

COMMON P. G. ENTRANCE TEST – 2023 (CPET-2023)

Test Booklet No. :

4356Subject Code : **49**

Hall Ticket No. :

Subject : **ZOOLOGY****TEST BOOKLET****Time Allowed : 60 Minutes****Full Marks : 80****: INSTRUCTIONS TO CANDIDATES :**

1. The Test Booklet contains **16** pages including the cover page and **80** (Question No. 1 to 80) multiple choice questions.
2. DO NOT break the seal of the Test Booklet until the invigilator instructs to do so.
3. The candidates must check discrepancy, if any (like up-printed or torn or missing pages or missing questions) in the Test Booklet immediately after breaking the seal of the Test Booklet. If detected, the invigilator may be requested to replace the same.
4. Candidates are required to fill up and darken the **Hall Ticket No, Test Booklet Serial No.** and OMR Answer Sheet Serial No. in attendance sheet carefully. Wrongly filled in OMR Answer Sheet is liable for rejection.
5. Each question has four choices / answers marked (A), (B), (C), (D). Candidate has to select the most appropriate choice / answer to each question and darken the oval completely against the question number provided in the OMR Answer Sheet.
6. Indicate only one choice / answer from the options provided by darkening the appropriate oval in the OMR Answer Sheet. More than one response to a question shall be treated as a wrong answer.
7. Use only **Black Ball Point Pen** for darkening the oval for answering.
8. All the questions are compulsory and they carry equal marks. The total marks scored by a candidate depends on the number of correct choices / answers darkened in the OMR Answer Sheet. There will be no negative marking for wrong answers.
9. No candidate shall be allowed to leave the Examination Hall / Room till all OMR Answer Sheets have been collected by the invigilator.
10. On completion of the entrance test, the original OMR Answer Sheet be handed over to the invigilator. Candidates are allowed to take the second copy of the OMR Answer Sheet along with the used Test Booklet for reference.
11. Candidates are not allowed to carry any personal belongings including electronic devices such as scientific calculator, cell phones, headphones, ear buds, or any other type of devices that allow communication of any kind inside the Examination Room / Hall.
12. The candidates are advised not to scribble or make any mark on the OMR Answer Sheet except marking the answers at the appropriate places and filling up the details required. Rough work, if any, may be done in the blank sheet(s) provided at the end of the Test Booklet.
13. Any malpractice / use of unfair means will lead to your disqualification from the entrance test / admission process and may also lead to appropriate legal action as deemed fit.

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

PN – 49/18

(Turn over)

TOURNON & CHENANSEY TEST - JUNE 1953
4886

Test Results

Subject: 1000001

TEST LOGSHEET

Test Results

TEST RESULTS TO CANDIDATES

The test was held on the 1st of June 1953 at the Tournon & Chenasey Test Station.

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1. In protozoans cyclosis is associated with :

(A) Transport of nutrients	(B) Asexual reproduction
(C) Assimilation and distribution of O_2	(D) Osmoregulation

2. Correct pathway in sponge is :

(A) Osculum → Spongocoel → Apopyle → Prosopyle → Ostia
(B) Ostia → Incurrent canal → Prosopyle → Spongocoel → Apopyle → Radial canal → Osculum
(C) Ostia → Incurrent canal → Prosopyle → Radial canal → Apopyle → Spongocoel → Osculum
(D) Ostia → Radial canal → Prosopyle → Incurrent canal → Spongocoel → Osculum

3. Hydrophyllum is a protective zooid found in :

(A) Physalia	(B) Obelia
(C) Aurelia	(D) Helistemma

4. Which of the following is the correct sequence of larval stages in the life cycle of liver fluke ?

(A) Cercaria, Sporocyst, Redia, Miracidium
(B) Sporocyst, Redia, Miracidium, Cercaria
(C) Miracidium, Sporocyst, Redia, Cercaria
(D) Miracidium, Sporocyst, Cercaria, Redia

5. The overlapping area of two ecosystems is called :

(A) Niche	(B) Ecotone
(C) Edge effect	(D) Ecotype

6. If one proceeds from a lower trophic level to the next higher trophic level in a food chain, the available energy is found to :

(A) Increase	(B) Decrease
(C) Remain the same	(D) Fluctuate

7. Which of the following is not an attribute of population ?
- (A) Natality (B) Density
(C) Mortality (D) Diversity
8. The population growth curve is sigmoid if the growth pattern is :
- (A) Geometric (B) Accretionary
(C) Logistic (D) Exponential
9. Which of the following is used to measure the diversity of the community ?
- (A) Upright index (B) Inverted index
(C) Bell-shaped index (D) Simpson's index
10. Chi-square test is used to :
- (A) Measure the degree of deviation of the experimental result from the expected result
(B) Test the population variance and sample variance
(C) Test the closeness of observed and expected frequency
(D) All of these
11. Coelom of earthworm is :
- (A) Enterocoelic (B) Schizocoelic
(C) Acoelic (D) Pseudocoelic
12. Metamorphosis in insects is mostly stimulated by :
- (A) Hormone (B) Temperature
(C) Humidity (D) Food

13. Corneagen cells of ommatidium of compound eye form :

- (A) Cone
- (B) Rhabdome
- (C) Corneal facets
- (D) Irish sheath

14. Respiratory organs in molluscs are :

- (A) Ctenidia
- (B) Trachaea
- (C) Book lung
- (D) Keber's organ

15. Which of the following is the fundamental larva of all echinoderms ?

- (A) Bipinnaria
- (B) Dipleurula
- (C) Ophiopluteus
- (D) Auricularia

16. Which of the following is not a characteristic of prokaryotes ?

- (A) Presence of nucleoid
- (B) Presence of small ribosomes in the cytoplasm
- (C) Presence of receptors in the plasma membrane
- (D) Presence of microtubules

17. Which of the following is not a function of cytoskeleton ?

- (A) Cell contraction
- (B) Movement of organelles and vesicles through cytoplasm
- (C) Cell motility
- (D) Protein translocation into ER

18. Mitochondrial respiratory chain is present in the :

- (A) Outer membrane of mitochondria
- (B) Intermembrane space of mitochondria
- (C) Inner membrane of mitochondria
- (D) Mitochondrial matrix

19. Endostyle aids in :
- (A) Feeding (B) Circulation
(C) Excretion (D) Reproduction
20. Larva of Balanoglossus is :
- (A) Bipinnaria (B) Tornaria
(C) Auricularia (D) Trochophore
21. Which of the following is not a characteristic of cyclostomes ?
- (A) S-shaped heart (B) Paired fins
(C) Sac-like gill slits (D) Single nostrils
22. The fishes with internal nostrils belong to the class :
- (A) Dipnoi (B) Teleostomi
(C) Elasmobranch (D) Holocephali
23. Which of the following anuran amphibian carries the eggs in the vocal sac ?
- (A) **Alytes abstickians** (B) **Rhinoderma darwini**
(C) **Rhacophorus reticulatus** (D) **Hyla goeldii**
24. Which of the following takes place before onset of migration in birds ?
- (A) Feeding is stopped (B) Shedding of feathers begins
(C) Fat is deposited in the body (D) Muscles get dried
25. Bone is distinguished from the cartilage by the presence of :
- (A) Blood vessels (B) Lymph vessels
(C) Haversian canals (D) Collagens
26. Which of the following sets is essential for muscle contraction ?
- (A) Na^+ and Mg^+ (B) Ca^{++} and Mg^{++}
(C) Na^+ and Ca^{++} (D) K^+ and Mg^+

27. After passing nerve impulses, the substance secreted at the synapse is :

- (A) Acetic acid
- (B) Acetoacetic acid
- (C) Acetylcholine
- (D) Acetylcholine esterase

28. Interstitial cells of testes are also known as :

- (A) Leydig cells
- (B) Nurse cells
- (C) Macula densa
- (D) Crista

29. Which of the following secretes androgens ?

- (A) Thyroid
- (B) Adrenal
- (C) Parathyroid
- (D) Pituitary

30. Failure of release of ADH leads to :

- (A) Coronary thrombosis
- (B) Diabetes mellitus
- (C) Diabetes insipidus
- (D) Hepatitis

31. Which of the following is a phospholipid ?

- (A) Lecithin
- (B) Cholesterol
- (C) Sterol
- (D) Steroid

32. Which of the following is not an essential amino acid ?

- (A) Lysine
- (B) Leucine
- (C) Arginine
- (D) Tryptophan

33. Which of the following is not involved in stabilization of tertiary structure of protein ?

- (A) Peptide bond
- (B) Hydrogen bond
- (C) Covalent disulphide bond
- (D) Salt bridges

34. Which of the following is the most stable form of DNA under normal physiological conditions ?
- (A) A – DNA (B) B – DNA
(C) Z – DNA (D) H – DNA
35. The maximum reaction velocity at which all enzymes become saturated with substrate is called :
- (A) K_m (B) K_{max}
(C) V_m (D) V_{max}
36. Which of the following is made up of keratinized cells of epidermis only ?
- (A) Pronghorns of Russian antelope (B) Antlers of deer family
(C) Horns of Indian rhinoceros (D) Horns of Giraffe
37. Brunner's glands are present in the submucosa of :
- (A) Duodenum (B) Stomach
(C) Oesophagus (D) Rectum
38. Aortic arches retained by urodeles are :
- (A) I, II, III, IV and VI (B) II, III, IV, V and VI
(C) III, IV, V and VI (D) III, IV and VI
39. Which of the following is a chemoreceptor ?
- (A) Lateral line sensory organ (B) Ampula of Lorenzini
(C) Jacobson's organ (D) Antenna
40. Rhinocoel is absent in the olfactory lobe of the brain of :
- (A) Dog fish (B) Frog
(C) Pigeon (D) Rabbit

41. Amylopsin acts upon :

- (A) Polysaccharides in any medium
- (B) Polysaccharides in acidic medium
- (C) Polypeptide in any medium
- (D) Polysaccharide in alkaline medium

42. CO_2 is carried in the blood in the form of :

- (A) Sodium carbonate
- (B) Sodium bicarbonate
- (C) Potassium carbonate
- (D) Magnesium bicarbonate

43. Reabsorption of glucose from the glomerular filtrate in the kidney tubule is carried out by :

- (A) Simple diffusion
- (B) Facilitated diffusion
- (C) Active transport
- (D) Osmosis

44. The number of internodal pathways extending from S. A. node to A. V. node is :

- (A) Two
- (B) Three
- (C) Four
- (D) One

45. Which of the following is an incorrect statement about metabolism ?

- (A) Metabolic pathways are irreversible
- (B) Each metabolic pathway has first committed step
- (C) Metabolic pathways follow only oxidative process
- (D) Metabolic pathways are regulated

46. Which of the following is not a substrate for gluconeogenesis ?

- (A) Lactate
- (B) Alanine
- (C) Glycerol
- (D) Acetyl CoA

47. The net gain of ATP through the betaoxidation of palmitic acid is :
- (A) 131 ATP (B) 130 ATP
(C) 129 ATP (D) 132 ATP
48. Which of the following enzymes is not involved in urea cycle ?
- (A) Carbamyl phosphate synthetase (B) Argininosuccinate lyase
(C) Argininosuccinate synthetase (D) Succinate dehydrogenase
49. Which of the following is a classical uncoupler of electron transport chain ?
- (A) Antimycin A (B) Thermogenin
(C) Cyanide (D) Sodium azide
50. Which of the following makes eukaryotic DNA replication different from prokaryotic DNA replication ?
- (A) Use of DNA primer rather than RNA primer
(B) Use of different enzymes for synthesis of lagging strand and leading strand
(C) Replication is discontinuous rather than semidiscontinuous
(D) Bidirectional rather than unidirectional
51. Which of the following RNA polymerases target only mRNA genes during transcription ?
- (A) RNA polymerase I (B) RNA polymerase II
(C) RNA polymerase III (D) All RNA polymerases (I, II and III)
52. Which of the following complexes is generated with the release of sn RNP U₄ and formation of lariat in the spliceosome during splicing of pre-mRNA in eukaryotic nuclei ?
- (A) B₁ complex (B) B₂ complex
(C) C₁ complex (D) C₂ complex

53. Lac operon of *E. coli* exhibits :
- (A) Repressible negative control of transcription
 - (B) Inducible negative control of transcription
 - (C) Inducible positive control of transcription
 - (D) Repressible positive control of transcription
54. Which of the following is not a sex-linked trait in humans ?
- (A) Duchenne muscular dystrophy
 - (B) Haemophilia
 - (C) Colourblindness
 - (D) Baldness in males
55. In mutational event, when adenine (A) is replaced by guanine (G), it is a case of :
- (A) Frameshift mutation
 - (B) Transition
 - (C) Transversion
 - (D) Transcription
56. When a transposon moves out of donor site and inserts into a new site leaving a double strand break at the original site in the donor DNA which may or may not be repaired, it is called :
- (A) Replicative transposition
 - (B) Conservative transposition
 - (C) Non-conservative transposition
 - (D) Non-replicative transposition
57. Which of the following is not a criterion of cytoplasmic inheritance ?
- (A) Lack of chromosomal location
 - (B) Association with parasite, symbiont or virus
 - (C) Reciprocal differences
 - (D) Somatic segregation

58. Fat map of embryo is prepared in :
- (A) Morula stage (B) Blastula stage
(C) Gastrula stage (D) Neurula stage
59. Which of the following is associated with centrolecithal eggs ?
- (A) Equal holoblastic cleavage (B) Discoidal meroblastic cleavage
(C) Superficial meroblastic cleavage (D) Unequal holoblastic cleavage
60. Which of the following exhibits epimorphic regeneration ?
- (A) Salamander (B) Hydra
(C) Planaria (D) Earthworm
61. The RNA world hypothesis to explain origin of life on Earth was proposed by :
- (A) Oparin and Haldane (B) Charles Darwin
(C) Walter Gilbert (D) Miller and Urey
62. First three toed fossil horse was :
- (A) Pliohippus (B) Miohippus
(C) Orohippus (D) Merychippus
63. Which of the following occurs when geographic isolation creates a reproductive barrier ?
- (A) Allopatric speciation (B) Parapatric speciation
(C) Polypatric speciation (D) Sympatric speciation
64. The earliest fossil of pre-historic man is :
- (A) Dryopithecus (B) Ramapithecus
(C) Sivapithecus (D) Australopithecus

65. Crypsis is a type of :
- (A) Offensive behaviour (B) Diffensive behaviour
(C) Courtship behaviour (D) Foraging behaviour
66. The sleep-wake cycle is an example of :
- (A) Circadian rhythm (B) Exogenous zeitgeber
(C) Ultradian rhythm (D) Infradian rhythm
67. Which of the following cloning vectors can carry the largest insert of foreign DNA ?
- (A) Plasmid (B) Cosmid
(C) Lambda bacteriophage (D) Yeast Artificial Chromosome (YAC)
68. Which of the following is used for detection and analysis of protein ?
- (A) Southern blotting (B) Western blotting
(C) Northern blotting (D) Eastern blotting
69. Which of the following is not a technique used for detection of genetic disorders ?
- (A) PCR (B) DNA sequencing
(C) Karyotyping (D) Ectogenesis
70. A typical synaptic cleft is :
- (A) 40 nm wide (B) 60 nm wide
(C) 80 nm wide (D) 20 nm wide
71. What part of some nerve cells is myelinated ?
- (A) Soma (B) Axon
(C) Dendrite (D) Axon hillock
72. The nature of conduction of nerve impulse is :
- (A) Mechanical (B) Thermal
(C) Electrochemical (D) Chemical

73. Which of the following is not an inhibitory neurotransmitter ?
- (A) Gamma-aminobutyric acid (B) Glycine
(C) Serotonin (D) Glutamate
74. Binding of a signaling molecule to which type of receptor leads directly to a change in distribution of ions on opposite side of the membrane ?
- (A) Receptor tyrosine kinase (B) G protein coupled receptor
(C) Ligand gated ion channel (D) Intracellular receptor
75. A decrease in the level of oestrogen and progesterone causes :
- (A) Loss of endometrium
(B) Growth of dialation of endometrium
(C) Release of ova from ovaries
(D) Constriction of uterine blood vessels leading to sloughing of uterine epithelium
76. Which of the following proteins is not present in cell junctions ?
- (A) Selectins (B) Cadherins
(C) Integrins (D) Transferrins
77. The specificity of an antibody is due to :
- (A) Its valence
(B) The heavy chains
(C) The FC portion of molecule
(D) The variable portion of heavy and light chain
78. Hypophysation refers to :
- (A) Moulting
(B) Eye stalk ablation
(C) Hybridization
(D) Induced breeding with pituitary extract

79. Viable material of endangered species can be preserved by :

- (A) Gene bank
- (B) Gene library
- (C) Herbarium
- (D) Gene pool

80. Which of the following is a tropical Tasar silkworm reared in India ?

- (A) **Antheraea royali**
- (B) **Antheraea mylitta**
- (C) **Antheraea yamamai**
- (D) **Antheraea proylei**



SPACE FOR ROUGH WORK

SEAL

aglasem