

B. Sc. III Year

Semester V

**EXAMINATION-2022**  
**PAPER NAME: CELL AND MOLECULAR BIOLOGY**  
**PAPER CODE: BBO-E501**

**Time: 3 hour**

**Max. Marks: 70**

**Min. Pass: 40%**

**Note:** Question Paper is divided into two sections: **A and B**. Attempt both the sections as per given instructions.

**BBO-E501**  
**SECTION-A (SHORT ANSWER TYPE QUESTIONS)**

**Instructions:** Answer any five questions in about 150 words each. Each question carries six marks. (5 X 6 = 30 Marks)

- Question-1: Describe the basic difference between DNA and RNA.
- Question-2: Explain the key difference between mitosis and meiosis.
- Question-3: Explain the principle of Scanning Electron microscope
- Question-4: Describe briefly the function of golgi bodies and lysosomes.
- Question-5: Describe briefly the characteristics feature of genetic code.
- Question-6: Write a short note on different stages of cell cycle.
- Question-7: Write down the steps for preparing a sample for scanning electron microscopy.
- Question-8: How to proof that DNA is a genetic material?
- Question-9: Explain the different structural forms of DNA.
- Question-10: What is the key difference between prokaryotic and eukaryotic translation.

**SECTION-B (LONG ANSWER TYPE QUESTIONS)**

**Instructions:** Answer any FOUR questions in detail. Each question carries 10 marks. (4 X 10 = 40 Marks)

- Question-1: Give a detail account on different forms of RNA and their function.
- Question-2: Describe the detail role of different enzyme in eukaryotic DNA replication.
- Question-3: Give a detail description on Lac operon system.
- Question-4: Give a detail account on DNA packaging in eukaryotes.
- Question-5: Explain in details the function of mitochondria.
- Question-6: Explain briefly the role of four different eukaryotic cell components.
- Question-7: Give a detail account on function/role of different types of membrane proteins.
- Question-8: Describe the structure and function of nuclear pore complex.

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