

LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034



B.Sc. DEGREE EXAMINATION – ADVANCED ZOOLOGY AND BIOTECHNOLOGY

FIFTH SEMESTER – APRIL 2018

AZ 5516– CELL AND MOLECULAR BIOLOGY

Date: 27-04-2018

Dept. No.

Max. : 100 Marks

Time: 09:00-12:00

SECTION –A

ANSWER ALL THE QUESTIONS:(10X2=20 marks)

1. Define cell theory.
2. Mention any two differences between prokaryotes and eukaryotes.
3. What is vital staining ?
4. Define Oncogene
5. State the use of phase contrast microscope.
6. Comment on Peroxisomes.
7. Differentiate cilia and flagella
8. What is nuclear transplantation ?
9. What are the causes of DNA damage?
10. What are the hormones that control cell signaling?

SECTION –B

ANSWER ANY FOUR QUESTIONS:(4X10=40 marks)

11. Give an account of cell fractionation and differential centrifugation.
12. Explain the principle involved in phase contrast microscope.
13. Explain the basic principles of fixation.
14. Give the structure of mRNA.
15. Enumerate the characteristics of cancer cells.
16. Elaborate Cell cycle with illustration.

SECTION –C

ANSWER ANY TWO QUESTIONS:

(2X20=40 marks)

17. Explain the principle, working and application of Electron microscope.
18. Describe the structural organization of chromosome and add a note on Giant chromosomes.
19. Explain the central dogma, components and mechanism of protein synthetic machinery.
20. Describe DNA replication and repair mechanism.
