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

(ii) Questions : 9 Sub. Code : 1 3 8 0 2

Exam. Code : 5 0 5 1

B.Sc. (Hons.) (Bio-Technology (FYUP) 1st Semester

(2124)

CELL BIOLOGY

Paper : BIOT-101-T

Time Allowed : Three Hours] **[Maximum Marks : 68**

Note :— Attempt ***five*** questions in all. Question No. I is compulsory and select ***one*** question from each unit.

I. Explain the following :—

(a) Postulates of Cell theory.

(b) PPLO.

(c) Functions of Peroxisomes.

(d) Components of cytosol.

(e) Symport and antiport.

(f) Lampbrush chromosome.

(g) Importance of telomear.

(h) Flagellar cell locomotion. 1.5×8=12

UNIT—I

II. (a) Describe in detail the structure of typical bacterial cell with suitable diagram.

(b) Explain Miller and Urey's experiment to show the synthesis of organic compound. 7+7=14

III. (a) Discuss in detail the structure of animal cell with suitable diagram.

(b) Tabulate the differences between Prokaryotic cell and Eukaryotic cell. 7+7=14

UNIT—II

IV. (a) Explain Fluid Mosaic model of cell membrane with suitable diagram.

(b) Discuss the functions of Endoplasmic reticulum. 7+7=14

V. (a) Describe the fine structure of Chloroplast with suitable diagram.

(b) Explain the ultra-structure of Nucleus. 7+7=14

UNIT—III

VI. (a) What is ATPase ? Discuss Sodium-Potassium exchange pump with suitable diagram.

(b) Explain receptor mediated endocytosis by cell membrane. 7+7=14

VII. (a) What is cotransport ? Explain its types with suitable example of each type.

(b) Explain entry of virus into cells with suitable examples.

7+7=14

UNIT—IV

VIII. (a) Explain structural organization of Nucleosome with suitable diagram.

(b) What are Chromatids ? Classify chromosomes on the basis of their morphology. 7+7=14

IX. (a) What are Giant chromosomes ? Explain the structure of Polytene chromosomes.

(b) Describe the chemical composition of chromosomes.

7+7=14