



திருவள்ளூர் பல்கலைக்கழகம், வேலூர்  
THIRUVALLUVAR UNIVERSITY, VELLORE

Ph.D., - COMMON ENTRANCE TEST (CET9) – JUNE SESSION 2022

Subject : ZOOLOGY

Exam Date : 26.06.2022

Time : 11.00 A.M. TO 12.30. P.M

Maximum Marks : 50

NAME	REGISTER NO	
	HALL TICKET NO.	
MOBILE NO	EMAIL ID	
CANDIDATE SIGNATURE	HALL INVEGILATOR SIGNATURE WITH DATE	

SECTION – A (50 x 1 = 50 Marks)

All Questions carry equal marks

- Which of the following structure is present in all the chordates?  
a) Cranium      b) Notochord      c) spinal cord      d) vertebral column
- Bilateral symmetry is seen in the body organization of  
a) Only chordates  
b) Vertebrates only  
c) Vertebrates, annelid, arthropod and cnidarians  
d) Annelida , arthropods and vertebrates
- The web of the spider is made up of which among the following?  
a) carbohydrate      b) lipids      c) polysaccharides      d) protein
- Maximum number of animals' species belongs to which among the following groups?  
a) mammals      b) arthropods      c) aves      d) pisces
- The naming of the organism in scientific terms is known as  
a) binomial nomenclature      b) trinomial nomenclature  
c) scientific nomenclature      d) all of above
- Which of the following cell organelles regulates the entry and exit of molecules to and from the cell?  
a) Lysosomes      b) Golgi bodies      c) Cell membrane      d) Mitochondria
- \_\_\_\_\_ is involved in the synthesis of phospholipids.  
a) Mitochondria      b) Cytoplasm  
c) Endoplasmic Reticulum      d) Smooth Endoplasmic Reticulum

8. Which of the following statement is true regarding an enzyme DNA polymerase that catalyzes the elongation of complementary DNA strand?
- DNA polymerase III is a highly processive enzyme.
  - DNA polymerase III possesses 5'-3' polymerase activity required for elongation.
  - DNA polymerase III possesses 3'-5' exonuclease activity important for maintaining fidelity
  - All of the above
9. In prokaryotes, the RNA primer from the lagging strand is removed and replaced by the DNA sequence.
- This process is catalyzed by enzymes ..... which possess 5'-3' exonuclease activity and 5'-3' polymerase activity.
- DNA polymerase I
  - DNA polymerase II
  - DNA polymerase III
  - DNA polymerase IV
10. Eukaryotic mRNA binding to the ribosomes is facilitated by
- The shine Dalgarno sequence
  - the 7-methyl guanosine cap
  - tRNA
  - poly A tail
11. Which of the following is responsible for the switching on and off of the lac operon?
- Lactose
  - Ethanol
  - Malate
  - Fructose
12. Which of the following technique is used for the amplification of DNA fragments?
- AFLP
  - RFLP
  - RAPD
  - SSLP
13. Which of these genes is responsible for the development of sex of Drosophila?
- Xce
  - Xist
  - XIC
  - Sxl
14. Which of the following enzyme acts on the DNA after its entry into the cell/
- ligases
  - endonucleases
  - deoxyribonucleases
  - exonucleases
15. Which of the following increases gene expression as much as 200-fold?
- TATA box
  - Insulator
  - Enhancer
  - CAAT box
16. Which of the following about mRNA stability is not correct?
- Regulation of mRNA stability is a way of regulating gene expression
  - Prokaryotic mRNAs have a half-life of only a few minutes
  - Histone mRNAs have especially long poly-A tails and are stable
  - It is thought that poly-A tails stabilize eukaryotic mRNAs
17. How many base pairs are there in every helical turn of Watson-Crick double helix model?
- 32.3
  - 11.6
  - 20
  - 10.4
18. Which of the following helps in opening of DNA double helix in front of replication fork?
- topoisomerase
  - DNA polymerase-I
  - DNA gyrase
  - DNA ligase

19. Which of the following statement is “NOT” correct a.
- a) All enzymes are thermolabile                      b) All enzymes are biocatalysts  
c) All enzymes are proteins                              d) **All proteins are enzymes**
20. Amniota' includes the following classes of the phylum chordata \_\_\_\_\_
- a) Reptiles and aves                                      b) Aves and mammals  
c) Amphibia, reptilia and aves                        d) **Reptilia, aves and mammals**
21. If a genetic disease is transferred from a phenotypically normal but carrier female to only some of the male progeny, the disease is \_\_\_\_\_
- a) autosomal dominant                                    b) autosomal recessive  
c) sex-linked dominant                                    d) **sex-linked recessive**
22. A man whose father was colour blind marries a woman who had a colour blind mother and normal father. What percentage of male children of this couple would be colour blind?
- a) 25%                                      b) 50%                                      c) **0%**                                      d) 75%
23. On which of the following chromosomal disorders are based on?
- a) Mutant allele and their defective products  
b) **Imbalance in chromosome number and chromosome arrangement**  
c) Mutant allele and chromosome arrangement  
d) Mutant allele and imbalance in chromosome number
24. Which of the following is the representation of a dominant trait?
- a) **Widow's peak**    b) Tongue non-roller's  
c) Fused ear lobes    d) Tay-Sachs disease
25. If a true breeding rose combed chicken is crossed to walnut combed chicken, what are the only possibilities of the F1 progeny?
- a) Walnut                                      b) Rose                                      c) **Walnut or rose**                                      d) Walnut or rose or pea
26. The cross between a true breeding sphere shaped and a long shaped squash gives 30 sphere squash in F2. What is the total number of expected progeny?
- a) 30    b) **40**    c) 50    d) 60
27. A process of collecting quantity of facts in systematic and organized manner to report any social problem or status of facts in certain area of society. is known as—
- a) Case study                                      b) Historical research                                      c) **Survey**                                      d) None of the above
28. Which of the following diagrams is used to find the value of mode graphically?
- a) Pie chart                                      b) Bar graph                                      c) **Histogram**                                      d) None of the above
29. If the mean and the mode are given as 35 and 30. Find the Median.
- a) 75    b) **33.33**    c) 19    d) 32

30. Which statement is correct with respect to the food chain?
- Every component of the food chain forms a trophic level
  - Inter-relation between different food chains is known as a food web
  - All the chains formed by nutritional relations is used to understand energy flow.
  - All of the above**
31. If 20 J of energy is trapped at producer level, then how much energy will be available to peacock as food in the following chain\_\_\_\_\_
- Plant > Mice > Snake > Peacock
- 0.02 J**
  - 0.2 J
  - 0.002 J
  - 0.0002 J
32. This cleanup approach includes removal of groundwater or soil from its natural setting to permit for bioremediation
- Bioaugmentation
  - in situ bioremediation
  - ex situ bioremediation**
  - Phytoremediation
33. Ananda Chakraborty received the first U.S. patent for a GM entity. The entity was
- The GloFish
  - a transgenic mouse expressing the growth hormone gene
  - Cloned E.Coli
  - Pseudomonas engineered to degrade petroleum**
34. Acquired characteristics of Lamarck are not inherited and have an evolutionary value. Who gave this statement?
- Weismann**
  - Hugo de Vries
  - TH Morgan
  - Charles Darwin
35. According to Neo-Darwinism which one of the following is responsible for organic evolution?
- Mutation and Natural selection**
  - Hybridization
  - Mutation
  - Beneficial differentiations
36. In which mode of nutrition an organism de-rives its food from the body of another living organism without killing it?
- Saprotrophic nutrition
  - Parasitic nutrition**
  - Holozoic nutrition
  - Autotrophic nutrition
37. The contraction and expansion movement of the walls of the food pipe is called:
- translocation
  - transpiration
  - peristaltic movement**
  - digestion
38. In which of the following animal respiration occur without any respiration organs?
- Frog
  - Fish
  - Cockroach
  - Earthworm**
39. The volume of blood each ventricle pumps out during a cardiac cycle is about
- 70 ml**
  - 5000 ml
  - 7 L
  - 1200 ml
40. Which of the following is responsible for the formation of Columns of Bertini?
- Medulla
  - Renal pelvis
  - Calyces
  - Cortex**

41. Which of the following immunoglobulins is responsible for most allergic and hypersensitivity reactions?  
a) Ig A                      b) Ig G                      c) Ig E                      d) Ig D
42. Which among the following is not an autoimmune disease?  
a) Myasthenia gravis                      b) Systemic lupus erythematosus  
c) Grave's disease                      d) Sickle cell disease
43. 'Leprosy' is caused by  
a) *Salmonella*                      b) *Mycobacterium*                      c) TMV                      d) Monocystis
44. Which of the following statement is incorrect regarding Pneumonia?  
a) Fluid accumulation in alveoli                      b) Lips and Nails turn bluish  
c) Fever and chills                      d) Blood in faeces
45. Which of the following is called the resting and inactive stage in the insect life cycle?  
a) The Egg stage                      b) The Larva stage                      c) The pupa stage                      d) The Adult stage
46. Which of the following is not the mosquito-borne viral disease?  
a) Dengue                      b) Lassa fever  
c) Yellow fever                      d) Japanese B encephalitis
47. Which of the following species of the honey bee is not found in India?  
a) *Apis mellifera*                      b) *Apis dorsata*                      c) *Apis indica*                      d) *Apis florea*
48. Silk contains a protein known as  
a) casein                      b) fibroin                      c) sericin                      d) both (b) and (c)
49. Management and rearing of fishes only is called as \_\_\_\_\_  
a) Aquaculture                      b) Pisciculture                      c) Apiculture                      d) Fishery
50. Which of the following is not an edible freshwater fish?  
a) *Anguilla*                      b) *Labeo rohita*                      c) *Mystus singhala*                      d) *Wallago attu*