

**B.Sc. ZOOLOGY
THIRD SEMESTER
GENETICS
BSZ-302**

**SET
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 1hr. 30 mins.

Full Marks: 35

(Objective)

Time: 15 mins.

Marks: 10

Choose the correct answer from the following:

1×10=10

- How many phenotypes can occur in the human blood group ABO system with alleles I^A , I^B and I^O ?
 - 2
 - 3
 - 4
 - 5
- Genotype of dominant plant can be determined by:
 - Pedigree analysis
 - Test cross
 - Back cross
 - Dihybrid cross
- Lack of independent assortment of two genes is due to:
 - Recombination
 - Crossing over
 - Repulsion
 - Linkage
- What technique in plant biology was used by Gregor Mendel to derive the patterns of inheritance?
 - Hybridization
 - Mutagenesis
 - Exportation
 - Importation
- Which of the following ratio shows complementary gene interaction?
 - 9:3:3:1
 - 1:2:1
 - 9:7
 - 1:1
- The speciality of H bond between nitrogenous bases is:
 - It can break easily
 - It can break in presence of heat
 - It can again form if heat reduces
 - All of these
- The right arm of t RNA is called:
 - D arm
 - Anticodon arm
 - T ψ C arm
 - Acceptor arm
- Which one is considered as extra chromosomal particle?
 - Kappa particle
 - Plasmid
 - μ particle
 - All
- In down syndrome which statement is correct?
 - Trisomy in chromosome 21
 - Mentally retarded
 - Chromosomal aberration
 - All

10. Syndrome are coming under:

a. Euploidy

c. Haplodipliody

b. Aneuploidy

d. Polyploidy

(Descriptive)

Time : 1 hr. 15 mins.

Marks : 25

[Answer question no.1 & any two (2) from the rest]

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| 1. Describe the difference between DNA and RNA. | 5 |
| 2. What is Mendel's law of inheritance? Explain it with example of seeds of pea having round, wrinkled, yellow and green characters. | 10 |
| 3. Write short notes: (<i>any two</i>) | 5+5=10 |
| a) Test cross | |
| b) Linkage | |
| c) Complementary gene | |
| d) Multiple alleles | |
| 4. What is chromosomal aberration? Describe about different numerical aberration method. | 2+8=10 |
| 5. What do you mean by extrachromosomal inheritance? Discuss briefly the mechanism of extrachromosomal inheritance in Paramecium. | 2+8=10 |

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