

S.No. 2001

12UMBS04

(For the candidates admitted from 2012–2013 onwards)

B.Sc. DEGREE EXAMINATION, NOVEMBER 2017.

Fifth Semester

Microbiology

SBEC – EXTREMOPHILES

Time : Three hours

Maximum : 75 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions.

1. What are Hyperthermophiles?
2. Define Psychrophile. Give an example.
3. What is Pseudomurein?
4. What are thermoacidophiles?
5. Define Alkalophile.
6. Define Extremozyme.
7. What is stenothermal?
8. What are Xenobiotic compounds?

9. What are Xerophilic microorganism?

10. Define desulfurisation.

PART B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Write a brief account on adaptive mechanisms of acidophilic microorganisms.

Or

(b) Write a short note on importance of extremophiles in biotechnology.

12. (a) Write a short note on methanogenic bacteria.

Or

(b) Give a note on application of halophiles.

13. (a) Give an account on the role of microorganisms in the degradation of wastes containing cyanides.

Or

(b) Discuss then role of microorganisms in acid mine drainage.

14. (a) Write a short note on 'Life under pressure'.

Or

(b) Explain the characteristics of Halophilic.

15. (a) Write a brief account on Xenobiotic microbial degradation.

Or

(b) Give an account on Archaeal Cell Wall.

PART C — (3 × 10 = 30 marks)

Answer any THREE questions out of Five.

16. Give a detailed account on characteristics of archaebacteria.

17. Differentiate acidophiles from alkalophiles. Discuss the adaptation strategies of there organisms to survive in acidic and alkaline environment.

18. What are Halophiles? Discuss in detail the mechanisms adopted by a halophilic to survive at high salt concentration?

19. Define extermophile. Explain in detail about any two extremophile with example.

20. Discuss in detail the role of microorganisms in the degradation of xenobiotics and radioisotopic materials.