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Reg. No. : .....

Name : .....

Sixth Semester B.Sc. Degree Examination, March 2021

Career Related First Degree Programme under CBCSS

Common for Group 2(a) Botany and Biotechnology and Group 2(b) Biotechnology (Multimajor)

BB 1641/BV 1641.1 : GENETICS

(2015 - 2017 Admission)

Time : 3 Hours Max. Marks : 80

SECTION – A

Answer **all** questions in a word or one or two sentences. Each question carries **1** mark.

1. Define Cistron.
2. What is Crossing Over?
3. Define Back Cross and Test Cross.
4. What is Central Dogma?
5. What is a Termination Codon?
6. What is Enhancer?
7. What is Sigma Factor?

P.T.O.

8. What is Rolling Circle Mechanism?

9. What is Chargaff Rule?

10. Who is Popularly known as the 'Dark Lady of DNA'?

(10 × 1 = 10 Marks)

SECTION – B

Answer **any eight** questions. Each question carries **2** Marks. (Answer not to Exceed **One** Paragraph)

11. Differentiate Between Recon and Muton.

12. Describe the Structure of 'A' form of Nucleic Acid.

13. What is overlapping Gene?

14. Explain Interference and Coincidence.

15. What are Duplicate Genes? Explain with examples that you have studied.

16. Explain Chiasma Formation.

17. Write Short note on DNA Polymerase.

18. Explain Turner's Syndrome.

19. What is Telomere and How it is related to Aging?

20. What is SOS repair?

21. What is Repetitive DNA?

22. Comment on Cellular Oncogenes.

(8 × 2 = 16 Marks)

SECTION – C

Answer **any six** Questions. Each question carries **4** Marks. (Answer not to exceed **120** Words)

23. How eye colour in Drosophila is Inherited?

24. Explain Complementary Gene interaction with an example.

25. What is Cell Cycle? What are the different Stages in the Cell Cycle?

26. Why Initiation of DNA synthesis needs RNA Primer?

27. Comment on Topoisomerase.

28. Explain Dominant Epistasis.

29. Explain the role of Helicase and Primase.

30. Explain the Meselson and Stahl Experiment and Its Implications.

31. What is alternate splicing of RNA?

(6 × 4 = 24 Marks)

SECTION – D

Answer **any two** questions. Each questions carries **15** marks. (Answer not to exceed **3** pages)

32. Explain the Hardy Weinberg law of equilibrium and comment on the factors affecting it.

33. Explain chromosomal basis of the Transcription and Translation in Eukaryotes.

34. Explain sex determination.

35. Describe extranuclear inheritance with examples.

(2 × 15 = 30 Marks)
