

DECEMBER 2015

P/ID 40229/PBTJ

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Time : Three hours

Maximum : 100 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions each in 50 words.

Write short notes on :

1. Chargaffs' rule
2. cDNA library
3. Shuttle vector
4. Polycistronic m-RNA.
5. DNA probe
6. Shine-Dalgarno sequence
7. PCR
8. Genome annotation
9. Patent
10. BLAST.

PART B — (5 × 6 = 30 marks)

Answer ALL questions each in 250 words.

11. (a) Explain the rolling circle model of DNA replication.

Or

- (b) What is drug targeting-explain?

12. (a) How will you construct a genomic library?

Or

- (b) What is microinjection? Mention its limitations.

13. (a) Give an account of DNA repeat sequence.

Or

- (b) Explain the working principle of RFLP and mention its uses.

14. (a) Comment on post translational modifications of proteins.

Or

- (b) Write a brief note on DNA Microarray.

15. (a) Write a note on phylogenetic tree and its components.

Or

- (b) Write a note on Western blotting.

PART C — (5 × 10 = 50 marks)

Answer ALL questions each in 500 words.

16. (a) Explain the process of Translation.

Or

- (b) Write the salient features of Genetic code.

17. (a) Write a critical account on *trp- opron*.

Or

- (b) Write the structure and functions of the different types of RNA.

18. (a) Explain the methods of gene finding.

Or

- (b) Write short notes on Data base.

19. (a) Write an essay on application of rDNA technique in agriculture.

Or

- (b) Write short notes on (i) Electrophoration and (ii) liposome fusion.

20. (a) Explain the various steps involved in genetic engineering.

Or

- (b) Write a protocol to generate glyphosate tolerant plants by co-cultivation of tissues with *Agrobacterium*.