

Gurudas College
Internal Assessment Exam, 2021
Zoology Honours
Paper – ZOOA-CC5-12-TH

FM: 10

Time: 30 Minutes

(Answer *any Ten Multiple Choice Questions* of the following)

1. There are 4 pairs of chromosomes in a *Drosophila*. The linkage groups present in it are
 - a) One more than the pair of chromosomes
 - b) One less than the pair of chromosomes
 - c) Four
 - d) Eight

2. In an experiment you calculate the expected DCO frequency to be 0.022 but in reality you observe that only 0.012 recombination frequency. What is the phenomenon resulting in this?
 - a) Coincidence
 - b) Interference
 - c) Penitence
 - d) Expressivity

3. Haemophilia is
 - a) X – linked
 - b) Y – linked
 - c) Z – linked
 - d) Autosomal

4. Three-point test crosses
 - a) Detect double crossing over events
 - b) Require heterozygous gametes
 - c) Determine gene order on a chromosome
 - d) All of the above

5. Phage DNA integrated into the chromosome is called a
 - a) Lysogen
 - b) Insertion sequence
 - c) Lytic phase
 - d) Prophage

6. Name the chemical mutagen which affects only replicating DNA?
 - a) Deaminating agent
 - b) Base analog
 - c) Acridine dye
 - d) Alkylating agent

7. Which of the following mutation is caused due to addition or deletion of bases?
 - a) Transcription
 - b) Transversion

- c) Transition
- d) Frameshift mutation

8. Find out the true statement for *Drosophila* from the following.

- a) The male X chromosome is hyper active
- b) The male Y chromosome is inactivated
- c) They don't have X chromosome
- d) One of the female X chromosome is inactivated

9. The gene for sex determination in mammals is _____ and it is located in _____

- a) PAR1, Y
- b) SRY, Y
- c) PAR1, X
- d) SRY, X

10. Which of the following statements is true for *Drosophila*?

- a) The Sxl gene is turned OFF when the ratio of X: A is 1.
- b) The Sxl gene is turned OFF when the ratio of X: A is 0.5.
- c) The Sxl gene is turned ON when the ratio of X: A is 0.5.
- d) The Sxl gene is turned ON when the ratio of X: A is 0.75.

11. Pericentric inversion with single crossing over results in

- a) 2 dicentric and 2 acentric chromosomes
- b) Four normal chromosomes with centromere in different positions
- c) one normal chromosome, three abnormal acentric chromosome
- d) None of the above

12. Chronic myelogenous leukemia involves a reciprocal translocation between chromosomes:

- a) 8 and 14
- b) 21 and 22
- c) 9 and 22
- d) 13 and 14

13. The enzyme that catalyzes the transposition of an IS element is called

- a) Transposase
- b) Integrase
- c) Transcriptase
- d) Polymerase

14. Which of the following is a non-composite transposon?

- a) Tn5
- b) Tn10
- c) Tn3
- d) Tn9

15. Interaction between alleles of two or more genes to control a single phenotype is called:

- a) Pseudo-dominance
- b) Hypostasis
- c) Epistasis
- d) Incomplete dominance