Exam.Code:0001
Sub. Code: 0085

2013

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

Industrial Microbiology

IMB-102: Microbial Genetics and Molecular Biology

Time allowed: 3 Hours Max. Marks: 33

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) What are the characteristics of genetic code?

b) What is the role of some key proteins in DNA replication?

c) What are spontaneous mutations.

d) What are the limitations of yeast in the production of recombinant proteins?

e) How cosmids differ from plasmids.

f) Define transformation process. (6x1½)

UNIT - I

II. a) Discuss initiation of a translation process in prokaryotes.

b) Explain post transcriptional modifications. (2x3)

III. Discuss the three stages of DNA transcription process. (6)

UNIT - II

IV. Enlist various methods to select and isolate mutants. Explain any one method in detail. (6)

V. How induced mutations can be repaired. (6)

UNIT - III

VI. Explain the transduction mode of genetic recombination process. (6)

VII. a) Write a note on bacterial recombinant products.

b) Discuss a method to isolate auxotrophic mutants. (2x3)

P.T.O.

UNIT - IV

VIII. Describe the role of plasmids in gene cloning procedure. How the desired clone can be identified. (6)

IX. Write short notes on:-

a) Amplified genomic library

b) Transposons (3,3)

x-x-x