

Exam. Code : 107405

Subject Code : 2290

**B.Sc. (Biotechnology) 5th Semester**

**ANIMAL TISSUE CULTURE**

**Paper—BT-3**

Time Allowed—3 Hours] [Maximum Marks—40

**Note :—ALL** the questions in Section A are compulsory (maximum length  $\frac{1}{2}$  page). Attempt any **FIVE** questions from Section B (maximum length 2 pages) and **TWO** questions from Section C (maximum length 5 pages).

**SECTION—A (Marks : 1×8=8)**

1. Write a short note on essential media.
2. Describe briefly the P3 facility.
3. What is the chemical composition of DMEM media ?
4. Which microscope is required in ATC ?
5. Write a note on suspension type cell culture.
6. How phases of cell cycle are determined ?
7. Which are the major contaminants in ATC lab. ?
8. Why CO<sub>2</sub> incubator is used in ATC ?

**SECTION—B (Marks : 4×5=20)**

1. Mention any two methods to preserve cultures of microbes.
2. Define medium. What is the role of yeast extract and agar in the medium ?
3. Write a note on carbon, nitrogen and energy requirement of bacteria.
4. Define sterilization. Explain the use of moist heat to control micro-organisms.
5. Briefly describe the characteristics of an ideal antimicrobial chemical agent.
6. What do you understand by radiation sterilization ? Give mechanism and one example.
7. What is batch culture ?
8. Mention all the constituents present in serum.

**SECTION—C (Marks : 6×2=12)**

1. Describe in detail the P1 facility. How it differs from P4 facility ?
2. With well labeled diagrams, give a layout of ATC lab.
3. Mention in detail the protocols for setting primary cell culture and established cell line culture. Mention three applications of each.
4. Write a detailed note on different types of cell culture media used in ATC and their physiochemical properties.