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Reg. No.....

Name.....

**B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2016**

**Sixth Semester**

Choice Based Course—DISEASE AND DIAGNOSTIC BIOTECHNOLOGY

(2013 Admissions)

[For B.Sc. Biotechnology]

Time : Three Hours

Maximum : 80 Marks

**Part A (Objective Type Questions)**

*Answer all questions. 1 mark each.*

1. Name a triplet disorders with *x*-linked recessive inheritance.
2. What do you mean by Turner's syndrome ?
3. Expand HIV.
4. What is southern blot ?
5. What is ELISA ?
6. Which is the most dangerous subtype of the virus causing bird flu ?
7. What do you mean by immunoassay ?
8. Define STR testing.
9. What is the source of illumination in electron microscope.
10. What are restriction enzymes ?

(10 × 1 = 10)

**Part B (Short Answer Type Questions)**

*Answer any eight of the following. 2 marks each.*

11. Distinguish between PCR and LCR
12. Describe the principle of PAGE
13. What are the symptoms of chikungunya ?
14. Write a note on electron microscopy.
15. What is spectral karyotyping ?
16. Give two examples of human autosomal genetic disorders.
17. What are the differences between FISH and CGH ?
18. Give a brief note on myotonic dystrophy.

**Turn over**

19. Describe the symptoms of Huntington's disease.
20. Write a note on Duchenne's muscular dystrophy.
21. What do you mean by autosomal disorder ?
22. List out any four methods to diagnose cancer.

(8 × 2 = 16)

### Part C (Short Essay Type Questions)

*Answer any six of the following. 4 marks each.*

23. Describe the phenotypes of  $\beta$  thalassemia.
24. Write a note on cystic fibrosis.
25. Explain how can we identify disease genes.
26. Distinguish between position independent strategy and positional cloning.
27. Describe the molecular basis of sickle cell anaemia.
28. Write short note on array based genetic profiling.
29. Write down the importance of karyotypic analysis in disease diagnostics.
30. Write an account on molecular testing of BRCA2.
31. Describe the role of RTPCR in disease diagnostics.

(6 × 4 = 24)

### Part D (Essay Type Questions)

*Answer any two of the following. 15 marks each.*

32. Explain the causes, symptoms and molecular mechanism of haemoglobinopathies.
33. Discuss the various methods for the identification of disease genes in chromosomal disorders.
34. Describe the procedure of DNA typing by STR and discuss its significance.
35. Write a note on the methods used for the diagnosis of viral disease.

(2 × 15 = 30)