



- **KEEPING MOBILE PHONE/ANY ELECTRONIC GADGETS, EVEN IN 'OFF' POSITION IS TREATED AS EXAM MALPRACTICE**
➤ **DON'T WRITE ANYTHING ON THE QUESTION PAPER**

Answer ALL Questions

(10 X 10 = 100 Marks)

1. How does the endoplasmic reticulum work in coordination with Golgi complex? Explain.
 2. Cell cycle regulation is a complex process – Describe in brief the various molecules involved in the regulation of cell cycle.
 3. What are the various methods by which glucose can be transported across the cell membrane? Explain with suitable examples.
 4. Describe the process of Ca^{2+} release and list out its various roles as a second messenger.
 5. Explain any two deviations of Mendel's laws with example.
 6. How does crossing over produce recombinant phenotypes? – Explain with suitable examples.
 7. Point out the differences in sex determination of humans, and drosophila.
 8. What is genomic imprinting? How do changes in the epigenetic memory cause diseases in human?
 - 9.(a)
 - i. Give the difference between prokaryotic and eukaryotic ribosomes.
 - ii. 'RBCs are prevented from busting due to underlying cytoskeleton support system' – Justify this statement.
- (OR)**
- 9.(b)
 - i. What are the different types of transport system used by viruses to enter the eukaryotic cell?
 - ii. With examples, explain paracrine and endocrine signaling systems.
 - 10.(a)
 - i. Explain Mendelian dihybrid cross with an example.
 - ii. Enlist various types of chromosomal changes.
- (OR)**
- 10.(b)
 - i. Write a note on Mitochondrial inheritance.
 - ii. What are the various indications of prenatal genetic counselling?