



Date: 03-11-2018
Time: 09:00-12:00

Dept. No.

Max. : 100 Marks

Part A

Answer the following, each within 50 words:

(10 x 2 =20 marks)

1. Write notes on PDB.
2. Expand NCBI and EMBL.
3. Define annotation.
4. Write notes on FASTA.
5. What is splicing?
6. Draw and label a phylogenetic tree.
7. Comment on Ogire curve.
8. Find the coefficient of range of the following data: 45, 62, 36,18, 96, 38, 52, 77, 88
9. What are the different types of correlation?
10. Define population and sample.

PART B

Answer the following, each within 500 words. Draw diagrams and flowcharts wherever necessary.

(5 x 7 = 35 marks)

11. (a) Give a brief account on the basics of the internet.

Or

- (b) Write a short note on nucleotide sequence databases.

12. (a) Discuss briefly on the multiple sequence alignment tool CLUSTAL.

Or

- (b) Write short notes on Hidden Markov Model (HMM).

13. (a) Give a brief account on motif-based databases.

Or

- (b) Write notes on RasMol as a protein visualization tool.

14. (a) Discuss briefly on the diagrammatic representation of data.

Or

(b) Calculate the arithmetic mean of the following series:

Plant height (cms)	0-10	10-20	20-30	30-40	40-50	50-60
Number of varieties	5	10	25	30	20	10

15. (a) In a flower breeding experiment, 107 magenta flowers with green stigma, 42 magenta flowers with red stigma, 38 red flowers with a green stigma and 13 red flowers with a red stigma were obtained. Mendel's law predicts the ratio to be 9:3:3:1 and the tabulated χ^2 value at 5% is 7.81 for 3 d.f. Draw your conclusions based on the calculated χ^2 value.

Or

(b) Give a short account on SPSS and MS Excel.

PART C

Answer any three of the following, each within 1200 words. Draw diagrams and flowcharts wherever necessary. (3 x 15 = 45 marks)

16. Give a detailed account on primary, secondary and composite databases.

17. Write in detail on the phylogenetic tree construction and analysis.

18. Give an account on the methods employed for genome annotation.

19. Calculate the mean, the standard deviation, variance and coefficient of variation for the following data:

x	2	4	6	9	11	6	5	3
y	21	24	27	31	35	20	17	11

20. Write in detail on the different methods of sampling.
