CUET PG 2025 ZOOLOGY Question Paper

Time Allowed :1 Hour 30 Mins	**Maximum Marks :**300	**Total Questions :**75

General Instructions

Read the following instructions very carefully and strictly follow them:

1. The examination duration is 90 minutes. Manage your time effectively to attempt all questions within this period.
2. The total marks for this examination are 300. Aim to maximize your score by strategically answering each question.
3. There are 75 mandatory questions to be attempted in the Agro forestry paper. Ensure that all questions are answered.
4. Questions may appear in a shuffled order. Do not assume a fixed sequence and focus on each question as you proceed.
5. The marking of answers will be displayed as you answer. Use this feature to monitor your performance and adjust your strategy as needed.
6. You may mark questions for review and edit your answers later. Make sure to allocate time for reviewing marked questions before final submission.
7. Be aware of the detailed section and sub-section guidelines provided in the exam. Understanding these will aid in effectively navigating the exam.

---

1. What is the sequence of the template DNA for an mRNA with the sequence? 5'-CAUUGGCCAAGG-3'

(A) 5'-CATTGGCCAAGG-3'
(B) 5'-CCTTGGCCAATG-3'
(C) 5'-GTAACCGGTTCC-3'
(D) 5'-CAUUGGCCAAGG-3'

---

2. Which type of polymerase activity is shown by the enzyme telomerase?

(A) DNA-dependent DNA polymerase
(B) DNA-dependent RNA polymerase
(C) RNA-dependent DNA polymerase
(D) RNA-dependent RNA polymerase

3. If the growth medium of a bacterial strain contains both glucose and lactose, how does it affect the lac operon?
A. CAP protein binds lac promoter
B. Repressor binds lac operator
C. CAP protein does not bind lac promoter
D. Repressor does not bind lac operator
Choose the most appropriate answer from the options given below:

(A) A and B
(B) C and D
(C) A and D
(D) B and C

---

4. Which one of the following correctly describes the role of signal recognition particles?

(A) Aid in the decoding of the information carried by the signal peptide for the secretory protein.
(B) Aid in recognizing the antigen for inflammatory response.
(C) Aid in receiving coated vesicles for exocytosis.
(D) Aid in deciphering the genetic code for protein synthesis.

---

5. Which of the following is the most stable DNA configuration under normal physiological conditions?

(A) A-DNA
(B) B-DNA
(C) C-DNA
(D) Z-DNA

---

6. Arrange the following cell cycle stages in the correct order of their occurrence:
A. S phase
B. M phase
C. G1 phase
D. G2 phase

(A) D, B, C, A
(B) A, C, B, D
(C) C, A, D, B

(D) B, C, D, A

---

7. Match LIST-I with LIST-II

LIST-I Types Cancer		**LIST-II Tissues involved**	
A.	Carcinoma	I.	Muscle
B.	Chondroma	II.	Cartilage
C.	Sarcoma	III.	Blood
D.	Myeloma	IV.	Epithelial Tissue

Choose the most appropriate answer from the options given below:

(A) A - IV, B - II, C - I, D - III
(B) A - III, B - II, C - I, D - IV
(C) A - II, B - I, C - IV, D - III
(D) A - I, B - II, C - IV, D - III

---

8. The approximate diameter of actin filaments is:

(A) 4 micrometer (μm)
(B) 8 micrometer (μm)
(C) 4 nanometer (nm)
(D) 8 nanometer (nm)

---

9. Match LIST-I with LIST-II

LIST-I Mitochondrial Compartments		**LIST-II Enzymes present**	
A.	Matrix	I.	ATP synthetase
B.	Inner membrane	II.	Monoamine oxidase
C.	Space between inner and outer membranes	III.	Citrate synthetase
D.	Outer membrane	IV.	Adenylate kinase

Choose the most appropriate answer from the options given below:

(A) A - IV, B - II, C - III, D - I
(B) A - III, B - I, C - IV, D - II
(C) A - II, B - I, C - IV, D - III
(D) A - I, B - IV, C - III, D - II

10. Which of these are executioner caspases?
A. Caspase 3
B. Caspase 6
C. Caspase 8
D. Caspase 5
Choose the most appropriate answer from the options given below:

(A) A and B only
(B) B and C only
(C) C and D only
(D) A and D only

---

11. Which larval form of *Fasciola hepatica* has a motile tail?

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

---

12. In the life cycle of a *Plasmodium*, once the sporozoite enters the blood of the host, it invades the hepatic portal system, resulting in occurrence of change in the host body, leading to malaria
A. Sporozoite enters the hepatocytes and divides by schizogony leading to formation of cryptomerozoites
B. Inside RBCs, the micro-metacryptozoites become rounded and modify into a young trophozoites.
C. As the trophozoite grows in size, a central vacuole is developed so that the nucleus is pushed to one side into the peripheral cytoplasm, leading to amoeboid stage.
D. In Amoeboid stage the small red eosinophils granules appear in the cytoplasm of the host corpulses as Schuffner's granules
Choose the most appropriate answer from the options given below:

(A) A, B and D only
(B) A, B and C only
(C) A, B, C and D
(D) B, C and D only

---

13. During the process of conjugation in Paramecium, how many daughter Paramecia are formed from 2 parents?

(A) 2
(B) 4
(C) 8
(D) 16

---

14. Which one of the following is a larval form of jelly fish?

(A) Amphiblastula
(B) Ephyra
(C) Redia
(D) Rhabditiform

---

15. Match LIST-I with LIST-II

LIST-I Type of cell in Porifera		**LIST-II Functions**	
A.	Collar cells	I.	Line the sphincters
B.	Trophocytes	II.	Special nurse cells
C.	Pinacocytes	III.	Help to form spermatocyst
D.	Thesocytes	IV.	Food storage

Choose the most appropriate answer from the options given below:

(A) A - I, B - II, C - III, D - IV
(B) A - I, B - III, C - II, D - IV
(C) A - I, B - II, C - IV, D - III
(D) A - III, B - II, C - I, D - IV

---

16. In the life history and development of sea star, numerous larval forms are formed. Arrange them in the order of their occurrence:
A. Dipleurula
B. Branchiolaria
C. Bipinnaria
Choose the most appropriate answer from the options given below:

(A) A, B, C
(B) A, C, B
(C) B, A, C

(D) C, B, A

---

17. Which one of the following belongs to class-Diplopoda?

(A) Balanus
(B) Sacculina
(C) Scolopendra
(D) Julus

---

18. How many somatic cells are present in *C. elegans*?

(A) 969
(B) 859
(C) 959
(D) 979

---

19. How many different type of gametes can potentially be produced by an organism with the genotype aaBbccdd?

(A) 2
(B) 4
(C) 8
(D) 16

---

20. What is the difference between gynandromorphs and intersexes in *Drosophila*?

(A) Intersexes are genetically similar throughout their bodies, whereas gynandromorph consists of two genetically different tissues
(B) Intersexes are not genetically similar throughout their bodies, whereas gynandromorph genetically similar throughout their bodies
(C) Intersexes are sterile, whereas gynandromorphs are genetically similar throughout their bodies
(D) Intersexes are genetically similar throughout their bodies, whereas gynandromorph consists of four genetically different tissues

---

21. Match LIST-I with LIST-II

LIST-I Law/Principle/Gene interaction		**LIST-II Genes distribution/Ratio**	
A.	Law of segregation	I.	12:3:1
B.	Principle of independent assortment	II.	Genes are distributed without mixing.
C.	Complementary gene interaction	III.	Genes on different chromosomes are distributed independently during meiosis.
D.	Dominant epistasis	IV.	9:7

Choose the most appropriate answer from the options given below:

(A) A - II, B - III, C - IV, D - I
(B) A - I, B - III, C - II, D - IV
(C) A - II, B - I, C - IV, D - III
(D) A - III, B - IV, C - I, D - II

---

22. Which of the following statements are true?
A. When two or more genes co-exist on the same chromosome, they may violate the principle of independent assortment during meiosis.
B. Positive interference occurs when the presence of one chiasma increases the possibility of another chiasma occurring in the immediate vicinity.
C. The proportion of crossovers never exceeds 50%.
D. The Chi-square test can be used for segregation ratios and detection of linkage.
Choose the most appropriate answer from the options given below:

(A) A, B and D only
(B) A, B and C only
(C) A, B, C and D
(D) A, C and D only

---

23. Based on the threshold range, at the X/A ratio of 0.67, the sex of *Drosophila* will be:

(A) Intersex
(B) Superfemale
(C) Supermale
(D) Male

---

24. In a population under Hardy Weinberg Equilibrium, out of a total of 592 people, 44 people were affected by a rare autosomal recessive disorder whereas the rest of the population was normal. How many individuals in this population have the heterozygous and homozygous dominant genotypes for this trait?

(A) 233 and 315, respectively.
(B) 315 and 233, respectively.
(C) 0.27 and 0.73, respectively.
(D) 0.73 and 0.27, respectively.

---

25. Match LIST-I with LIST-II

LIST-I Period		**LIST-II Genra of horse**	
A.	Pleistocene	I.	Eohippus
B.	Eocene	II.	Mesohippus
C.	Miocene	III.	Equus
D.	Oligocene	IV.	Merychippus

Choose the most appropriate answer from the options given below:

(A) A - I, B - II, C - III, D - IV
(B) A - III, B - I, C - IV, D - II
(C) A - I, B - II, C - IV, D - III
(D) A - III, B - IV, C - I, D - II

---

26. Which of the following phenomena can lead to microevolution?
A. Natural Selection
B. Sexual Selection
C. Genetic Drift
Choose the most appropriate answer from the options given below:

(A) A and B only
(B) B and C only
(C) A and C only
(D) A, B and C

---

27. Which of the following statements are correct about the phenomenon of genetic drift?
A. It occurs in a small population.
B. It leads to the loss of genetic variation within population.
C. It doesn't change the allele frequency randomly.

D. It occurs in a large population.
Choose the most appropriate answer from the options given below:

(A) A and B only
(B) A and C only
(C) B and D only
(D) C and D only

---

28. The increase in the beak depth of Galápagos finches with a relative abundance of large seeds, is an example of

(A) Disruptive selection
(B) Directional selection
(C) Stabilizing selection
(D) Balancing selection

---

29. How many jaws are present in Aristotle's Lantern?

(A) 3
(B) 5
(C) 6
(D) 4

---

30. The technique to mark, release and recapture is a practical method for

(A) Estimating the endangered species in a population.
(B) Estimating the population size of mobile animals
(C) Estimating the population size of umbrella species.
(D) Estimating the population size of indicator animals.

---

31. Any species that have been accidentally or deliberately transferred from their usual habitat to a new habitat whose abiotic conditions are also suitable for them are known as:

(A) Alien or invasive species
(B) Indicator species
(C) Threatened species

(D) Endangered species

---

32. The populations, showing relatively constant density around the carrying capacity of the environment, is called

(A) r-selected
(B) m-selected
(C) k-selected
(D) p-selected

---

33. Which one of the following statements is correct for Mollisol?

(A) It is the fertile soil found in low precipitation areas.
(B) It is the infertile soil found in high precipitation areas.
(C) It is the fertile soil found in high precipitation areas.
(D) It is the infertile soil found in low precipitation areas

---

34. Match LIST-I with LIST-II

LIST-I ACT		**LIST-II Year of Enactment**	
A.	Environmental Pollution Act	I.	1981
B.	The Air (Prevention and Control of pollution) Act	II.	1986
C.	The Water (Prevention and Control of Pollution) Act	III.	1972
D.	The Wildlife Protection and Conservation Act	IV.	1974

Choose the most appropriate answer from the options given below:

(A) A - IV, B - III, C - II, D - I
(B) A - II, B - I, C - IV, D - III
(C) A - III, B - II, C - IV, D - I
(D) A - I, B - IV, C - III, D - II

---

35. Arrange the given events to correct sequence in relation to translation:
A. Adenylation of amino acid and aminoacyl-tRNA charging.
B. Formation of Peptide bond.

C. Recruitment of ribosome to the mRNA.
D. Correct positioning of charged tRNA into the P-site of the ribosome.
Choose the most appropriate answer from the options given below:

(A) A, B, C, D
(B) A, C, D, B
(C) B, A, D, C
(D) C, B, D, A

---

36. The WBC count of a group of athletes in a team was estimated to be 7900, 9000, 7800, 8300, 2900, 4545, 5100, 3700, 9900 and 4545 per mm3 of blood. Calculate the median WBC count of this group of individuals.

(A) 2900 per mm^3
(B) 4545 per mm^3
(C) 6369 per mm^3
(D) 6450 per mm^3

---

37. Which of the following statements is not applicable to the mode of a dataset?

(A) There can be more than one mode for a particular dataset.
(B) It is affected by extreme values in the dataset.
(C) It represents the most frequently occurring value of the dataset.
(D) It is calculated by inspection method and grouping method.

---

38. The number of fish caught each day by a fisherman for 10 consecutive days was reported to be 62, 58, 56, 57, 62, 59, 62, 57, 64, 63. What is the standard deviation of this dataset?

(A) 2.9
(B) 8.44
(C) 3.60
(D) 76

---

39. Which one of the following animals belongs to the oviparous mammal group?

(A) Macropus
(B) Pteropus

(C) Rattus
(D) Platypus

---

40. How is the mean deviation calculated for a given dataset?

(A) Adding all the values of the given dataset.
(B) Dividing the sum of all the values of the given dataset by the number of observations in the dataset.
(C) Dividing the sum of all the deviations from the mean by the number of observations in the dataset.
(D) Dividing the sum of squares of all the deviations from mean by the number of observations in the dataset.

---

41. Ciliated simple columnar epithelium located at: -
A. Lining of some bronchioles of the respiratory tract
B. Cover surface of ovary
C. Larger ducts of many glands
D. Ventricles of brain
Choose the most appropriate answer from the options given below:

(A) A and D only
(B) B and C only
(C) A, B, C and D
(D) B, C and D only

---

42. Which one of the following statements is applicable to satellite cells?

(A) These cells encircle PNS axons. They form the myelin sheath around the axons.
(B) These are the flat cells surrounding the cell bodies of neurons in PNS ganglia.
(C) These are cuboidal to columnar cells arranged in a single layer that possess microvilli and cilia.
(D) These are small cells with slender processes that give off numerous spinelike projections.

---

43. The trigeminal nerve is the largest nerve with following branches:
A. Olfactory
B. Ophthalmic
C. Maxillary
D. Mandibular

Choose the most appropriate answer from the options given below:

(A) A, B and D only
(B) B, C and D only
(C) A, B, C and D
(D) A, C and D only

---

44. What is Ferritin?

(A) It is an iron storage protein in muscle fibers, liver cells and macrophages of the spleen and liver. Iron detaches from transferrin and attaches to ferritin.
(B) It is a non-iron portion of heme which is converted to biliverdin.
(C) It is plasma protein which transfers free iron into the blood stream.
(D) It is an iron-containing molecule which transports oxygen from the blood stream to the tissues.

---

45. Calculate the Harmonic Mean of the following data:
10 20 40 60 120

(A) 25
(B) 27.5
(C) 32.5
(D) 50

---

46. What is the correct sequence of four steps of the contraction cycle in muscles?
A. Power stroke
B. Attachment of myosin to actin
C. ATP hydrolysis
D. Detachment of myosin from actin
Choose the most appropriate answer from the options given below:

(A) A, B, C, D
(B) A, C, B, D
(C) C, B, A, D
(D) C, B, D, A

---

47. Arrange the following enzymes of the citric acid cycle in the correct sequence.
A. Aconitase

B. Fumarase
C. Malate dehydrogenase
D. Isocitrate dehydrogenase
Choose the most appropriate answer from the options given below:

(A) D, A, B, C
(B) B, D, C, A
(C) C, D, A, B
(D) A, D, B, C

---

48. In Glycolipids and sphingolipids, glycerol is replaced by which amino alcohol?

(A) Sphingomyelins
(B) Gangliosides
(C) Sphingosine
(D) Sulfatides

---

49. At low substrate concentration, the initial velocity of reaction is described as _____. However, as substrate concentration increases, the reaction saturates and reaches a _____.

(A) Hyperbola and Plateau
(B) Plateau and Hyperbola
(C) Straight line and Hyperbola
(D) Straight line and straight line

---

50. Cellulose is a homopolymer of:

(A) Alpha glucose
(B) Beta glucose
(C) Alpha fructose
(D) Beta fructose

---

51. Match LIST-I with LIST-II

LIST-I Name of the amino acid		LIST-II One letter abbreviation/name	
A.	Methionine	I.	D
B.	Aspartic acid	II.	K
C.	Lysine	III.	E
D.	Glutamine	IV.	M

Choose the correct answer from the options given below:

(A) A - II, B - III, C - I, D - IV
(B) A - IV, B - I, C - II, D - III
(C) A - I, B - II, C - IV, D - III
(D) A - III, B - IV, C - I, D - II

---

52. Match LIST-I with LIST-II

LIST-I Parts of Mesoderm		LIST-II Body parts formed	
A.	Intermediate Mesoderm	I.	Notochord
B.	Chorda Mesoderm	II.	Circulatory system
C.	Paraxial Mesoderm	III.	Kidney
D.	Lateral Plate Mesoderm	IV.	Skeletal Muscle

Choose the most appropriate answer from the options given below:

(A) A - I, B - II, C - III, D - IV
(B) A - III, B - I, C - IV, D - II
(C) A - II, B - IV, C - I, D - III
(D) A - IV, B - III, C - I, D - II

---

53. What is the full form of the IMZ abbreviation?

(A) Invaginating marginal zone
(B) Involuting marginal zone
(C) Ingression marginal zone
(D) Inducing marginal zone

---

54. What is the function of yolk sac?

(A) It contains blood vessels that exchange gases with the outside environment.
(B) It stores waste products.
(C) It enables the embryo to float in a fluid environment that protects it from desiccation.

(D) It enables nutrient uptake and the development of the circulatory system.

---

55. In Amphibia, gastrulation begins at:

(A) The part of the egg opposite to the entry of the sperm.
(B) Animal pole
(C) Vegetal pole
(D) Dorsal blastopore lip.

---

56. Which one of the following zones is absent in pond ecosystems?

(A) Littoral Zone
(B) Limnetic Zone
(C) Profundal Zone
(D) Euphotic Zone

---

57. Match LIST-I with LIST-II

LIST-I Interaction Type		**LIST-II Example**	
A.	Mutualism	I.	Chlorella vulgaris and Diatoms
B.	Commensalism	II.	Termites and Trichonympha
C.	Proto-cooperation	III.	Intestine of Man and Entamoeba coli
D.	Antibiosis	IV.	Adamsia pallia and hermit crab

Choose the most appropriate answer from the options given below:

(A) A - II, B - III, C - IV, D - I
(B) A - I, B - III, C - II, D - IV
(C) A - I, B - II, C - IV, D - III
(D) A - III, B - IV, C - I, D - II

---

58. Arrange the following stages of ecological succession in the correct sequence
A. Ecesis
B. Nudation
C. Aggregation
D. Reaction

Choose the most appropriate answer from the options given below:

(A) A, B, C, D
(B) A, C, B, D
(C) B, A, C, D
(D) C, B, D, A

---

59. Which of the following statements are correct with reference to Photochemical Smog?
A. It is an oxidizing smog.
B. It is formed by the reaction between NO_2 and hydrocarbons.
C. It is a reducing smog.
D. It is formed in the presence of UV-radiation.
Choose the most appropriate answer from the options given below:

(A) A, B and D only
(B) A and B only
(C) C and D only
(D) B, C and D only

---

60. The Air Quality Index is measured using the Criteria Pollutants. Which one of the following is not a Criteria Pollutant?

(A) Sulfur Dioxide
(B) Lead
(C) Carbon dioxide
(D) Ozone

---

61. Which of the following factors can influence the process of weathering?
A. Rock type and structure
B. Slope
C. Climatic Conditions
D. Time
Choose the most appropriate answer from the options given below:

(A) A, C and D only
(B) A and C only
(C) A, B, C and D
(D) A and D only

62. Match LIST-I with LIST-II

LIST-I **Replication Enzymes in E coli**		**LIST-II** **Replication Enzymes in Human**	
A.	β-clamp	I.	RPA
B.	SSB	II.	PCNA
C.	Gyrase	III.	DNA polymerase alpha
D.	DnaG	IV.	Topo-I, II

Choose the most appropriate answer from the options given below:

(A) A - I, B - II, C - III, D - IV
(B) A - I, B - III, C - II, D - IV
(C) A - I, B - II, C - IV, D - III
(D) A - II, B - I, C - IV, D - III

---

63. Monoclonal antibodies differ from polyclonal antibodies in their property of reacting with specific

(A) Antigen
(B) Clone of cell
(C) Epitope
(D) Antibody

---

64. Which of the following diseases is not an autoimmune disease?

(A) Rheumatoid arthritis
(B) Lupus erythematosus
(C) Grave's disease
(D) Bovine spongiform encephalitis

---

65. Which of the following cells instruct the abnormal or virally infected cells to commit suicide?

(A) Natural killer cells
(B) B-cells
(C) Dendritic cells
(D) T-cells

66. Which one of the following immunoglobulin is responsible for atopic allergy?

(A) IgG
(B) IgM
(C) IgE
(D) IgA

---

67. Class I MHC molecules present peptides to which of the following cell type?

(A) CD8+ cytotoxic T-cells
(B) CD4+ T-helper cells
(C) Dendritic cells
(D) Macrophages

---

68. Which one of the following best describes the innate immune response?

(A) It is an immediate and relatively broad acting response.
(B) It is a delayed response but highly specific.
(C) It is acquired by vaccination.
(D) It is acquired in life.

---

69. What are chemokines?

(A) Cell surface receptors
(B) Specialized chemotactic cytokine
(C) Any foreign antigen
(D) Chemical based antibodies

---

70. Which one of the following best describes the application of DNA microarray?

(A) To investigate the level of gene expression in a cancerous cell
(B) To separate small biomolecules based on their charge.
(C) To amplify a DNA sequence.
(D) To study the protein synthesis in a cell.

---

71. What is the correct sequence of steps in the genetic engineering of *E.coli* for insulin production?
A. Obtaining a copy of the human insulin gene by isolating mRNA
B. Switching on gene action.
C. Identifying transformed bacteria prior to cloning
D. Inserting the DNA into a plasmid vector and inserting the plasmid vector into the host bacterium

Choose the most appropriate answer from the options given below:

(A) A,B,C, D
(B) A,C,B,D
(C) A,D,C,B
(D) C,B,D,A

---

article amsmath amssymb geometry [framemethod=TikZ]mdframed enumitem tabularx [linecolor=blue, linewidth=1pt, roundcorner=5pt, backgroundcolor=blue!10, topline=true, bottomline=true, leftline=true, rightline=true]quicktipbox
72. A multiple cloning site:

(A) Contains several copies of a cloned gene.
(B) Allows multiple choices for choosing organisms for cloning.
(C) Allows multiple choices for choosing restriction enzymes for cloning.
(D) Contains multiple copies of the same restriction enzyme.

---

73. Southern blotting procedure does not include:

(A) Digestion and separation of DNA fragments using agarose gel electrophoresis.
(B) Ligation of the target DNA into a cloning vector.
(C) Transfer of DNA fragments to a nitrocellulose membrane.
(D) Hybridization of the membrane with a labelled probe.

---

74. The brain and spinal cord develop from ectoderm arranged in a tubular structure called the neural tube. The anterior part of the neural tube expands, and constrictions appear that create multiple regions. Arrange the parts of the embryonic brain chambers in a 5 week embryo from top to bottom.
A. Diencephalon
B. Myelencephalon
C. Metencephalon

D. Mesencephalon
E. Telencephalon
Choose the most appropriate answer from the options given below:

(A) A, B, C, D, E
(B) A, E, C, D, B
(C) E, A, D, C, B
(D) C, B, D, A, E

---

75. Which one of the following diseases can be corrected by gene therapy?

(A) Sleeping sickness
(B) Measles
(C) AIDS
(D) Cystic fibrosis
