

**Q.P. Code – 42232**

**Second Semester B.Sc. Degree Examination, April/May 2019**

*(CBCS Scheme)*

**Biotechnology**

**Paper II – MICROBIOLOGY AND BIostatISTICS**

*Time : 3 Hours]*

*[Max. Marks : 90*

*Instructions to Candidates : Draw labelled diagrams wherever necessary.*

PART – A

- I. Answer any **TEN** of the following. **(10 × 2 = 20)**
1. Strain
  2. Mad cow disease
  3. Attenuation
  4. Psychrophiles
  5. Surface antigen
  6. Chemosynthetic bacteria
  7. Fungi imperfectii
  8. Carotenoids
  9. Candidiasis
  10. Population
  11. Nutrient agar
  12. Arithmetic mean

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PART – B

II. Answer any **SIX** of the following : **(6 × 5 = 30)**

13. Explain the contributions of Joseph Leister in the field of microbiology.
14. Explain the principle involved in phase contrast microscope.
15. Spread plate method.
16. Classify the bacteria based on flagella.
17. Simply staining.
18. Construct more than Ogive curve for the following :

Class Interval	Frequency
10-20	4
20-30	6
30-40	8
40-50	10
50-60	4

19. Construct a frequency polygon for the following data :

<i>x</i>	100-200	200-300	300-400	400-500	500-600
<i>f</i>	7	9	14	7	4

20. Represent the following data by  $\pi$  diagram.

Microorganisms	Number of people infected (in millions)
S. typhi	20
S. paratyphi	02
V. cholerae	05
Mycobacterium	46
HIV	30
Influenza	12

PART – C

- III. Answer any **FOUR** of the following. (4 × 10 = 40)
21. Explain electron microscope.
  22. Explain tri carboxylic acid cycle.
  23. What is pneumonia? Explain in detail.
  24. Explain the ultrastructure of bacteria.
  25. What is sterilization? Explain physical methods of sterilization.
  26. Discuss the causes, symptoms, pathogenesis and mode of transmission of Hepatitis-B virus.
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