

Roll No :

Total No. of Questions : 11]

[Total No. of Printed Pages : 3

SP-718

M.Sc. (Final) Examination, 2021

BIOTECHNOLOGY

Paper - VII

(Biostatistics, Bioinformatics and Computer Applications)

Time : 1½ Hours]

[Maximum Marks : 75

Section-A

(Marks : 2 × 10 = 20)

Note :- Answer all *ten* questions (Answer limit 50 words). Each question carries 2 marks.

(खण्ड-अ)

(अंक : 2 × 10 = 20)

नोट :- सभी दस प्रश्नों के उत्तर दीजिए (उत्तर-सीमा 50 शब्द)। प्रत्येक प्रश्न 2 अंक का है।

Section-B

(Marks : 5 × 5 = 25)

Note :- Answer all *five* questions. Each question has internal choice (Answer limit 200 words). Each question carries 5 marks.

(खण्ड-ब)

(अंक : 5 × 5 = 25)

नोट :- सभी पाँच प्रश्नों के उत्तर दीजिए। प्रत्येक प्रश्न में विकल्प का चयन कीजिए (उत्तर-सीमा 200 शब्द)। प्रत्येक प्रश्न 5 अंक का है।

Section-C

(Marks : 10 × 3 = 30)

Note :- Answer any *three* questions out of five. (Answer limit 500 words). Each question carries 10 marks.

(खण्ड-स)

(अंक : 10 × 3 = 30)

नोट :- पाँच में से किन्हीं तीन प्रश्नों के उत्तर दीजिए। (उत्तर-सीमा 500 शब्द)। प्रत्येक प्रश्न 10 अंक का है।

BI-352

(1)

SP-718 P.T.O.

Section–A

2 each

1. (i) What is Haward graphics ?
- (ii) Define Bubble sort.
- (iii) What is meant by measures of 'Central Tendency' ?
- (iv) Define Standard error and write its use.
- (v) Discuss LD₅₀.
- (vi) Differentiate direct and indirect essay.
- (vii) Define Bioinformatics.
- (viii) Discuss Query Language.
- (ix) What is meant by sequence alignment ? Discuss.
- (x) Describe annotation of genes.

Section–B

5 each

2. Write a note on Operating System.

Or

Write a brief account on Q-basic.

3. Discuss Standard deviation.

Or

Write a note on errors in Statistics.

4. Discuss Correlation.

Or

Write a note on ordination techniques.

5. Write a note on cell gene banks.

Or

How can protein sequence be identified from DNA sequence ? Discuss.

6. Write a note on homology algorithms for proteins and nucleic acids.

Or

Discuss DNA and protein micro-array.

Section–C

10 each

7. Write a detailed account on Computer Aided Learning.
8. (a) What are tests of significance ?
(b) In a garden pea, yellow cotyledon color is dominant to green and inflated pod shape is dominant to the constricted form. Considering both of these traits jointly in self-fertilized dihybrids, the progeny appeared in the following numbers :
193–green, inflated
184–yellow, constricted
556–yellow, inflated
61–green, constricted
Do these genes assort independently ?
(p value from the table for Chi-square for $df = 3$ at 0.05 is 7.815)
9. Discuss statistical modelling and its significance.
10. Describe different databases studied by you.
11. Write a detailed account on Proteome analysis.