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D – 2535

Reg. No. : .....

Name : .....

Fifth Semester B.Sc. Degree Examination, December 2017
First Degree Programme Under CBCSS
Zoology
Core Course – VI
ZO 1543 : GENETICS AND BIOTECHNOLOGY
(Common for 2013 and 2014 Admission)

Time : 3 Hours

Max. Marks : 80

All Saints' College Trivandrum

I. Answer the following questions. (In **one** or **two** sentences. **Each** question carries **one** mark.)

1) Test cross.
2) Lethal gene.
3) Pleotropism.
4) Episome.
5) Induced mutation.
6) Alkaptonuria.
7) Kappa particle.
8) Transgenic bacteria.
9) Barr bodies.
10) Ligases.

(10×1=10 Marks)

II. Answer **any eight** of the following. (**Not** to exceed **one** paragraph. **Each** question carries **two** marks.)

11) Genotype and phenotype.
12) Incomplete dominance.
13) Dosage compensation and Lyon hypothesis.
14) Base analogues.

15) Mitochondrial DNA.

16) Restriction endonucleases.

17) Gene cloning.

18) Southern blotting.

19) Gene Doping.

20) Edwards syndrome.

21) Heteroploidy.

22) Sex linked inheritance. **(8×2=16 Marks)**

III. Answer **any six** of the following. (**Not** to exceed **120** words. **Each** question carries **4** marks.)

23) Give an account on plasmids.

24) Explain stem cell therapy.

25) Comment on DNA finger printing.

26) Add a note on chromosome theory of sex determination.

27) Explain human sex chromosomal anomalies.

28) Explain complementary gene interaction with a suitable example.

29) Write notes on cytoplasmic inheritance with a suitable example.

30) Comment on multiple alleles.

31) Explain DNA vaccines. **(6×4=24 Marks)**

IV. Answer **any two** of the following. (**Each** question carries **15** marks.)

32) Write a note on applications of biotechnology in medicine and agriculture.

33) Describe the various types of blotting techniques.

34) Explain interaction of genes with examples.

35) Write an essay on Mendelian experiments on inheritance of characters.

(2×15=30 Marks)

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