

1057

B.A./B.Sc. (General) Sixth Semester

Biochemistry

Paper – A: Molecular Biology – II

Time allowed: 3 Hours

Max. Marks: 45

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting one question from each Unit.

x-x-x

I. Answer the following:-

- a) Define post translational modifications of proteins with suitable examples.
- b) Define operon
- c) What do you understand by protein targeting?
- d) Discuss anti sense gene silencing along with its role in gene regulation.
- e) Write a short note on PBR 322 vector.
- f) Define DNA library.
- g) Comment on the importance of sodium - potassium pump in the biological membrane.
- h) Write the characteristic features of stem cells.
- i) Differentiate between analogous organs and homologous organs. (9x1)

UNIT – I

- II. What is CAP? If both glucose and lactose are present in the culture medium which will be the preferred energy source for the bacterial cells and why? (9)
- III. Discuss positive and negative operon with the help of suitable figures. (9)

UNIT – II

- IV. Discuss 5' capping in eukaryotic organisms alongwith its significance. (9)
- V. Write a note on regulation of lac operon. (9)

UNIT – III

- VI. Describe the life cycle of *Drosophila melanogaster* with the help of suitable examples. (9)
- VII. How DNA library differs from c-DNA library? How c-DNA is formed? (9)

P.T.O.

(2)

UNIT - IV

VIII. Discuss the salient features of the Singer Nicholson's Fluid Mosaic model with the help of suitable diagrams. (9)

IX. Write a note on Darwin's theory of "Natural selection" and "survival of the fittest". (9)

x-x-x