

2020

01/10/2020

BOTANY (HONOURS)

PART- III

PAPER- X (PRACTICAL)

(Microbiology, Cell Biology, Genetics & Biostatistics)

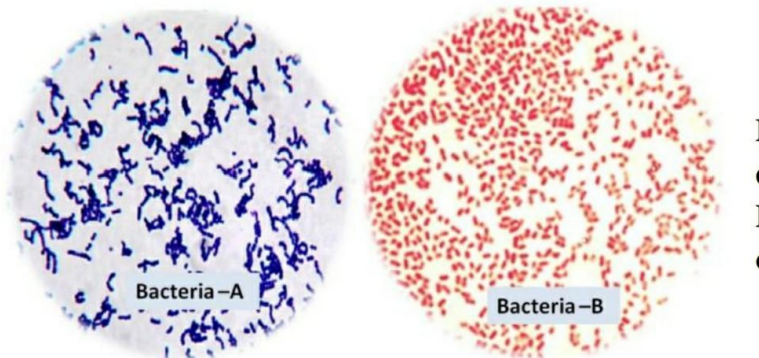
Full Marks – 80

Time: 4 hours

Answer any 5: (16x5= 80)

Q1. i) Describe the Gram staining procedure.

(8)



ii) Make a comment on the following pictures.

Q2. i) Determine the diploid ($2n$) stage of cell division and comment on the chromosome morphology of the chromosome counting divisional stage with proper labelled diagram in case of *Allium cepa*.

ii) Why does root of *Allium cepa* specially taken for this kind of experiments. (14+2=16)

Q3. i) Describe any two divisional stages of Reductional & Equational cell division each with proper labelled diagrams from the flower buds of *Allium cepa* (3.5x4=14)

ii) Why does flower buds are very much suitable for this experiment. (2)

Q4. i) Define Mean, Median & Mode. (2x3=6)

ii) Calculate the Mean, Median & Mode numbers of flowers in the following observation obtained from the garden plants record. (3+3+2)

Plant No.	1	2	3	4	5	6	7	8	9	10
No. Of flowers	20	17	25	18	23	21	16	26	20	13

Q5. Define Standard deviation & Standard error. Calculate the Standard deviation & Standard error value from the following table: (2+2+12=16)

No. Of pods/plant	15-17	18-20	21-23	24-26	27-29	30-32	33-35	36-38	39-41
No. Of plants	5	6	8	12	22	18	15	9	5

Q6. Define Chi Square. Write down the application of Chi Square. Justify Chi square for determination of goodness of fit. (2+6+8=16)

Q7. Calculate the Chi square value from the following tables: (8+8=16)

i) Table- 1:

No. Of classes	Characters	Observed value	Expected value
1	Yellow	428	435
2	Green	152	145

ii) Table- 2:

No. Of classes	Characters	Observed value	Expected value
1	Yellow	120	117
2	Green	88	91