

Subject II

(501-503)

Answer the following short answer type questions:

1. What is Kranz Anatomy?
2. What is the full form of PRPP?
3. What is the Purine Salvage pathway?
4. Define the first law of thermodynamics?
5. Difference between homopolysaccharide and heteropolysaccharide.
6. Give the chemical structure of Leucine?
7. Give the reaction of oxidative decarboxylation
8. Give the other name of HMP Pathway?
9. Why is it given another name?
10. Define oxidizing and reducing agent?
11. What is fermentation?
12. Define density gradient ultracentrifugation
13. Write any one difference between calorimeter and spectrophotometer.
14. Define stress conditions What is detoxification of secondary metabolites?
15. Write the physical factors which controls alkaloid production in nature.
16. How the commercial production of secondary metabolites can be done?
17. Write any one limitation of biotransformation.

18. What is ex-situ conservation of germ plasm?
19. Define traditional system of medicine.
20. What are secondary metabolites?
21. Define lithosphere.
22. What is nitrification?
23. Define El. Nino.
24. Noise pollution is measured in which unit?
25. Why Environmental Protection Act was made and when?
26. What is biomarker?
27. Give the meaning of bioreactor.
28. Define biodiversity.
29. Write the range of pH of acid rain.
30. Expand IUCN.
31. Define fatty acid

Part B

1. Describe the mechanism of pentose phosphate and glyoxylate shunt pathway?
2. Describe the mechanism of glycolysis?
3. Describe the structure, classification and fat oxidation?
4. Describe the various steps in oxidation of amino acid.
5. Write an account on biosynthesis of purine nucleotide?
6. Explain the phosphorus and sulphur regulation.

7. Write in brief about the tools and techniques used in isolation of secondary metabolites.
8. Write about the distribution of secondary metabolites in plants.
9. Write an essay on detoxification of secondary metabolites.
10. What is bioconversion? How genetic engineering is useful in the production of plant secondary metabolites
11. Write about the biotechnological approaches in the production of secondary metabolites.
12. Write an essay on global environmental problems and their consequences.
13. Describe various steps involved in aerobic treatment of sewage water.
14. How many different types of bioresources can be used for biogas production?
Explain the process of any one of them
15. Describe the different types of organisms used in bioremediation of waste water and solid waste materials, Give two examples of bioremediation of heavy metals and nitrogenous wastes.
16. What are biosensors? Give examples of biosensors used in agriculture and analytical methods along with their description
17. Write notes on
 - a. Bioreactor
 - b. Applications of Biotransformation,
 - c. Write notes on

- d. Regulation of gene expression
- e. Production of industrially important chemicals.
- f. Write notes on:
- g. Production of secondary metabolites in stress conditions
- h. Alkaloids production.
- i. Write short notes on:
- j. Emerson effect
- k. Chlorophyll
- l. Crassulacean acid metabolism.
- m. Write short notes on:
- n. Biosynthesis of steroids
- o. Biosynthesis of ketone bodies.
- p. Write notes on :
- q. Food Chain
- r. Air Pollutants.
- s. Write notes on
- t. Activated sludge process
- u. Trickling filter
- v. Write notes on:
- w. Waste disposal and management
- x. Bio indicators of polluted water.
- y. Lactic acid synthesis in muscles