SM – 405

II Semester B.Sc. Examination, May/June 2018
(CBCS – 2014-15 and Onwards/2011-12 and Onwards)
(Freshers + 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) UV rays
2) Ca MV
3) Endospore
4) Psychrophiles.

SECTION – B

II. Answer **any two** of the following : **(2×6=12)**

5) Describe the contributions of Robert Koch in the field of Microbiology.
6) Explain the construction and working principle of compound microscope.
7) Write a note on structural staining methods.

SECTION – C

III. Answer **any two** of the following : **(2×10=20)**

8) Classify viruses. Add a note on lambda phages.
9) Give an account on AIDS.
10) Describe the steps involved in bacterial photosynthesis.
11) Classify bacteria based on their morphology and extreme environments with an example each.

P.T.O.

SECTION – D

IV. Answer the following : **(5×1=5)**

12) Who discovered penicillin ?

13) Expand TEM and SEM.

14) Give two examples of halogens used for sterilization.

15) Name the major constituent of bacterial capsule.

16) Define photophosphorylation.

PART – II
(Biostatistics)
(To be answered in a separate booklet)

I. Answer **any four** of the following : **(4×5=20)**

1) Represent the given data in a pie chart.

Types of flowers	**No. of flowers**
Roses	6
Jasmine	30
Lilies	48
Chrysanthemum	12
Daisy	24

2) Calculate median for the following data :

No. of seeds	Less than 10	10-20	20-30	30-40	40 and above
Frequency	4	8	14	6	4

3) Compute mean and standard deviation for the given data:

Height of boys in feet – 6.5, 6.3, 6.6, 5.6, 7.0, 5.3, 6.6, 6.8, 6.9, 5.5.

4) What is chi-square test ? List its applications.

5) Explain the characteristics of normal distribution. Add a note on its applications.

6) A bag contains 5 green and 3 yellow fruits. Two fruits are taken at random one after the other without replacement. Find the probability that both are yellow.

II. Answer the following : **(5×1=5)**

7) What is level of significance ?

8) Define frequency.

9) Mention the types of errors.

10) Give the formula for co-efficient of mean deviation.

11) Define hypothesis.
