MAY 2015 **P/ID 40229/PBTJ**

Time : Three hours Maximum : 100 marks

PART A — (10 × 2 = 20 marks)

Answer ALL questions each in 50 words.

Write short notes on :

1. Scope of molecular biology.
2. Electrophoresis.
3. Nucleic acids.
4. Super helical DNA.
5. DNA hybridization.
6. Chromosome.
7. Transcription.
8. Bacteriophage.
9. Cloning.
10. Endotoxins.

PART B — (5 × 6 = 30 marks)

Answer ALL questions each in 250 words.

11. (a) Write an account on differential centrifugation

Or

(b) Give the protocol for isolation of DNA.

12. (a) Differentiate circular DNA from super coiled DNA.

Or

(b) Explain the various classes of RNA.

13. (a) Give an account on eukaryotic transcription.

Or

(b) Write a short note on the genetic code of mitochondria.

14. (a) Explain the control method of *ara* - operon.

Or

(b) Write a short note on microinjection.

15. (a) Discuss the protocol of RFLP.

Or

(b) Explain Southern hybridization method.

PART C — (5 × 10 = 50 marks)

Answer ALL questions each in 500 words.

16. (a) Explain the various types of DNA.

Or

(b) Give an account on PAGE.

17. (a) Discuss the tools of mRNA technology.

Or

(b) Discuss the principle, protocol and applications of DNA fingerprinting.

18. (a) Discuss the mechanism of regulation of Lac operon.

Or

(b) Discuss the various steps involved in PCR. Add a note on its significance.

19. (a) Discuss the principle and methodology of obtaining herbicide resistant plant.

Or

(b) Give an account of vectors.

20. (a) How do you perform *Agrobacterium* mediated gene transfer?

Or

(b) Comment on following :

(i) *Bacillus thuringiensis.*

(ii) IPR.

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