

Reg. No. :

Name :

**VI Semester B.Sc. Degree (CBCSS – OBE – Regular/Supplementary/
Improvement) Examination, April 2023
(2019 and 2020 Admissions)
CORE COURSE IN ZOOLOGY
6B09ZLG : Cell Biology, Immunology and Microbiology**

Time : 3 Hours

Max. Marks : 40

- I. **Essay questions (Each question carries 8 marks) Answer any two.**
- 1) Describe the structure of bacteria. Draw a neatly labelled diagram.
 - 2) Explain the functions of plasma membrane.
 - 3) Describe the structure of lysosome and functional significance of polymorphic forms of lysosomes. What is GERL concept ?
 - 4) Describe the different types of hypersensitivity. Add a note on autoimmune reactions. (8×2=16)
- II. **Short essay questions (Each question carries 4 marks) Answer any two.**
- 5) Describe the industrial and agricultural applications of Microbiology.
 - 6) What are the features of cancer cells ? Add a note on HeLa cells.
 - 7) Give a brief description about structure of lamp brush chromosomes, using a diagram. (4×2=8)
- III. **Short answer questions (Each question carries 2 marks) Answer any six.**
- 8) Differentiate heterochromatin and euchromatin.
 - 9) Draw a neat and labelled diagram of typical structure of antibody.
 - 10) Mention any four functions of endoplasmic reticulum.
 - 11) How do colchicine affect cell division ?
 - 12) Name the pathogen which causes the following diseases. Suggest preventive measures for each disease.
 - 1) Tuberculosis
 - 2) Poliomyelitis.

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- 13) Bring out the significance of fixation and cite an example for fixative.
 - 14) What is opsonisation ?
 - 15) Mention any two chemical sterilization techniques in microbiology. (2×6=12)
- IV. **Multiple choice questions. (Each question carries 0.5 marks) Answer all.**
- 16) Philadelphia chromosome is associated with which of the following diseases ?

a) Retinoblastoma	b) Chronic myeloid leukemia
c) Rheumatic fever	d) SARS
 - 17) Which of the following is a vital stain ?

a) Janus green	b) Eosin
c) Haematoxylin	d) Carmine
 - 18) Bergey's manual describes the system of classification of

a) Viruses	b) Bacteria
c) Algae	d) Fungi
 - 19) Immunoglobulin present in colostrum is

a) Ig A	b) Ig M
c) Ig D	d) Ig E
 - 20) The cell organelles involved in H_2O_2 metabolism

a) Lysosomes	b) Microbodies
c) Peroxisomes	d) Glyoxysomes
 - 21) Small molecules such as peptides or hormones, which are not immunogenic on their own but can become immunogenic when attached to protein carriers are called

a) Epitopes	b) Haptens
c) Idiotope	d) MHCs
 - 22) Chromosomes having centromere at or close to the terminal end is

a) Acrocentric	b) Metacentric
c) Telocentric	d) Submetacentric
 - 23) The ion which is involved in holding the two ribosomal subunits together is

a) Mg^{++}	b) Fe^{+++}
c) Na^+	d) Fe^{++}

(0.5×8=4)