

End Semester Examinations - 2015-16 Even Semester - May 2016

14BT2059 Cell Biology and Microbiology

Set A

Time : 3 hrs
Total Marks: 100

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1. Summarize the valuable contribution of scientists and their experiments which culminated in the disproval of the Spontaneous generation theory. **[20 Marks]**.

OR

2. a. Elaborate the differences between Prokaryotes and Eukaryotes with a special mention of the various cell organelles and their functions. **[15 Marks]**.
b. Describe structure and function of some typical cells you have come across. **[5 Marks]**.

3. Explain the Lipid Composition, Structural Organization, Protein interactions and Function of Plasma Membrane. **[20 Marks]**.

OR

4. a. Discuss the various concepts of membrane transport mechanisms used by the Plasma Membrane to permit components in and out of the Cell. **[15 Marks]**.
b. Justify the concept of Protein folding and Chaperones as an important function in a Cell. **[5 Marks]**.

5. a. Interpret the significance of the statement, "*Genetic diversity is important for the evolution and species variation*", with neat diagrams. **[14 Marks]**.
b. List the differences between Mitosis and Meiosis with illustrations. **[6 Marks]**.

OR

6. Elaborate the phenomenon of Cell Cycle with a special mention of its Regulation, Check points and the role of CDKs in its progression. **[20 Marks]**.

7. Describe the role of Microorganisms in disease from its discovery to various important events which led to the development of Microbiology. **[20 Marks]**.

OR

8. a. Discuss the significance of microbial nutrition based on their nutritional requirement and nutritional types. **[10 Marks]**.
b. Elaborate the concept of Growth curve as a significant tool to assess growth of a Microorganism with a mention of its quantification methods to measure microbial growth. **[10 Marks]**.

9. Elucidate the Principle, Working and Application of the Scanning Electron Microscope and Transmission Electron Microscope and the strides they have made in the Field of modern Microscopy. **[20 Marks]**.

Wishing you All the Best
