

NOTE:

1. Attempt all questions.
2. All questions carry equal marks.
3. Draw neat labeled diagrams wherever necessary.
4. For Q 2, Q 3 and Q 4 attempt A and B OR C and D.

Q 1 Do as directed (Any fifteen)

15

1. Hemoglobins are _____ forms.
 - a. Tetramer
 - b. Monomer
 - c. Dimer
 - d. Trimer
2. Define Enzymes.
3. Which element is used in wound healing?
4. Dietary allowance of Copper recommend _____ in a day
 - a. 2-3 mg/d.
 - b. 200-300 mg/d
 - c. 100-200 mg/d.
 - d. 125-200 mg/d
5. Define Addition reaction.
6. _____ catalyzes the decomposition of hydrogen peroxide to water and oxygen.
 - a. Catalase
 - b. Carboxy Peptidase
 - c. peroxidase
 - d. ligase
7. What is the first principle of green chemistry?
8. What is the full form of VOC?
9. Which of the following is green solvent ?
 - a. Formaldehyde
 - b. Benzene
 - c. Water
 - d. Ethanol
10. Write the term missing in the following equation.
Risk = Hazard x _____
11. Give one Relevance Green Chemistry.
12. True or False. Avoiding the use of catalysts is one of the twelve principles of Green chemistry.
13. Find out% atom economy. $\text{N}_2 + 3\text{H}_2 \rightarrow 2\text{NH}_3$
14. Microwaves have wavelength between _____
 - a. 1 cm to 1 m
 - b. 20-100 KHz
 - c. 200- 400 nm
 - d. None of these
15. Theoretical yield = _____ X $\frac{\text{Molecular weight of product}}{\text{Molecular weight of reactant}}$
 - a. Weight of reactant used
 - b. Weight of product used
 - c. 100
 - d. None of the above
16. The condensation of a compound containing dimethyl amine, acetophenone and formaldehyde to form beta amino compound is called _____ reaction.
 - a. Mannich
 - b. Hantzsch
 - c. Cannizaro
 - d. Reformatsky
17. Reduction of 2-butyne to cis-2- butene as major product and trans-2-

butene (minor product) is an example of _____ reaction.

- a. Regioselectivity
b. Diastereoselective
c. Enantioselective
d. Chemo selective
18. Explain the term 'Synthon'.
19. Give the formula to calculate % Yield
20. Give one example for synthetic equivalent (SE)

Q. 2 A Write on the biochemical importance, dietary sources and dietary allowance of Sodium. 08

Q. 2 B Write a note on Metal Complexes in Medicines. 07

OR

Q. 2 C Write briefly on the Macronutrients. 08

Q. 2 D Explain in detail about peroxidase enzymes. 07

Q. 3 A Explain benefits of 'Green chemistry' to human health and environment. 08

Q. 3 B Explain Atom economy with two suitable examples. 07

OR

Q. 3 C Explain twelve principles of Green chemistry with suitable examples. 08

Q. 3 D Explain green solvent as Supercritical CO₂ 07

Q. 4 A Describe criteria for ideal organic synthesis. 08

Q. 4 B Elaborate multicomponent reaction with one example. 07

OR

Q. 4 C Write reactions of polymer supported polypeptide synthesis 08

Q. 4 D Explain concept of chemoselectivity and enantioselectivity in organic synthesis reaction 07

Q. 5 Write Short notes on **any three** of the following 15

- a. Types of Elimination reaction
b. Structure of heme group
c. Homogeneous and Heterogeneous Catalyst
d. Green reagent
e. Retrosynthesis
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