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(20516)

B.Sc.(Micro.)-II Year

Roll No. ....

3495

## B. Sc. (Micro.) Examination, May 2016

### Cell Reproduction and Differentiation

(B-202)

Total Time: Hours

Maximum Marks : 35

Note:- Attempt any Five questions. All questions carry equal marks.

1. Differentiate between the following:      1×7
- Telomere and centromere
  - Euchromatin and heterochromatin
  - Polytene and Lampbrush chromosomes
  - Nucleosome and centrosome
  - Chromatid and chromosome
  - Arocentric and metacentric chromosome
  - Chromomere and centromere.

2. (a) Differentiate between metaphase-I and II of meiosis with suitable illustrations.      3½

(b) Describe cell cycle with emphasis on interphase, using suitable diagrams.      3½

3. (a) Describe various phases of meiotic prophase with suitable illustrations.      3½

(b) Differentiate between mitosis and meiosis.      3½

4. (a) Describe the structural organization of chromatids.      3½

(b) Discuss the organization of nucleosomes.      3½

5. (a) Differentiate between a plant and an animal cell.      3½

(b) Differentiate between a normal and a cancer cell.      3½

6. Describe cell signalling. How does a normal cell switch to cancerous cell?      7

7. Write a brief account of factors involved in intercellular recognition/rejection.      7

(3)

8. Write an account of the following :

(a) Cell adhesion 3½

(b) Ion transport across cell junctions. 3½

9. (a) Write an account of bacterial chemotaxis. 3½

(b) Write an account of chemical composition of chromosomes. 3½

10. Discuss regulation of cell differentiation. 7

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