

SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, MARCH 2017

(CUCBCSS—UG)

Biotechnology

BTY 6B 17—MEDICAL BIOTECHNOLOGY

Time : Three Hours

Maximum : 80 Marks

Section A

*Answer any two out of four questions in about 1,500 words.
Each question carry 10 marks*

1. Explain the different physiological factors influencing the growth and survival of micro-organisms.
2. Write a detailed account on mechanism of antibody mediated immunity and its significance.
3. Describe host-pathogen interactions and virulence mechanism in salmonella and *Escherichia coli* infection.
4. Discuss Molecular methods of diagnosis of HIV.

(2 × 10 = 20 marks)

Section B

*Answer any seven out of fourteen questions in about 750 words.
Each question carry 5 marks.*

5. Explain the sterilization methods for culture media.
6. Comment on the culture selection method of *Penicillium*.
7. Explain the identification procedure of pathogenic micro-organism.
8. Give a brief account on classical pathway of complement components.
9. Write a detailed account on genetic organization of Ig genes in man.
10. Explain molecular and biochemical characteristics of ideal antigens.
11. Write an account on serological diagnosis of *Streptococcal* infection.
12. Define *Leptospirosis* infection and describe the diagnostic and preventive measures.
13. Write short notes on possible way of infection by Bacterial pathogens
14. What are the most important extra intestinal infections caused by *E. coli* with suitable examples ?
15. Describe the pathogenesis, laboratory diagnosis, and prophylaxis of Rabies.
16. Write short notes on Herpes virus.

Turn over

17. Give a detailed account on Immunoprophylaxis.
18. Define nosocomial infection and give examples.

(7 × 5 = 35 marks)

Section C

*Answer all questions in about 300 words.
Each question carry 3 marks*

19. Describe the various environmental parameters that affect the growth of micro organisms.
20. Explain the physiological barriers involved in innate immunity.
21. Classify *Staphylococcal* add a note on serological diagnosis of *Staphylococcal* infection.
22. Describe the domain structure of IgG molecule. Add a note on the functions of immunoglobulins.
23. Write a brief account on pathogenesis and diagnostics methods of H1N1.

(5 × 3 = 15 marks)

Section D

*Answer all questions in about 200 words.
Each question carry 2 marks.*

24. Comment on *Bacillus anthracis*.
25. Differentiate Epitope and Paratope.
26. What is Toxic shock Syndrome ?
27. Comment on Pox Virus.
28. Write notes on *Campylobacter jejuni* infection.

(5 × 2 = 10 marks)