Examrace

# Competitive Exams: Zoology MCQs (Practice_Test 84 of 112)



1. Ribosome's are

   a. Groups of enzymes located in ribosome's

   b. RNA molecules having enzymatic activity

   c. Enzymes for clearing ribosomal subunits

   d. RNA particle dissociating enzymes

2. Which of the following pairing configuration (s) may be seen under a light microscope during the meiotic prophase in a triploid organism (Three homologous chromosomes, without any structural aberrations, are drawn.)?

   a. A and C

   b. A and B

   c. B

   d. C

3. The two metaphase chromosomes (shown in the figure), drawn from a Giemsa stained preparation were obtained from a cultured cell exposed to a mutagenic chemical and bromodeoxyuridine. What do the chromosomes indicate?

   a. Monochromatid breaks

   b. Sister-chromatid exchanges

   c. Chromomeric condensation

   d. Chromosomal sites of RNA synthesis

4. In a eukaryotic chromosome, DNA replication is Initiated at

   a. Centro mere and continues towards the telomere

   b. Telomere and continues towards the Centro mere

   c. Telomere as well as at Centro mere

   d. Multiple points all along the length

5. Consider the following statements: Constitutive heterochromatin

a. Is rich in repetitive DNA sequences.

b. Remains condensed on both homolog during inter-phase.

c. Remains condensed on only one homolog during interphase.

d. Is present only on sex chromosomes.

i. 1 and 3 are correct

ii. 3 and 4 are correct

iii. 1 and 4 are correct

iv. 1 and 2 are correct

6. Match List-I (Common techniques used for studying human chromosomes) with List-II (Chemicals used in the technique) and select the correct answer

| List-I | List-II |
|---|---|
| A. Autoradiography | 1. Quinacrine mustard. |
| B. Fluorescence microscopy | 2. Schiff's reagent |
| C. Banding technique | 3. Tritiated thymidine |
| D. Feulgen technique | 4. Giemsa |

**A B C D**

a. 3 4 1 2

b. 2 1 4 3

c. 3 1 4 2

d. 4 2 1 3

7. The given figure is a diagrammatic representation of the synthesis of an RNA molecule. The RNA polymerase (the large circle) moves towards the right side (indicated by an arrow). Identify the ends A B C and D by 3 'and 5' notation as per standard convention. Select the correct answer using the codes given below the diagram.

a. 3 '3' 5 '5'

b. 3 '5' 3 '5'

c. 5 '5' 3 '3'

d. 5 '3' 3 '5'

8. Match List-I (Type of DNA) with List-II (Description of their architecture) and select the correct answer

| List-I | List-II |
|---|---|
| A. A-DNA | 1. Most commonly found right-handed form |
| B. B-DNA | 2. Some regions slightly modified in otherwise right-handed form |
| C. Z-DNA | 3. Left-handed double helical form with unusual array of phosphate group |

**A B C**

a. 1 2 3

b. 3 1 2

c. 2 3 1

d. 2 1 3

9. In the example of monozygotic twins, one of the twins is phenotypic ally a male, and the other is phenotypic ally a female. A chromo-some analysis revealed that nondisjunction of sex chromosomes at mitosis was responsible for this situation, and further that non-disjunction took place once only. The most likely sex chromosome compositions of the two respective individuals is, respectively

a. XX and XXY

b. XY and XO

c. XYY and XX

d. XXY and XX

0. The inverted V represents an attached-X (XX) chromosome, which is formed from the centromeric attachment of two Xchromosomes in Drosophila melanogaster. Mrs. LV Morgan wanted to cross two Drosophila flies having sex-chromosome composition of each as depicted inside each circle (both had normal auto some complement). Which one of the following is true in this regard?

a. Her attempt failed as a fly with a Ychromosome never mates with another with a Y-chromosome.

b. An attached-X bearing fly is sterile as the two X-chromosomes, due to failure of meiotic segregation, interfere with gametogenesis. The experiment was unsuccessful.

c. The attached X-fly, behaves like an interrex, making mating impossible. So the attempt failed.

d. Her attempt was successful since attached-X behaving like a single chromosome does not interfere with gametogenesis and fertilization.

11. The nucleotide sequence of a part of DNA and the amino acids codes for by it in cases of normal individuals and cystic fibrosis patients are: Normal 5 'ATC ATC TTT GGT 3' Individuals IIe IIe Phe Gly Cystic fibrosis 5 'ATC ATT GTT 3' Patients IIe IIe Gly The example suggests that the genetic code is

a. Universal

b. Ambiguous

c. Degenerate

d. Collinear

12. The given diagram has been taken from an actual electron micro graph of protein synthesis in E-coli (Hollow large circle = RNA polymerase.) Your task is to identify

a. End of DNA as either 5 'or 3' as per existing convention

b. End of RNA as either 5 'or 3' as per existing convention

c. End of polypeptide chain as either N or C

Which is correct

a. 5 '3' N

b. 3 '5' C

c. 3 '5' N

d. 5 '3' C

13. A man and a woman, each carries ia mutant allele for phenylketonuria, an inborn error Of metabolism. However, neither of them has this disease. The probability that their second child will suffer from phenylketonuria is

a. 0.25

b. 0.50

c. 0.75

d. 1.00

14. Which one of the following is a correct set of secondary structures found in a t-RNA molecule?

a. D-loop arm, amino-acid arm with CCA 3' tail, T? C loop, anticodon arm

b. GGU tail at 3' L-loop arm, TTC loop, anticodon arm

c. D-loop, G-PO3 tail at 3 ‘end, CCA tail at 5’ end anticodon arm

d. AAA 3' tail, indicator loop, CAC loop anticodon arm

15. Which one of the following pairs is correctly matched?

a. Saprozic—Synthesize food with chlorophyl

b. Symbiotic—Lives completely on other organisms

c. Holozoic—Feeds on other organisms

d. Holophytic—Sucks the blood of the host