



K15U 0164

Reg. No. :

Name :

III Semester B.Sc. Degree (CCSS – Supple./Improve.)

Examination, November 2015

Core Course in Zoology

3B03 ZLG : CYTOLOGY AND IMMUNOLOGY

(2010-13 Admissions)

Time : 3 Hours

Max. Weightage : 25

Instruction : Draw diagram wherever necessary.

**SECTION – A
(Cytology)**

- I. Essay (Answer **any one**) (Wt. 4) : (Wt. 1×4=4)
- 1) Explain the structure and functions of mitochondria.
 - 2) What is cell cycle ? Explain the stages of cell cycle.
- II. Essay (Answer **any one**) (Wt. 4) : (Wt. 1×4=4)
- 3) Give an account on the structure and function of endoplasmic reticulum.
 - 4) Account on the principle, working mechanism and applications of light microscopy.
- III. Short essay (Answer **any one**) (Wt. 2) : (Wt. 1×2=2)
- 5) Differentiate between prokaryotes and eukaryotes.
 - 6) Discuss on the scope and significance of stem cells.
- IV. Short answers (Answer **any four**) (Wt. 1) : (Wt. 4×1=4)
- 7) Name any two vital stains.
 - 8) Comment on viroids.
 - 9) What are fixatives ? Give example.

P.T.O.



- 10) What are cytoskeleton ? Comment on their importance.
- 11) What is crossing over ?
- 12) What are giant chromosomes ?
- 13) Comment on aging.

V. Answer the following (Wt. 1 each) :

(Wt. = 2×1=2)

- 14) a) _____ is a connective tissue.
- b) _____ is used in the stage for calibrating a microscope during micrometry.
- c) _____ is an example for microbodies in a cell.
- d) _____ is the power house of a cell.

15) Match the following :

- | | | |
|-------------------|---|---------------------|
| a) Zygotene | : | Giant chromosome |
| b) Lamp brush | : | Electron microscopy |
| c) Microfilaments | : | Mitosis |
| d) Uranyl acetate | : | Microbodies |
| | : | Cytoskeleton |
| | : | Meiosis |

SECTION – B
(Immunology)

VI. Answer any two (Wt. 4) :

(Wt. 2×4=8)

- 16) What are antigens ?
- 17) Comment on opsonisation.
- 18) Account on autoimmune reactions.
- 19) Distinguish between cell mediated and humoral immunity.

VII. 20) Fill in the blanks (Wt. 1).

(Wt. 1×1=1)

- a) Expansion of MHC is _____
- b) Graves' disease is a _____
- c) IgG is class of _____
- d) _____ cells are involved in humoral immunity.