

M.Sc. CHEMISTRY
FOURTH SEMESTER
EVERYDAY CHEMISTRY
MSC - 405A MDC

(Use Separate Answer Scripts for Objective & Descriptive)

Duration: 3 hrs.

Full Marks: 70

(PART-A: Objective)

Time: 30 min.

Marks: 20

Choose the correct answer from the following:

1X20=20

1. Lipids and Fats are
 - a. Crystalline solid
 - b. Non-crystalline solid
 - c. Liquids
 - d. Gaseous
2. Hardening of oils need
 - a. H_2/Ni
 - b. N_2/Ni
 - c. O_2/Ni
 - d. Cl/Ni
3. Vanaspati is a
 - a. Hydrogenated vegetable oil
 - b. Soaps
 - c. Herbicide
 - d. Pesticide
4. Atom economy is related to
 - a. Pollution chemistry
 - b. Principles of green chemistry
 - c. Hazardous chemicals
 - d. None of these
5. Insecticides is related to
 - a. Plants
 - b. Bacteria
 - c. Insect
 - d. Animal
6. Organic fertilizers can be made from
 - a. Agricultural Waste
 - b. Livestock Manure
 - c. Municipal Sludge
 - d. All of these
7. The sources of particulate matters which is responsible for air pollution is
 - a. Fuel combustion
 - b. Fly-ash emissions from power plant
 - c. Smelting and mining operations
 - d. All of the above
8. Which is the cause of Lead pollution
 - a. Volcanic explosions and forest fire
 - b. From the industry and transportation
 - c. Processing of metals
 - d. All of the above
9. The disease that are caused by air pollution includes
 - a. Lung cancer
 - b. Respiratory illness
 - c. Skin diseases
 - d. All of above
10. Which is primarily responsible for acid rain
 - a. CO
 - b. NO
 - c. SO_2
 - d. CO_2

11. Incomplete combustion of fuel such as petrol and diesel gives
 - a. Nitrogen dioxide
 - b. Nitrogen oxide
 - c. Carbon
 - d. Carbon monoxide
12. The process of heating, softening, moulding and cooling to rigidity can be repeated for which plastics?
 - a. Thermoplastics
 - b. Thermosetting plastics
 - c. Both (a) and (b)
 - d. Neither (a) nor (b)
13. The major compounds in ordinary Portland Cement responsible for its strengths are:
 - a. Tricalcium aluminate
 - b. Dicalcium silicate and Tetracalcium alumina ferrite
 - c. Tricalcium silicate and Dicalcium silicate
 - d. Tetracalcium alumina ferrite
14. When water is added to cement
 - a. Chemical reaction starts
 - b. Heat is absorbed
 - c. Heat is generated
 - d. Both heat is generated and chemical is initiated
15. Aluminium is used for making cooking utensils. Which of the following properties of aluminium are responsible for the same?
 - (i) Good thermal conductivity
 - (ii) Good electrical conductivity
 - (iii) Ductility
 - (iv) High melting point
 - a. (i) and (ii)
 - b. (i) and (iii)
 - c. (ii) and (iii)
 - d. (i) and (iv)
16. Glass is a mixture of
 - a. Non-metallic silicates
 - b. Metallic silicates
 - c. Metallic acetates
 - d. Non-metallic acetates
17. Which type of glass is used in the manufacture of artificial gems, bulbs, lenses etc?
 - a. Potash-lime glass
 - b. Soda-lime glass
 - c. Potash-lead glass
 - d. Soda-lead glass
18. The most commonly used semiconductor is
 - a. Germanium
 - b. Silicon
 - c. Carbon
 - d. Sulphur
19. In a semiconductor, current conduction is due to
 - a. Only holes
 - b. Only free electrons
 - c. Holes and free electrons
 - d. None of the above
20. What happens when LPG is inhaled in large concentrations?
 - a. It kills a person
 - b. It increases a person's eyesight
 - c. It does not have any effect on person's health
 - d. It causes a little anaesthesia

-- --- --

PART-B: Descriptive

Time : 2 hrs. 40 min.

Marks : 50

[Answer question no.1 & any four (4) from the rest]

1. a. Explain hydrogenation or hardening of oils. 2+3+5
=10
b. Write about the future challenges faced by the polymers.
c. What are preservatives made of? What are the two types of beverages? Explain.
2. a. What is pesticide? Write the four classes of pesticides. 5+5=10
b. What is fertilizer? Mention the two major class of fertilizer?
3. Describe five (5) principles of Green Chemistry. Mention two examples of green chemistry. 10
4. a. What do you mean by soaps? Write down the two classes of soaps with examples? 5+5=10
b. Write about the advantages and drawbacks of natural polymers and synthetic polymers.
5. a. On the basis of sources, classify the different types of polymers. Give examples. 4+3+3
=10
b. Write the applications of Bakelite, PVC and PP?
c. Write about the thermoplastics and thermosetting plastics. Give examples.
6. a. What is particulate matter in air pollution? Write their effects on health & environments. 4+3+3
=10
b. What are sources of lead pollution?
c. What is acid rain? Write the mechanism of acid rain.

7. a. What material are LPG cylinders made of? Explain the characteristics and chemical formulas of LPG. 5+5=10
b. What is CNG? Explain the characteristics of CNG.
8. a. What materials are used to make semiconductors? What are the properties of semiconductors? Explain. 5+5=10
b. What are the ingredients of paint? Give details and example of each ingredient of paint.

= = *** = =