

MODEL QUESTION PAPER

BSC III YEAR

BIOTECHNOLOGY

FIRST PAPER

MOLECULAR BIOLOGY AND GENETIC ENGINEERING

TIME: 3 HRS

MAXIMUM MARKS: 40

MINIMUM MARKS: 15

Note: The question paper consists of two sections: A and B. attempt all the questions according to the given instructions.

Section A

Short Answer Type Questions

Note: Attempt all questions. Each question carries three marks (5 X 3 = 15)

Q1. Write a short note on viral genome.

Or

Explain rolling circle mechanism.

Q2. Write a note on epigenetics.

Or

Explain histone modifications.

Q3. Describe allelic variations.

Or

Define crossing over.

Q4. Write short note on any two:

- a. Cosmid
- b. Phagemid
- c. Plasmid

d. Restriction endonuclease.

Q5. Explain applications of RDT

Or

Describe alternate splicing.

Section B

Long Answer Type Questions

Note: Attempt all questions. Each question carries five marks (5 X 5 = 25)

Q6. Write a brief note on experimental proof of DNA as genetic material

Or

Explain proteins and enzymes involve in replication in prokaryotes and eukaryotes.

Q7. Explain eukaryotic chromosomal organization.

Or

Write comment on histone and non histone proteins.

Q8. Define chromosomal analysis.

Or

Write detail note on Mendelian genetics.

Q9. Explain PCR with their types and applications.

Or

Write detail note on gene cloning.

Q10. What is Mutation? Explain types of mutation.

Or

Explain gene expression in eukaryotes.