

CELLS BIOLOGY AND GENETICS – II

Time Allowed : Three Hours]

[Maximum Marks : 75

Note: The candidates are required to attempt *one* questions each from Sections A, B, C and D carrying 15 marks each and the entire Section E consisting of 10 short answer type questions carrying 1.5 marks each.

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| 1. | Give a detailed account on structure and functions of Nucleus. | Section : A | 15 |
| 2. | Write a detailed note on Mitochondria and Golgi Body. | Section : B | 15 |
| 3. | Describe in detail the structure of Chromosomes. | Section : B | 15 |
| 4. | Define plasma membrane. Discuss its structure in detail. | Section : C | 15 |
| 5. | Give a detailed account on replication of DNA. | Section : C | 15 |
| 6. | Write an illustrated account on Meiosis. | Section : D | 15 |
| 7. | Give detailed account on Law of Independent Assortment. | Section : D | 15 |
| 8. | Write notes on : | | |
| | (a) Transposon Elements | (b) DNA repair. | 7.5×2=15 |
| 9. | Attempt all parts in short : | Section : E | |
| | (a) Differentiate Prokaryotic cell from Eukaryotic cell. | | |
| | (b) Write function of Ribosomes. | | |
| | (c) Why is Mitochondria known as power house of cell ? | | |
| | (d) Define Duplication. | | |
| | (e) Write function of cell wall. | (i) Define genetic code. | |
| | (g) What do you mean by Linkage ? | (h) Law of segregation. | |
| | (i) Define Aneuploidy. | (j) What are sex chromosomes ? | 1.5×10=15 |