

DEPARTMENT OF ZOOLOGY
MODEL QUESTION PAPER
Multiple choice questions

Time: 90Minutes

Max. Marks: 75

No of questions: 50

Each question carries 1½ marks

- Which one of the following is not a male accessory gland?
(A) Seminal vesicle (B) Ampulla
(C) Prostate (D) Bulbourethral gland
- How many sperms are formed from 4 primary spermatocytes ?
(A) 4 (B) 1 (C) 16 (D) 32
- In epistasis _____
(A) nothing changes from generation to generation.
(B) one gene alters the effect of another.
(C) a portion of a chromosome is deleted.
(D) a portion of a chromosome is inverted.
- Genetic diversity of a population cannot be influenced by _____
(A) Mutation (B) Sexual reproduction
(C) Asexual reproduction (D) Migration
- When a bacteriophage is integrated into a cellular genome it is called as _____.
(A) Virulent virus (B) Lytic virus
(C) Prophage (D) Transducing virus
- _____ is an example for Monosomy.
(A) Klinefelter's syndrome (B) Turner's syndrome
(C) Down's syndrome (D) Edward's syndrome
- For culture of avian cells the optimum temperature requirement is _____.
(A) 37 °C (B) 40 °C (C) 42 °C (D) 35 °C
- Southern blotting is _____.
(A) attachment of probes to DNA fragments.
(B) transfer of DNA fragments from electrophoretic gel to a nitrocellulose sheet.
(C) comparison of DNA fragments to two sources.
(D) transfer of DNA fragments to electrophoretic gel from cellulose membrane.
- _____ is used as a vector for cloning into higher organisms
(A) Retrovirus (B) Baculovirus
(C) *Salmonella typhimurium* (D) *Rhizopus nigricans*

10. The production of complete animals from somatic cells of an animal is called _____.
 (A) Gene cloning (B) Animal cloning
 (C) Cell cloning (D) Gene therapy
11. Related species which are reproductively isolated but morphologically similar are called _____.
 (A) Allopatric species (B) Sympatric species
 (C) Sibling species (D) Morphospecies
12. Who developed the concept of phylogeny?
 (A) Linnaeus (B) Lamarck
 (C) Hippocrates (D) Ernst Haeckel
13. ICZN was adopted in _____.
 (A) 1960 (B) 1970 (C) 1964 (D) 1974
14. Which of the following animal exhibits osmoconformation?
 (A) Starfish (B) Earthworm
 (C) Crayfish (D) Shark
15. Which of the following insect order possess synchronous flight muscles?
 (A) Odonata (B) Diptera
 (C) Hymenoptera (D) Hemiptera
16. The type of segmentation of the body, which is dissimilar in different body regions and restricted only to certain organs.
 (A) Homonomous segmentation (B) Heteronomous segmentation
 (C) Pseudometamerism (D) Incomplete metamerism
17. Epitoky occurs in _____.
 (A) Earthworm (B) Paramecium
 (C) Neries (D) Sabella
18. Following is the type of selection where fitness of phenotype declines if it becomes too common in the population and subsequently becomes less common type and is favoured in a population.
 (A) Directional selection (B) Disruptive selection
 (C) Heterozygote advantage (D) Frequency dependent selection
19. If 18 out of 50 lizards sampled has the recessive phenotype for short tails (tt),
 a. What would be the proportion of t alleles in the lizard population?
 b. What would be the allele frequency for the dominant allele?
 c. What percentage of the population would be heterozygous?
 (A) (a) 0.4; (b) 0.6; (c) 48% (B) (a) 0.6; (b) 0.4; (c) 16%
 (C) (a) 0.6; (b) 0.4; (c) 48% (D) (a) 0.7; (b) 0.3; (c) 16%

20. _____ is a cretaceous toothed bird.
 (A) *Hesperornis* (B) *Archeopteryx*
 (C) *Apteryx mantelli* (D) *Dromaius novaehollandiae*
21. Which one of the following shows paedomorphosis?
 (A) Thaliacea (B) Larvacea
 (C) Ascidiacea (D) Lancelet
22. The substance 'tunicine' found in tunicates is a derivative of _____.
 (A) Protein (B) Carbohydrate
 (C) Glycogen (D) Collagen
23. Stomochord is found in _____.
 (A) Urochordata (B) Cephalochordata
 (C) Hemichordata (D) Echinodermata
24. If the population is continuous, but does not mate randomly, _____ speciation can occur.
 (A) Peripatric (B) Parapatric
 (C) Allopatric (D) Sympatric
25. Hyperparathyroidism leads to _____.
 (A) Hypercalcemia (B) Hypophosphatemia
 (C) Hypocalcemia (D) Both A and B
26. Somatostatin is also known as _____.
 (A) GHIH (B) Somatoliberin
 (C) GHRH (D) Corticostatin
27. _____ bee is the smallest cultivable honeybee.
 (A) *Apis florea* (B) *Apis mellifera*
 (C) *Apis dorsata* (D) *Apis cerana indica*
28. _____ earth worms are geo-phytophagus.
 (A) Endogeics (B) Anecics
 (C) Epigics (D) Both A and B
29. Pearl oysters are cultured by _____.
 (A) Composite culture (B) Pen culture
 (C) Raft culture (D) Polyculture
30. The cheek teeth of deer and cattle are _____.
 (A) Selenodont (B) Lophodont
 (C) Bunodont (D) Hypsodont
31. Ruminants belong to the order _____.
 (A) Pholidota (B) Artiodactyla
 (C) Proboscidea (D) Insectivore

32. 28s, 5.8s and 5s rRNAs are found in _____.
- (A) 30s subunit of ribosome (B) 50s subunit of ribosome
(C) 40s subunit of ribosome (D) 60s subunit of ribosome
33. Diversity of communities are not measured on the basis of following scale _____
- (A) Alpha (B) Beta (C) Gamma (D) Delta
34. The juxtaglomerular cells secrete _____.
- (A) Rennin (B) Angiotensin (C) Vasopressin (D) Aldosterone
35. The relation between algae and fungi in lichen is _____.
- (A) Symbiosis (B) Parasitism
(C) Commensalism (D) Protoco-operation
36. Shelford's law of tolerance suggest that organisms with wide tolerance limit for environmental factors show _____
- (A) narrow distribution with low population
(B) wide distribution with high population
(C) wide distribution with low population
(D) narrow distribution with high population
37. Mauhua oil cake and Dirris root powder are _____
- (A) Nematotoxins (B) Fish toxins
(C) Rodenticides (D) Fungicides
38. Which of the following is the correct sequence of the larval stages of *Fasciola hepatica*?
- (A) Miracidium, Redia, Cercaria, Metacercaria, Sporocysts
(B) Miracidium, Sporocysts, Redia, Cercaria, Metacercaria
(C) Sporocysts, Redia, Miracidium, Cercaria, Metacercaria
(D) Metacercaria, Cercaria, Redia, Miracidium, Sporocysts
39. Respiratory organs of *Peripatus* _____
- (A) Coxal glands (B) Book lungs
(C) Trachea (D) Brunners gland
40. Which of the following hormones is involved in electrolyte balance of the body _____,
- (A) Cortisol (B) ACTH
(C) Corticosterone (D) Aldosterone
41. The vasoconstriction of blood vessels is caused by _____.
- (A) Antidiuretic hormone (B) Adrenalin
(C) Noradrenalin (D) Aldosterone
42. The spermatozoa attain capacitation in _____.
- (A) Seminal vesicles (B) Epididymis
(C) Prostaste gland (D) Coagulating gland

43. Emboly is _____.
(A) migration of micromeres into the blastocoel
(B) migration of macromeres in the blastocoel
(C) migration of endoderm into blastocoel
(D) migration of mesoderm into blastocoels
44. Receptors for steroid and thyroid hormones' are present in _____.
(A) Plasma membrane
(B) Cytoplasm and /or nucleus
(C) Extracellular space
(D) Transmembrane
45. The significance of cyclic *AMP* was proposed by _____.
(A) Earl Sutherland
(B) Arnold A. Berthold
(C) Clause Bernard
(D) Earnest Henry Starling
46. C₂₁ steroid is _____.
(A) Estrane
(B) Sterane
(C) Androstane
(D) Pregnane
47. Somites are the derivatives of _____.
(A) Ectoderm
(B) Endoderm
(C) Mesoderm
(D) Notochord
48. Following fertilization, the cortical rotation in amphibian eggs leads to the formation of _____.
(A) Spemann's organizer
(B) Antero-ventral region
(C) Dorsal lip of blastopore
(D) Nieuwkoop centre
49. The flight or fight response is developed by hormones of the _____.
(A) Hypothalamus
(B) Adrenal medulla
(C) Adrenal cortex
(D) Adrenal-pancreatic complex
50. _____ are responsible for division of body in *Drosophila* embryo.
(A) Segmentation genes
(B) Maternal effect gene
(C) Dorsal lip of blastopore
(D) Torso genes