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SUBJECT CODE NO: - F-6086
FACULTY OF SCIENCE AND TECHNOLOGY
M.Sc. (Sem-II) Zoology (Old)
Examination December/January-2022-23
Genetics-412

[Time: 3:00 Hours]

[Max. Marks: 80]

Please check whether you have got the right question paper.

N. B

- 1) Part 'A' is compulsory
- 2) Attempt any five questions from part 'B'
- 3) Draw a neat labeled diagram wherever necessary.

Part -A

Q1 Attempt the following multiple choice questions.

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- 1) The crossing of F1 to homozygous recessive parent is called
 - a) Back cross b) Test cross c) F1 cross d) All of the above
- 2) Which of the following statement is true regarding the 'Law of Independent Assortment'?
 - a) Factors assort independent of each other
 - b) When more than one pairs of characters are present together
 - c) Independent Assortment leads to formation of new combinations of characters
 - d) All of the above
- 3) The hybrid test cross ratio is
 - a) 9:3:2:1 b) 9:3:3:2 c) 1:1:1:1 d) 9:3:3:1
- 4) The tendency of an offspring to resemble its parent is known as
 - a) Variation b) Heredity c) Resemblance d) Inheritance
- 5) The alternate form of a gene is
 - a) Alternative type b) Recessive type c) Dominant character d) Allele
- 6) The geometrical device that helps to find out all the possible combinations of male and female gametes is known as
 - a) Bateson square b) Mendel square c) Punnet square d) Mendel cube
- 7) 9:7 ratio in the F2 generation represents.
 - a) Incomplete dominance
 - b) Co-dominance
 - c) Epistasis
 - d) Complementary interaction

- 8) A small amount of lethal mutation is always present in the population due to
- Positive selection
 - Negative selection
 - Frequency dependent selection
 - Mutation - Selection balance
- 9) Which term represents a pair of contrasting characters?
- Heterozygous
 - Homozygous
 - Co-dominant gene
 - Allelomorphs
- 10) Cystic fibrosis is
- Sex linked recessive disorder
 - Autosomal dominant disorder
 - Autosomal recessive disorder
 - Sex linked dominant disorder

Part-B

- Q2 Describe the law of Dominance and its significance? 12
- Q3 Write a note on Multiple alleles? 12
- Q4 Write a note on
a) Incomplete dominance b) Sex linkage 12
- Q5 Describe the following 12
a) Methods of genetic transfers b) Kappa particles
- Q6 Write a note on 12
a) Albinism b) Sickle Cell anemia
- Q7 What is Mutation? Describe types of mutation 12
- Q8 Describe the law following 12
a) Polygenic inheritance b) Biochemical