

2022

ZOOLOGY

[Honours]

(B.Sc. Second Semester End Examination-2022)

PAPER-C4T

[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

Illustrate the answers wherever necessary

1) Answer any five questions from the following: 5x2= 10

- a. What do you mean by flip-flop model of plasma membrane?
- b. Differentiate between connexin and connexon.
- c. What is Zone of exclusion?
- d. What is oxidative phosphorylation?
- e. Write down the role of ubiquinone in ETS.
- f. What is MTOC? Write its function.
- g. What is prion?
- h. What is meant by ligand-gated channel cite example.

2. Answer any four questions from the following: 4x5 = 20

- a. How DNA damage arrests the cell cycle in G1?

(2)

- b. Give a brief comparison among three major categories of cytoskeleton filaments.
- c. Briefly describe the role of cAMP as second messenger. Does any other cyclic nucleotide acts as second messenger? 4+1
- d. Illustrate the sodium-Potassium pump of active transport? What do you mean by secondary active transport? 3+2
- e. Write down the role of cellular transport of Endoplasmic reticulum and Golgi body. 5
- f. Write down the functions of :-
- i) Wee 1 Kinase 5
 - ii) Rb
 - iii) APC/C^{cdc2o}
 - iv) Sic1
 - v) SCF

3. Answer any one questions of the following: 1x10 = 10

- a. i) Compare pumps with channels. Which one among them follow active transport? 2+1
- ii) State the roles of accessory proteins (ABP) in regulation of micro filaments. 4
- iii) Write a brief note on p⁵³. 3
- b. i) Suppose you are in a situation to fight or flight, then which hormone will secrete in your body? Where it will work? Write its mechanism of action. 1+1+4
- ii) Briefly describe the regulation of cell cycle transitions. 4