

E 6451

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Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2019

Sixth Semester

Choice Based Course—DISEASE AND DIAGNOSTIC BIOTECHNOLOGY

(For B.Sc. Biotechnology)

[2013 Admission onwards]

Time : Three Hours

Maximum Marks : 80

Part A

Answer all questions.

Each question carries 1 mark.

1. What is FISH ?
2. Give an example of triplet disorder ?
3. Name the largest human gene ?
4. Define SNP.
5. What is the use of karyotyping ?
6. 21st Trisomy is termed _____.
7. Name a tumor marker gene.
8. What is the pathogen of Avian Flu ?
9. What is STR ?
10. What is ELISA ?

(10 × 1 = 10)

Part B

Answer any eight questions.

Each question carries 2 marks.

11. What are autosomal disorders ?
12. Name any two chromosome binding techniques.
13. What is the genetic basis of Turner's syndrome ?
14. Define Phenylketonurea.
15. What is DNA fingerprinting ?

Turn over

16. Define haemoglobinopathies.
17. What is meant by metastasis ?
18. What is amniocentesis ?
19. Define human genome. Mention its size in bp.
20. What is immunoarray ?
21. What is RT-PCR ?
22. What is amyloid ?

(8 × 2 = 16)

Part C

*Answer any six questions.
Each question carries 4 marks.*

23. Give the significance of mitochondrial genome sequencing.
24. Give the symptoms and diagnostic methods of avian flu.
25. Explain the role of electron microscopy in disease diagnostics.
26. Explain the structure and functions of haemoglobin.
27. What are the types of ELISA ? Give its working principle.
28. What is the basis of molecular testing for cancer ?
29. What are haemoglobinopathies ? Give the genetic background.
30. What is the use of ligation chain reaction ?
31. What is the molecular basis of sickle cell anemia ?

(6 × 4 = 24)

Part D

*Answer any two questions.
Each question carries 15 marks.*

32. What are the approaches used for the diagnosis of cancer ?
33. Describe the strategies adopted for DNA Typing. Give its applications.
34. What is the principle of southern blotting ? Explain with the help of a labelled diagram.
35. Explain the molecular genetics of :
 - (a) Fragile X syndrome.
 - (b) Cystic Fibrosis.
 - (c) Down syndrome.
 - (d) Duchenne's muscular dystrophy.
 - (e) Alzheimer's disease.

(2 × 15 = 30)