Exam.Code:0005
Sub. Code: 0461

1129

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

Biochemistry

Paper -A: Molecular Biology – I

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. Briefly answer the following:-

a) What are telomeres?

b) Describe the function of topoisomerases.

c) Differentiate between heterochromatin and euchromatin.

d) State Wobble hypothesis.

e) Briefly describe the structure & function of aminoacyi tRNA synthestases.

f) Differentiate between introns and exons. (6x1½)

UNIT – I

II. a) Compare and contrast different forms of DNA.

b) Write a short note on extranuclear genomes. (6,3)

III. a) Discuss in detail any two experiments which proved DNA as a genetic material.

b) Give a detailed account of structure of chromatin. (4,5)

UNIT – II

IV. Give an account of the enzymes and proteins involved in DNA replication. (9)

V. a) Write a short note on DNA recombination.

b) Describe the missense, nonsense and frameshift mutations in detail. (4,5)

UNIT – III

VI. a) Describe the elongation phase of RNA synthesis.

b) Describe different types of promoters and their role in transcription. (4,5)

VII. a) Describe the role of rho factor in termination of transcription.

b) Give an account of the role of snRNAs in mRNA splicing (5,4)

P.T.O.

UNIT – IV

VIII. a) Discuss the features of genetic code.

b) Describe the elongation phase of protein synthesis. (3,6)

IX. a) Discuss the antibiotic inhibitors of translation and their mechanism of action.

b) Write a short note on structure and function of tRNA. (5,4)

x-x-x