



US – 388

II Semester B.Sc. Examination, May 2017
(CBCS – 2014-15 and Onwards/2011-12 and Onwards) (Fresh + Repeaters)
BIOTECHNOLOGY – II
General Microbiology and Biostatistics

Time : 3 Hours

Max. Marks : 70

- Instructions :** 1) Part – I and Part – II must be answered in **separate** booklets.
2) Draw **neat** labelled diagrams **wherever** necessary.

PART – I
(General Microbiology)

Section – A

- I. Answer the following : (4×2=8)
- 1) Antony Van Laeuwenhdek
 - 2) Cocci
 - 3) Basidiospore
 - 4) Typhoid.

Section – B

- II. Answer **any two** of the following : (2×6=12)
- 5) Differentiate the cell wall of gram positive and gram negative bacteria.
 - 6) Describe the principle and applications of membrane filter sterilization.
 - 7) Explain the construction and working principle of TEM.

Section – C

- III. Answer **any two** of the following : (2×10=20)
- 8) Explain various steps involved in photophosphorylation. Add a note on bacterial chlorophyll.
 - 9) Give detailed account on Hepatitis B Virus.
 - 10) Explain different types of stains used in microbial staining.
 - 11) Explain classification and reproduction of Mycoplasma.

P.T.O.



Section - D

IV. Answer the following :

(5×1=5)

- 12) What is HEPA ?
- 13) Define pasteurization.
- 14) What is perithetium ?
- 15) What is prophage ?
- 16) Name the Scientists who discovered glycolysis pathway.

PART - II

(Biostatistics)

(To be answered in a **separate** booklet)I. Answer **any four** of the following :

(4×5=20)

- 1) Represent the data by a histogram.

No. of eggs	0-10	10-20	20-30	30-40	40-50	50-60	60-70
No. of hens	16	20	13	15	6	2	1

- 2) The following are the marks scored by 11 students in Biostatistics, find out median.

15 18 14 10 9 20 30 21 6 13 10

- 3) A basket contains 10 red, 5 yellow and 20 green bell pepper. Two bell peppers are drawn at random. Find the probability that they both are green.

- 4) List merits and demerits of standard deviation.

- 5) A random sample of size 10 had a mean
- $\bar{x} = 14.3$
- and S.D. = 1.44. Test at the 5% level of significance that the mean of the population
- $\mu = 15$
- .

(table value ; $t_{0.05}$ for 9 degrees of freedom = 2.26)

- 6) Write the characteristics of Poisson distribution.

II. Answer the following :

(5×1=5)

- 7) What is a polygon ?
- 8) Mention the types of mean.
- 9) Write the formula for variance.
- 10) Name the types of hypothesis.
- 11) What is statistical probability ?