

Sample Paper
GENETICS II Paper-B: Genetics of Eukaryotes
Total Marks: 35

Encircle the correct answer.

- 1. Better or increased function of any biological quality in a hybrid is obtained by**
 - a) Heterosis
 - b) Inbreeding depression
 - c) Outbreeding depression
 - d) Penetrance

- 2. A traditional plant breeding method in which hybrid organism (offspring of genetically unlike parents) is mated with one of its parents or with an organism genetically similar to the parent in**
 - a) Backcrossing
 - b) Inbreeding
 - c) Outbreeding
 - d) Cross over

- 3. A group of hereditary genetic disorders that impair the body's ability to control blood clotting or coagulation is named as**
 - a) Hemophilia
 - b) Down Syndrome
 - c) Hepatitis
 - d) Diabetes

- 4. One complete set of genes in an organism is termed as:**
 - a) Genome
 - b) Genetic Code
 - c) Karyotype
 - d) Phenotype

- 5. Phenotype refers to the _____ of an individual.**
 - a) Genetic makeup
 - b) Actual physical appearance

- c) Recessive alleles
- d) Dominant alleles

6. Replacement of pyrimidine by purine, resulting in a mutation is termed as:

- a) Point mutation
- b) Frameshift mutation
- c) Transitions
- d) Transversion

7. Arabidopsis is advantageous for plant genetic research because:

- a) it is commercially important as a food crop
- b) it is an endangered species
- c) it is the closest to humans of any existing plant
- d) it is a small plant with a small genome size which can be raised inexpensively

8. Phenotypical males of Klinefelter's syndrome have;

- a) XXY
- b) XXX
- c) XYY
- d) XO

9. First hormone that is synthesized by Recombinant DNA technology, known as:

- a) Progesterone
- b) Estrogen
- c) Steroids
- d) Insulin

10. Probe is defined as?

- a) Chemically synthesized DNA
- b) Purified DNA
- c) Fragmented DNA duplex
- d) Either purified or synthesized single stranded DNA

11. Trisomy 21 is better known as:

- a) Edwards syndrome
- b) Patua syndrome
- c) Down syndrome

- d) Warkany syndrome

12. Inbreeding increases frequency of

- a) homozygous
- b) heterozygous
- c) genetic diversity
- d) genetic linkage

13. The process in which semen from male animal is taken and injected directly into the female reproductive tract, is known as

- a) Outcrossing
- b) Artificial Insemination
- c) Inbreeding
- d) Cross breeding

14. In multiple ovulation, embryo transfer technology female animal produces

- a) Single egg
- b) No egg
- c) Multiple eggs
- d) Zygote without sperm is formed

15. Dolly sheep was first created through

- a) Germ cell transfer
- b) Somatic cell transfer
- c) Gene transfer
- d) Chromosome deletion

16. Random mating is also known as

- a) Panmixia
- b) Animalixia
- c) Manmixia
- d) Randomixia

17. In like to like mating the animals are

- a) Genotypically alike
- b) Phenotypically alike
- c) Both and b

- d) Of same species

18. Inbreeding does not include

- a) Close inbreeding
- b) Mild inbreeding
- c) Line breeding
- d) Far breeding

19. Inbreeding can eliminate lethal and semi lethal due to

- a) Homozygosity
- b) Heterozygosity
- c) Different lines
- d) Same lines

20. Mule which is made from a cross between donkey and horse is a result of

- a) Outcross
- b) Inbreeding
- c) Interspecific Hybridization
- d) Cross breeding

21. Outbreeding is also known as

- a) Genetic disassortive mating
- b) Genetic assortive mating
- c) Phenotypic disassortive mating
- d) Phenotypic assortive mating

22. We can overcome inbreeding depression by

- a) A single outcross
- b) Outcross for multiple generations
- c) A single Cross Breeding
- d) Cross breeding for multiple generations

23. Removal of undesirable animals from herd is

- a) Curing
- b) Culling
- c) Cutting
- d) None of the above

24. Chances of fixation of a new mutant can be increased or decreased by

- a) Crossbreeding
- b) Random drift
- c) Selection
- d) Inbreeding

25. Which of the following is not a commonly used selection protocol in poultry breeding

- a) Individual Selection
- b) Sib Selection
- c) Family Selection
- d) Progeny Testing

26. The increase in intensity of selection ultimately increases the

- a) response per unit time
- b) response per generation
- c) realized response
- d) realized heritability

27. Resemblance between offspring and parents depicts

- a) Discrete breeding
- b) Inbreeding
- c) Selection breeding
- d) Random breeding

28. Which of the following can be used to make a transgenic organism

- a) Transfer of nucleus
- b) Transfer of DNA
- c) Transfer of chromosome part or whole chromosome
- d) All of the above

29. Karyoplast can be defined as

- a) Nuclei
- b) Nuclei with some of residual plasma membrane
- c) Cell with nucleus
- d) Cell without cell wall

30. The technique which is commonly used to identify the birth defects in fetus is

- a) Amniocentesis
- b) Ectogenesis
- c) Transplantation
- d) All of the above

31. Dolly sheep clone was made in year

- a) 1994
- b) 1995
- c) 1996
- d) 1997

32. Production of transgenic animal requires transfection of

- a) Stem Cells
- b) Embryo cells
- c) Egg Cells
- d) Both b and c

33. Mendel used Pea plants in his experiments because

- a) They were cheap
- b) They had contrasting characters
- c) They were available easily
- d) All of the above

34. The smallest unit of genetic material which produces a phenotypic effect on mutation is

- a) Muton
- b) Gene
- c) Recon
- d) Nucleic acid

35. Alleles are defined as

- a) Alternate forms of genes
- b) Linked genes
- c) Chromosomes that have crossed over
- d) Homologous chromosomes