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22-23/31354/304EB(TH)

**M.Sc. 3rd Semester Examination-2022-23**

**BOTANY**

**Course ID : 31354      Course Code : BOT/304EB (TH)**

**Course Title : Microbiology**

*Time : 2 Hours*

*Full Marks : 30*

*The figures in the right hand margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

**UNIT-I**

1. Answer **any four** of the following : 1×4=4

- (a) What are prebiotics ?
- (b) Name one antibiotic for controlling Mycoplasma infection.
- (c) What is 'Cry' protein ?
- (d) What are HSP's ?
- (e) What do you understand by Flash pasteurization ?

*(Turn Over)*

- (f) Write the benefit of curing.  
 (g) What is phage typing?  
 (h) What is meant by T<sub>m</sub> of DNA?

2. Answer **any two** of the following : 5×2=10

- (a) What is the role of chorismate in amino acid biosynthesis? Schematically describe the biosynthesis of phenylalanine and tyrosine from chorismate. 1+4
- (b) What is the significance of head-space of fermenter? Add a note on physical method of food preservation. 1+4
- (c) Write a short note on mode of action of Bt toxin. Name another bio insecticidal agent. 4+1
- (d) Write a precise note on protonomotive force. 5

3. Answer **any two** of the following : 8×2=16
- (a) Write a detail note on glutamic acid production. What are GRAS compounds? 6+2
- (b) What is differential gene expression? Briefly discuss the techniques of transcriptome analysis. Give an account of the advantages and disadvantages of microarray. 2+3+3
- (c) Write the use of nucleic acid hybridization in bacterial taxonomy? Briefly describe the denitrification procedure and write its importance. 4+2+2
- (d) Discuss in brief about mass production of Azotobacter biofertilizer. Add a note on vermicomposting. 5+3
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