

Post Graduate Teaching Department of Zoology

An Autonomous Department of
RTM, Nagpur University, Nagpur
M. Sc. Zoology Semester -I (CBCS)
Theory Examination Winter-2023

Paper: 1T2- Cell Biology and Genetics

Time: 3 hrs.

Maximum Marks: 60

Note:

1. All questions are compulsory.
2. All questions carry equal marks.
3. Draw suitable diagrams wherever necessary.

1. Give a detail account on the structure and functions of the plasma membrane.

OR

Write notes on-

- (a) Structure and functions of microtubules.
- (b) Mitosis.

2. Define signal transduction. Describe the mechanism of signal transduction thorough GPCR with the help of suitable example.

OR

Write notes on-

- (a) Primary and Secondary messenger systems.
- (b) Components of extracellular matrix.

3. Describe in detail monohybrid and dihybrid Mendelian inheritance.

OR

Write notes on-

- (a) Epistasis.
- (b) Types and causes of mutation.

4. Give a detail account on the structural aberrations of chromosomes.

OR

Write notes on-

- (a) Maternal inheritance.
- (b) Transformation.

5. Write in brief on the followings: -

- (a) Golgi complex.
- (b) CAM.
- (c) Polygenic traits.
- (d) Phenylketonuria.