V

(20516)

Roll No. 9661020

B.Sc.(Micro.)-II Year

3495

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

Cell Reproduction and Differentiation

(B-202)

Time : Three Hours] *[Maximum Marks : 35*

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

1. Differentiate between the following : 1×7
   (i) Telomere and centromere
   (ii) Euchromatin and heterochromatin
   (iii) Polytene and Lampbrush chromosomes
   (iv) Nucleosome and centrosome
   (v) Chromatid and chromosome
   (vi) Acrocentric and metacentric chromosome
   (vii) 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 nucleosome. 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

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

(20518)

Roll No. 16935891S

B. Sc. (Micro.)-II

3495

B. Sc. (Mircro.) Examination, May 2018

Cell Reproduction & Differentiation

(B-202)

[B. Sc. (Micro.)]

Time : Three Hours] *[Maximum Marks : 35*

Note : Attempt any *five* questions. All questions carry equal marks.

1. What are the chemical components of chromosomes ? 7

2. Describe the types of histones and their organization in a nucleosome. 7

3. Differentiate between the following : 3½×2=7
   (a) Meiotic metaphase-I and mitotic metaphase
   (b) Tight junctions and gap junctions.

4. Comment on the following : $3\frac{1}{2}\times2=7$
   (a) Desmosomes
   (b) Cell adhesion.

5. Write a note on organization of kinetochore. 7

6. Compare the steps of differentiation in plant and animals. 7

7. Describe the following : $3\frac{1}{2}\times2=7$
   (a) Polytene chromosomes
   (b) Lampbrush chromosomes.

8. Describe the events during various phases of cell cycle. 7

9. Discuss cell division with respect to meiosis and its significance. 7

10. Comment on the following : $3\frac{1}{2}\times2=7$
    (a) Intercellular recognition
    (b) Bacterial chemotaxis.