MSC DEGREE END SEMESTER EXAMINATION APRIL - 2015
M SC BOTANY   SEMESTER - 2
COURSE : P2BOTT08 - GENETICS AND BIOCHEMISTRY

Time: 3 Hours   Max. Marks: 75

PART-A

I.   Answer **any eight** questions briefly; each question carries **2** marks

1. Distinguish between incomplete dominance and co-dominance.
2. What is coefficient of coincidence?
3. Draw the structure of lactose.
4. What is Dixon plot?
5. Define the terms co-factorsc and co-enzymes.
6. What is biological importance of lectins?
7. Cancers in some cases are inherited. Comment.
8. What is a chromosome map?
9. Differentiate allele frequency from genotype frequency.
10. What is the biological significance of phenolics?
11. What is the role of p53 in human breast cancer.
12. Explain the concept of acids and bases.

(2 x 8 = 16)

PART-B

II.   Answer **any seven** questions; each question carries **5** marks

13. Describe Ramachandran plot.
14. Classify proteins based on structure and function?
15. Briefly explain the mechanism of multi substrate reaction.
16. Describe the biosynthesis of lipids .
17. What is genetic drift? Explain how it alters the equilibrium of random mating population.
18. Explain how chromosomal rearrangements lead to cancer.
19. Explain the biosynthesis of purine nucleotides.
20. Describe the structure and classification of co enzymes.
21. What is industrial melanism? Explain.
22.   What is cytoplasmic inheritance? Illustrate with examples.

(5 x 7 = 35)

PART-C

III. Answer **any two** questions; each question carries **12** marks

23. Explain the mechanism of enzyme activity.

OR

24. Write an essay on Hardy Weinberg equilibrium and its applications.

25. What are lipids? Classify with examples and add short notes on their biological functions.

OR

26. What is sex determination? Explain various mechanisms involved.

(12 x 2 = 24)