(i) Printed Pages: 3   Roll No. ....

(ii) Questions   : 9   Sub. Code : | 0 | 1 | 6 | 5 |

                          Exam. Code : | 0 | 0 | 0 | 2 |

B.A./B.Sc. (General) 2nd Semester

(2042)

BIO-TECHNOLOGY

Paper : BIOT-Elect-Sem-II-T Foundation of Biotechnology

Time Allowed : Three Hours]   [Maximum Marks : 67

Note :— Attempt **FIVE** questions in all, **TWO** questions each from Section A and B. Section C is compulsory.

SECTION—A

1. (a) Why do Gram positive bacteria stain as violet and Gram negative as pink when treated with Gram stain ?   7

    (b) Differentiate between Archaebacteria and Eubacteria.
    6

2. (a) Draw a bacterial growth curve and discuss in detail the various phases of growth.   7

    (b) Name six useful algal products along with their commercial uses.   6

3. (a) Explain the suitability of DNA for storage of information.
    7

    (b) Discuss the major functions of lipids.   6

4. (a) Briefly discuss the structure, function and properties of terpenes. 7

(b) Draw the pyranose and furanose ring structure of glucose. 6

SECTION—B

5. (a) Briefly explain how we can classify proteins based on their biological functions. 7

(b) What is meant by steady state kinetics ? 6

6. (a) Discuss giving examples how we can use enzymes as research tools. 7

(b) Write a short note on different chemical reactions of amino acids. 6

7. (a) Explain the applications of Scanning electron microscopy (SEM). 7

(b) Discuss the principle and technique of Southern blotting. 6

8. (a) Write a short note on VIS spectrometry. 7

(b) Briefly explain the principle and applications of X ray diffraction. 6

SECTION—C

9. (a) Name two structural proteins.

(b) What is the importance of pili in bacteria ?

(c) What type of microorganisms are known as alkalophiles ?

(d) What are waxes ?

(e) Write the full form of the following :— TEM, STEM

(f) What role is played by peroxisomes in the functioning of a cell ?

(g) What are reducing sugars ?

(h) Give general formula of fatty acids.

(i) What is electron diffraction ?

(j) Name two secondary metabolites obtained from microorganisms. 1.5×10=15