



Reg. No. : .....

Name : .....

**Fourth Semester M.Sc. Degree Examination, July 2018**

**Branch : Botany**

**BO 242 a : BIOTECHNOLOGY**

**(2013 Admission Onwards)**

Time : 3 Hours

Max. Marks : 75

I. Write short notes on **all** of the following.

- 1)  $\alpha$  complementation.
- 2)  $C_I$  repressor protein.
- 3) Riplasmid.
- 4) M13 mp series.
- 5) pBR 322.
- 6) Transitional mutation.
- 7) Bioreactor.
- 8) Taq DNA polymerase.
- 9) GM food.
- 10) Biolistics.

**(10×1=10 Marks)**

II. Answer the following question in **not** less than **50** words.

- 11) a) What is meant by batch fermentation ?

**OR**

- b) What is meant by continuous fermentation ?

- 12) a) What is meant probe labelling by nick translation.

**OR**

- b) What is meant by end labelling of nucleic acid probes ?



13) a) What are linkers ?

OR

b) What are adapters ?

14) a) What is cassette mutagenesis ?

OR

b) What is PCR mediated site directed mutagenesis.

15) a) What are somaclones ?

OR

b) What are cybrids ?

(5×2=10 Marks)

III. Answer the following questions in **not** more than **150** words.

16) a) What are the different methods of protoplast isolation ?

OR

b) How do you produce haploid plants in culture ?

17) a) What is method for producing virus free plants in culture ?

OR

b) What are the applications of cell suspension culture ?

18) a) What is the principle and procedure of molecular sieve chromatography ?

OR

b) What are the applications of immobilised enzymes ?

19) a) How do you form monoclonal antibodies ?

OR

b) What are the applications of Monoclonal antibodies ?

20) a) What are the applications of genetically modified microorganisms ?

OR

b) Detail any one of cosmid cloning scheme ?



21) a) Explain the kinetics of plant cells in suspension culture ?

OR

b) What are common plant hormones and their roles in plant tissue culture ?

22) a) Briefly explain the ethics, pros and cons of patenting genes and life forms ?

OR

b) What are the different forms of intellectual properties ? (7×5=35 Marks)

IV. Answer the following question in **not** more than **250** words.

23) a) What are the applications of transgenic plants ?

OR

b) What are the selectable markers in  $\lambda$  Phage based vectors ? Narrate the principle of selection of markers.

24) a) What are the applications of bioprocess technology ?

OR

b) Explain the principle, procedure and applications of AFLP. (10×2=20 Marks)

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