

C 21113

(Pages : 2)

Name.....

Reg. No.....

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2017.

(CUCBCSS-UG)

Zoology

ZOL 6B 14—BIOTECHNOLOGY, MICROBIOLOGY AND IMMUNOLOGY

Time : Three Hours

Maximum : 80 Marks

Part A

I. Answer *all* questions in one or two sentences. Each question carries 1 mark.

- 1 What is a cosmid ?
- 2 What is GMO ?
- 3 What are prions ?
- 4 What are monoclonal anti bodies ?
- 5 What are mycoplasmas ?
- 6 What is fermentation ?
- 7 What is a probiotic ?
- 8 Write a note on macrophages.
- 9 What are adjuvants ?
- 10 Comment on epitopes.

(10 × 1 = 10 marks)

Part B

II. Answer any *ten* of the following. Each question carries 2 marks.

- 11 What are linkers ?
- 12 What are restriction enzymes ?
- 13 Write a note on molecular markers.
- 14 Comment on the significance of *Bacillus thuringensis*.
- 15 What are protists ?
- 16 Write down the technique involved in DNA sequencing.
- 17 Comment on Toxoid vaccines.
- 18 What are autoimmune diseases ?
- 19 Comment on tumour antigens.
- 20 Discuss the role of spleen in immunity.

Turn over

- 21 Mention various blotting techniques.
- 22 Comment on different sterilization techniques.

(10 × 2 = 20 marks)

Part C

III. Answer any *five* of the following. Each question carries 6 marks.

- 23 Describe the role of enzymes in gene cloning.
- 24 Examine the bacterial growth curve and comment on the different environmental factors controlling bacterial growth.
- 25 Write down the major steps in gene cloning.
- 26 Discuss various fungal diseases with suitable examples.
- 27 List any *five* WBCs and their distinct features.
- 28 Briefly describe the different antigen-antibody interactions.
- 29 Differentiate between Natural and Acquired immunity.
- 30 What are the principles and applications of PCR ?

(5 × 6 = 30 marks)

Part D

IV. Answer any *two* of the following. Each question carries 10 marks.

- 31 Write a short essay on the cells and organs of the immune system.
- 32 Mention the various microbial diseases in man.
- 33 Give an account on the different vectors used in gene cloning.
- 34 Discuss the applications of biotechnology in environment management.

(2 × 10 = 20 marks)