STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
(For Candidates admitted during the academic year 2011 – 12 & thereafter)

SUBJECT CODE: 11ZL/MC/GN34

B.Sc. DEGREE EXAMINATION - NOVEMBER 2014
BRANCH VI A – ADVANCED ZOOLOGY & BIOTECHNOLOGY
THIRD SEMESTER

COURSE : MAJOR CORE
PAPER : GENETICS
TIME : 3 HOURS **MAX. MARKS: 100**

SECTION A

ANSWER ALL QUESTIONS **(10X3=30)**

1. Differentiate between

   a) Test cross and back cross b) Dominance and Recessive character

2. What are Gynandromorphs?

3. Fill in the blanks

   a) _____ characters can be quantified.

   b) _____genomic constitution is seen in Klinefelter's syndrome.

   c) 5- Bromouracil is a structural analogue of _____.

4. Give an example for each of the following

   a) Sex- linked genes b) Sex influenced genes c) Y-linked genes

5. Define the following

   a) Transgressive variation b) Free martinism c) Base analogue

6. Name any three diseases in man caused due to lethal genes.

7. Comment on Homeotic genes in Drosophila.

8. What do you mean by continuous and discontinuous inheritance?

9. What are the following?

   a) Oncogenes b) Eugenics c) Hybrid vigour

10. Write the characteristic feature of the following

    a) Turner's syndrome b) Male haploidy c) Multiple Alleles

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SECTION B

ASWER ANY FIVE QUESTIONS (5X6=30)

11. Explain maternal influence on shell coiling in Limnaea.
12. How does linkage differ from independent assortment? Explain with an example.
13. Briefly, discuss Bridges Genic Balance theory of sex determination in Drosophilla.
14. What are the genetic effects of inbreeding?
15. Describe the structure of an antibody.
16. Differentiate between incomplete and co-dominance. Give examples.
17. Write short notes on

    a) Down's syndrome b) Frame shift mutation

SECTION C

ANSWER TWO QUESTIONS (2X20=40)

18. Explain Mendel's law of inheritance with examples.
19. What are sex-linked genes? Explain sex-linked inheritance in man with examples.
20. Discuss the molecular basis of gene mutation.
21. Give an account of Inborn errors of Phenylalanine metabolism in man.

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