleiden
- c) Theodar Schwann
- d) Robert Hooke

2.The biological energy currency of the cell

- a) Lysosomes
- b) Ribosome
- c) Protoplasm
- d) ATP

3. Protective sheath of Axons

- a) Myelin sheath
- b) Cellulose
- c) Pericardium
- d) Meninges

4. Portion of brain nearest to the spinal cord

- a) Thalamus
- b) Medulla oblongata
- c) Cerebrum
- d) Cerebellum

5. Which of the following is effective against tuberculosis

- a) Penicillin
- b) Chloromycetin
- c) Terramycin
- d) Streptomycin

6. Development of an egg without fertilization is called
- Gametogenesis
  - Parthenogenesis
  - Oogenesis
  - Metamorphosis
7. Kidney diseases in man is caused by the pollutant
- Cadmium
  - Iron
  - Cobalt
  - Carbon
8. The hormone produced in the Duodenum
- Ghrelin
  - Secretin
  - Gastrin
  - Testosterone
9. Father of Biology
- John Ray
  - Carl Linnaeus
  - Charakan
  - Aristotle
10. The highest level of classification
- Kingdom
  - Species
  - Family
  - Phylums
11. The list of endangered plants and animals are included in
- Red Data Book
  - Blue Data Book
  - Green Data Book
  - White Data Book
12. The vast proportion of our body is made up of
- Bones
  - Water
  - Organs
  - Skin
13. The organ which is primarily concerned with immunity
- Kidney
  - Liver
  - Thyroid
  - Lymphatic tissue

14. Larva of mosquito

- a) Maggots
- b) Wiggler
- c) Caterpillars
- d) Tadpole

15. Primary source of energy in the living world

- a) Sun
- b) Moon
- c) Green plants
- d) Producers

16. Ecological interactions between Mango tree and Loranthus

- a) Predation
- b) Parasitism
- c) Competition
- d) Mutualism

17. The disease not transmitted by housefly is

- a) Cholera
- b) Enteric fever
- c) Dengue fever
- d) Dysentery

18. The remnants of primitive organisms is known as

- a) Fossils
- b) Unicellular organisms
- c) Non chordate
- d) Arthropods

19. Chromosome number of human

- a) 46
- b) 48
- c) 44
- d) 42

20. The Origin of Species by means of natural selection was written by

- a) Charles Darwin
- b) John Ray
- c) Carl Linnaeus
- d) Charakan

21. Father of white revolution

- a) Dr Verghese Kurien
- b) Dr swaminathan
- c) Dr Norman Ernest
- d) Dr Hiralal Chaudhuri

22. Functional unit of heredity

- a) Gene
- b) Chromosome
- c) DNA
- d) RNA

23. The features seen in offspring that are different from their parents are called

- a) Variations
- b) Heredity
- c) Genetics
- d) Pasteurization

24. First artificially synthesised vitamin

- a) Vitamin A
- b) Vitamin B
- c) Vitamin C
- d) Vitamin D

25. Study of life in outer space is called

- a) Exobiology
- b) Astrophysics
- c) Cosmology
- d) Cosmobiology

26. Which provides nourishment for the Embryo?

- a) Amniotic cavity
- b) Yolk Sac
- c) Trophoblast
- d) Compact layer

27. Excretory organ of Prawn

- a) Nephridia
- b) Malphigian tubules
- c) Contractile Vacuole
- d) Green glands

28. The metal present in Insulin

- a) Zinc
- b) Iron
- c) Calcium
- d) sodium

29. The longest part of the alimentary canal

- a) Small intestine
- b) Oesophagus
- c) Stomach
- d) Large intestine

30. The hardest substance in the human body
- a) Tooth enamel
  - b) Calcium Phosphate
  - c) collagen
  - d) keratin
31. Father of genetics
- a) Gregor Mendal
  - b) Thomas Addison
  - c) Charles Darwin
  - d) William Harvey
32. The process by which energy is released from glucose in cells is called
- a) Cellular respiration
  - b) Aerobic respiration
  - c) Internal respiration
  - d) External respiration
33. Respiratory organ of spider
- a) Book lungs
  - b) Skin
  - c) Trachea
  - d) Gills
34. Blood Pigment helps for the exchange of gases is
- a) Haemoglobin
  - b) Rhodopsin
  - c) Photopsin
  - d) Iodopsin
35. Enzyme present in Tears
- a) Lysozyme
  - b) Salivary amylase
  - c) Trypsin
  - d) Peptidase
36. The nitrogen base which is not present in DNA
- a) Adenine
  - b) Thymine
  - c) Guanine
  - d) Uracil
37. Human body is an example of
- a) Open system
  - b) Closed system
  - c) Isolated system
  - d) Adiabatic system

38. In mammals ammonia produced by metabolism is converted into urea in the
- Kidney
  - Blood
  - Liver
  - Spleen
39. The smallest and lightest bone in human body
- Nasal bone
  - Incus
  - Mandible
  - Stapes
40. Which of the following is most important for growth of children upto the age of 14?
- Protein
  - Vitamin
  - Fat
  - Carbohydrates
41. Mammary glands are modified
- Sebaceous gland
  - Oil gland
  - Sweat gland
  - Lymph gland
42. Purpura is a condition due to defect in
- Red cells
  - White cells
  - Platelets
  - Blood vessels
43. Chromosomal abnormality of unborn can be determined by
- CAT Scan
  - Ultrasound scan
  - Tissue culture
  - Amniocentesis
44. Di George's Syndrome is
- Absence of thymus gland
  - Absence of thyroid gland
  - Absence of pituitary gland
  - Absence of gall bladder

45. Saltatory propagation is a feature of

- a) Nerve fibre
- b) Skeletal muscle
- c) Heart muscle
- d) Brain

46. Corpus callosum connects

- a) Two cerebral hemisphere
- b) Two ventricles of brain
- c) Two cerebellar hemisphere
- d) Two optic thalamus

47. The entry of food into the larynx is prevented by

- a) Mitral valve
- b) Diaphragm
- c) Epiglottis
- d) Frenulum

48. Which hormone has anti insulin effect

- a) Cortisol
- b) Aldosterone
- c) Calcitonin
- d) Oxytocin

49. Sarcolemma is the membrane which covers

- a) Muscle fibers
- b) Nerve fibers
- c) Viscera
- d) Spinal cord

50. HIV is a

- a) Arbovirus
- b) Oncovirus
- c) Flavivirus
- d) Retrovirus

51. Turner's syndrome is

- a) 46 XY
- b) 45 XO
- c) 46 XX
- d) 47XXY

52. Formation of blood cell is known as

- a) Hemolysis
- b) Rouleaux
- c) Hemopoiesis
- d) Phagocytosis

53. Heart beat is initiated by

- a) AV node
- b) Bundle of His
- c) Purkinje fibers
- d) SA node

54. Calcitonin is a hormone produced by

- a) Pancreas
- b) Kidney
- c) Pituitary
- d) Parathyroid

55. Bradycardia is a condition when

- a) Heart rate is reduced
- b) Heart rate is increased
- c) Cardiac muscles are contracted
- d) Cardiac muscles are relaxed

56. Normal adult hemoglobin is

- a) Hemoglobin C
- b) Hemoglobin A
- c) Hemoglobin F
- d) Hemoglobin S

57. Largest and thickest heart chamber is

- a) Left ventricle
- b) Left atrium
- c) Right atrium
- d) Right ventricle

58. Down's syndrome is a typical case of

- a) Trisomy
- b) Nullsomy
- c) Gene mutation
- d) Monosomy



59. Immunoglobulins are

- a) Antigens
- b) Antibodies
- c) Antiseptics
- d) Antibiotics

60. Accumulation of uric acid crystals in the synovial joint causes

- a) Rheumatoid arthritis
- b) Gout
- c) Osteoarthritis
- d) Muscular dystrophy

61. Diuresis is a condition characterized by

- a) Increase in urine volume
- b) Increased glucose excretion
- c) Decrease in urine volume
- d) Decrease in electrolyte balance

62. First human hormone produced by recombinant DNA is

- a) Insulin
- b) Estrogen
- c) Thyroxin
- d) Progesterone

63. The granulocytes which secrete histamine, serotonin and heparin are

- a) Eosinophils
- b) Basophils
- c) Lymphocytes
- d) Monocytes

64. Respiratory Quotient is

- a) CO<sub>2</sub> produced to substrate consumed
- b) CO<sub>2</sub> produced to O<sub>2</sub> consumed
- c) O<sub>2</sub> produced to water consumed
- d) O<sub>2</sub> produced to CO<sub>2</sub> consumed

65. Lung disease produced by chronic smoking is

- a) Hypercapnoea
- b) Pulmonary edema
- c) Emphysema
- d) Hypoxia

66. The term "New Systematics" was introduced by

- a) Bentham and Hooker
- b) Linnaeus
- c) Julian Huxley
- d) Darwin

67. Chlorophyll in chloroplasts is located in

- a) Grana
- b) Pyrenoid
- c) Stroma
- d) Both grana and stroma

68. In an emergency situation, when there is no time to cross match the blood which group can be given to the patient?

- a) AB+
- b) AB-
- c) O+
- d) O-

69. The following medicine is used to neutralize the effect of heparin after cardiopulmonary bypass

- a) Fragmin
- b) Protamine
- c) Histamine
- d) Prothrombin

70. Foramen of panizza is found in

- a) Skull of vertebrates
- b) Heart of reptiles
- c) Urostyle of frog
- d) Auditory capsule of mammals

71. Sternum is connected by ribs by

- a) Bony matter
- b) White fibrous cartilage
- c) Hyaline cartilage
- d) Areolar tissue

72. Decreased hemoglobin level is

- a) Polycythemia
- b) Anemia
- c) leukemia
- d) Lymphoma

73. Wharton's duct is associated with

- a) Liver
- b) Salivary gland
- c) Pancreas
- d) Kidney

74. Life cycle of malarial parasite in mosquito was first discovered by

- a) Ross
- b) Celli
- c) Grassi
- d) Lavern

75. Lungs are enclosed in

- a) Periosteum
- b) Pericardium
- c) Pleura
- d) Peritoneum

76. Who performed the first human heart transplantation?

- a) Charles Drew
- b) Norman Schumway
- c) Denton Cooley
- d) Christian Bernard

77. Heart lung machine invented by

- a) John Gibbon
- b) Lillehei
- c) Buckberg
- d) Melrose

78. Blood circulation was discovered by

- a) Karl Landsteiner
- b) William Harvey
- c) Watson and Crick
- d) Ronald Ross

79. The volume of air breathed in and out during normal breathing is called

- a) Vital capacity
- b) Residual volume
- c) Tidal volume
- d) ER

80. Oxygen dissociation curve of hemoglobin is

- a) Sigmoid
- b) Slope
- c) Straight line
- d) Parabola

81. Foetal sex can be determined by examining cells from the amniotic fluid by looking for

- a) Chiasmata
- b) Kinetochores
- c) Barr bodies
- d) Autosomes

82. Which of the following cranial nerves can regulate heart beat?

- a) X
- b) IX
- c) VIII
- d) VII

83. Velamen is found in

- a) Roots of screw pine
- b) Aerial and terrestrial roots of orchids
- c) Leaves of *Ficus elastica*
- d) Aerial roots of orchids

84. A gene pair hides the effect of other. The phenomenon is

- a) Epistasis
- b) Dominance
- c) Mutation
- d) None of the above

85. The book 'Genera Plantarum' was written by

- a) Engler & Prantl
- b) Bentham and Hooker
- c) Bessey
- d) Hutchinson

86. All the following vessels carry impure blood EXCEPT

- a) Superior Venacava
- b) Inferior Venacava
- c) Pulmonary veins
- d) Coronary Sinus

87. Which of the following heart valves has only two leaflets normally

- a) Tricuspid
- b) Mitral
- c) Aortic
- d) Pulmonary

88. The volume of blood ejected by the ventricle in a beat is called
- a) cardiac output
  - b) ejection fraction
  - c) stroke volume
  - d) cardiac index
89. Human heart has how many coronary arteries?
- a) one
  - b) two
  - c) three
  - d) four
90. Which of the following is NOT a direct branch of aorta normally
- a) innominate artery
  - b) left common carotid artery
  - c) right subclavian artery
  - d) left subclavian artery
91. First successful open-heart surgery using cardiopulmonary bypass was done in
- a) 1953
  - b) 1957
  - c) 1962
  - d) 1967
92. Which vitamin most important for coagulation of blood
- a) vitamin A
  - b) vitamin C
  - c) vitamin E
  - d) vitamin K
93. Which mineral is important for muscle contraction
- a) Sodium
  - b) Potassium
  - c) Calcium
  - d) Magnesium
94. Sympathetic stimulation
- a) decreases heart rate
  - b) increases heart rate
  - c) doesn't affect the heart rate
  - d) effect on heart rate varies according to the physiologic condition
95. Which among the following is an example of mechanical circulatory support
- a) Extra Corporeal Membrane Oxygenation (ECMO)
  - b) Left Ventricular Assist Device (LVAD)
  - c) Intra Aortic Balloon Pump (IABP)
  - d) All of above
96. Which of the following statements about heparin is FALSE
- a) Was discovered by Banting & Best
  - b) acts by activating anti thrombin III
  - c) its activity is monitored by ACT(activated clotting time) during CPB
  - d) can be neutralised medically

97. Which is not a connective tissue?

- a) Bone
- b) Cartilage
- c) Blood
- d) Muscular tissue

98. Which is an inborn metabolic error?

- a) Myotonic dystrophy
- b) Phenyl ketonuria
- c) Cushing's syndrome
- d) Thalassemia

99. Find out the Universal recipient?

- a) AB+
- b) AB-
- c) Both
- d) None of these

100. Enzyme which helps to digest milk protein?

- a) Renin
- b) Rennin
- c) Lactase
- d) Pepsin