

M.Sc., Botany –Summative Examinations
Code: LPBYCT42 **Semester: IV**
PLANT BIOCHEMISTRY AND METABOLISM
Duration: 3 Hrs. **Max: 75 Marks**

$$5 \times 1 = 5$$

1. The energy rich molecule in nucleic acid is K2
 - a) Phosphorus
 - b) Zinc
 - c) Cobalt
 - d) Calcium
2. The enzyme responsible for joining of DNA K2
 - a) T4 DNA ligase
 - b) Transferase
 - c) Polymerase
 - d) Endonuclease
3. An example of structural polysaccharides of insects? K2
 - a) Chitin
 - b) Cellulose
 - c) Hemicellulose
 - d) Pectin
4. The α -helix and β sheets of proteins are called as K2
 - a) Primary structure
 - b) Secondary structure
 - c) Tertiary structure
 - d) Quaternary structure
5. Digestion of DNA is said to be K2
 - a) Denaturation
 - b) Renaturation
 - c) Annealing
 - d) Splicing

II. Fill in the blanks**5 x 1 = 5**

6. The other name given to Gibbs energy is called as.....K1
7. The central bivalent metal cation of chloroplast is..... K1
8. The disaccharides of sucrose consist of
&.....monomers.K1
9.is an example of sulphur containing amino acids. K1
10. Extra chromosomal DNA of Prokaryotic cell is referred to as
..... K1

SECTION-B**5 x 2 = 10****Answer all the questions.**

11. Define: Enthalpy. K2
12. Comment on Co-factors. K2
13. Give brief note on terpenoids. K3
14. State about aromatic aminoacids. K4
15. Short note on cot values of DNA. K2

SECTION-C**5 x 5 =25****Answer all questions choosing either (a) or (b) in about two pages each.**

16. (a) Explicit the laws of thermodynamics with suitable Examples. **K1**
(Or)
(b) With suitable diagram explain the redox- potential. K1
17. (a) Describe the mechanism of enzyme reactions. K2
(Or)
(b) Elaborate note on properties of enzymes. K2

18. (a) Outline the classification of carbohydrates with examples. K2
(Or)

(b) Present the process and significance of gluconeogenesis. K2

19. (a) Describe the biosynthesis of aminoacids with reference to GS. K3

(Or)

(b) Discuss in detail about Ramachandran plot. K3

20. (a) Distinguishes homochromatin from heterochromatin with illustrations. K4

(Or)

(b) Give an elaborate note on organelle genome organization. K4

SECTION-D**3 x 10 = 30****Answer any three questions in about four pages each.**

21. "ATP as a universal energy currency of biological cell"-
Substantiate. K1
22. Expound the Michaelis Menten equation of enzyme kinetics. K2
23. With suitable flow chart explain the sequential reactions of β -oxidation. K3
24. Enumerate the general characters of proteins. Add a note on its structural organizations. K4
25. Elucidate the structure of DNA double helix proposed by Watson and Crick. K5