2022

BOTANY

[HONOURS]

(CBCS)

(First Semester)

PAPER-C2T

BIO-MOLECULES & CELL BIOLOGY

Full Marks: 40 ***Time: 02 Hrs***

The figures in the right hand margin indicate marks Candidates are required to give their answers in their own words as far as practicable

1. Answer any FIVE of the following: 2x5

a) What feature of inner membrane of mitochondrion is related to high metabolic activity?
b) Name two aromatic amino acids.
c) Define holoenzyme.
d) What is the significance of chemical bond?
e) Why lysosomes called "suicide bags"?
f) What is the function of centriole in mitosis?
g) Differentiate microtubules and microfilaments.
h) Name one plastid without pigment and name one pigment which is not found in plastids.

2. Answer any FOUR of the following: 5x4

a) Write short notes on : 2.5+2.5
- Factors affecting enzyme activity.
- Protein denaturation.

b) Discuss the chemical composition of DNA. Differentiate between B-DNA & Z-DNA. 3+2
c) Write down the ultra structure and functions of plasma membrane. 4+1
d) Compare endergonic and exergonic reaction. State the function of rRNA. 3+2
e) Describe the structure of nuclear pore complex with suitable diagram. 5
f) Define Spliceosome. Write the important chemical reactions of Monosaccharides. What are the functions of aquaporins? 1+2+2

3. Answer any ONE question: 10 x 1

a. Draw and describe the fluid mosaic model. Distinguish between active and passive membrane transport. What is endocytosis? 5+3+2
b. Differences between chloroplast and chromoplast.Give a detailed account of structure and organization of proteins. State the major functions of the Golgi body 2+(3+3)+2