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**SUBJECT CODE NO:- 2080**  
**FACULTY OF SCIENCE & TECHNOLOGY**  
**B.Sc. S.Y (Sem-III)**  
**Examination March/April-2022 (To be held in June/July-2022)**  
**Zoology Paper-VIII**  
**Genetics- II**

[Time: 1:53 Hours]

[Max. Marks:50]

Please check whether you have got the right question paper.

- N.B
- i. Attempt all questions.
  - ii. Illustrate your answer with suitable labeled diagram.

Q.1 Define gene. Explain the process of transcription of gene. 20

OR

What is genetic disorder. Explain Down's syndrome.

Q.2 Give an account on application of rDNA technology. 20

OR

Write short note on any four of the following

- a) Monozygotic twins
- b) PKU
- c) Plasmid
- d) Colourblindness
- e) Bacterial transformation
- f) Properties of genetic code

Q.3 Multiple choice question: 10

1. Which of the following is also called bleeder's disease-
  - a) Anaemia
  - b) Thrombocytopenia
  - c) Polycythemia
  - d) Haemophilia
2. XXY chromosomes complement is found in -
  - a) Down's syndrome
  - b) Turner's syndrome
  - c) Klinefelter's syndrome
  - d) Edwards syndrome

3. Sex determination in human beings is ----- type.  
a) XY-XX                      b) XX-XO                      c) XX-XY                      d) XO-XX
  
4. Inability to produce tyrosinase enzyme leads to ----- hereditary defect.  
a) Fairness    b) Albinism  
c) Pku    d) Alkaptonuria
  
5. The total aggregate of alleles in a population is referred to as -----  
a) The gene pool    b) The allelic frequency  
c) The genotypic frequency    d) The genetic structure
  
6. The codon is found in -----  
a) DNA    b) r RNA  
c) t RNA    d) m RNA
  
7. Assumptions underlying Hardy-Weinberg equilibrium are -----  
a) Organisms are diploid    b) mating is random  
c) Population size is infinitely large    d) All of the above
  
8. Representation of chromosomes of a species in the form of diagram is called -----  
a) Hologram    b) Ideogram  
c) Milligram    d) Sensogram
  
9. What is the process of introducing vector into the viral vector known as -----  
a) Transposition    b) Transduction  
c) Transformation    d) Transfection
  
10. Electro phoresis a technique used in DNA finger printing helps to separate -----  
a) Cells for DNA    b) DNA segments  
c) Tissues    d) RNA from DNA