

**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 2015**  
**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. Penetrance
  - b. Expressivity
2. Law of Independent assortment-Define and write its significance.
3. **Fill in the blanks.**
  - a. The masking of a trait by another trait determined by a different pair of genes is known as-----
  - b. The character of both alleles which are equally dominant are expressed and none is masked. This phenomenon is called -----
  - c. ----- is a cross of F1 hybrid with any one of its parents.
4. Give an example for each of the following
  - a. Gynandromorphs
  - b. Sex limited gene
  - c. Lethal gene
5. Define the following
  - a. Law of dominance
  - b. Point mutation
6. Mention any three examples for sex influenced gene.
7. Comment on Barr body
8. What is Mutagen?
9. Explain Hybrid Vigour.
10. Define Eugenics.

**SECTION B**

**ANSWER ANY FIVE QUESTIONS**

**(5X6=30)**

11. Explain dihybrid cross with experiment.
12. “Lethal genes do not live to reproduce”-Explain.
13. Explain multiple gene inheritance with examples.
14. Write the principles of linkage and the factors affecting it.
15. Give an account on “chromosomal mechanism of Sex determination”.
16. Write an essay on “Inbreeding and outbreeding”.
17. Describe the structure of Antibody.

**SECTION C**

**ANSWER TWO QUESTIONS**

**(2X20=40)**

18. Explain the process of extra chromosomal inheritance.
19. Give a detailed account on Multiple alleles.
20. What is Crossing over? Describe the mechanism of Crossing over and add a note on its significance.
21. Inborn errors of metabolism are metabolic diseases-Explain.

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