



SS – 415

V Semester B.Sc. Examination, Nov./Dec. 2018

(F+R/CBCS)

BIOTECHNOLOGY – V

Genetic Engineering and Environmental Biotechnology

Time : 3 Hours

Max. Marks : 70

**Instruction :** Draw *neat* labelled diagrams *wherever* necessary.

SECTION – A

I. Write short notes on the following :

(5×2=10)

- 1) Expression vector.
- 2) Recombinant vaccines.
- 3) Fungal Biofertilizer.
- 4) PUC 19.
- 5) Sludge treatment.

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SECTION – B

II. Answer **any four** of the following :

(4×5=20)

- 6) Explain in brief the components used in PCR.
- 7) Discuss the self priming method in the construction of cDNA.
- 8) Describe the process of production of Biogas.
- 9) Explain cosmid vector in gene cloning.
- 10) Write a note on the process of biodegradation of petroleum products.

SECTION – C

III. Answer **any three** of the following :

(3×10=30)

- 11) What is blotting ? Write the procedure and applications of western blotting technique.
- 12) Describe the method of microbial conversion of sugar to alcohol and add a note on gasohol.

P.T.O.



- 13) Explain colony hybridization method in screening and selection of recombinant cells.
- 14) What are the different methods of bioleaching ? Explain the process of bioleaching of copper and gold.
- 15) What are Restriction enzymes ? Give the types and mechanism of their action with examples.

## SECTION - D

IV. Answer the following :

(10×1=10)

- 16) Antibiotic resistant genes.
- 17) Symbiosis.
- 18) Cos site.
- 19) HRP enzyme.
- 20) Adaptors.
- 21) Klenow fragment.
- 22) Renewable resources.
- 23) Symbiotic N<sub>2</sub> fixation.
- 24) DNA ligase.
- 25) Recombinant hosts.

B.M.S.C.W