

H-6328**M.Sc. (II Semester) Examination, 2022****CHEMISTRY****Paper – V****(Applied Chemistry)*****Time Allowed: Three Hours******Maximum Marks: 70*****Section-A**

Note:- Attempt any ten questions. Each question carries one mark.

Q.I. Objective Type Questions**1x10**

1. The chemical equivalent of MgSO_4 salt is
 - a) 60
 - b) 47.5
 - c) 82
 - d) 68
2. If the nitrogen is the main element of fertilizers then the fertilizers are classified as:
 - a) Structural fertilizers
 - b) Non-structural fertilizers
 - c) Nitrogen fertilizers
 - d) Respiratory fertilizers

3. Which salt of potassium consist highest amount of NaCl?
 - a) Carnallite
 - b) Sylvinite
 - c) Hard salt
 - d) Langbeinite
4. How liquid NH_3 fertilizer can be produced?
 - a) By the gypsum process
 - b) By fauser process
 - c) By solvay process
 - d) From NH_3 and HCL
5. Tacticity of the polymers is the arrangement of the _____ on carbon backbone.
 - a) Hydrogen atoms
 - b) Nitrogen atoms
 - c) Functional groups
 - d) Carbons
6. The process of heat softening, moulding and cooling to rigidness can be repeated for which plastics?
 - a) Thermoplastics
 - b) Thermosetting plastics
 - c) Both (a) and (b)
 - d) Neither (a) nor (b)
7. Erylerte is a condensation polymer of ethylene glycol and:
 - a) Benzoic acid
 - b) Phthalic acid
 - c) Dimethyl terephthalate
 - d) Salicylic acid
8. Coal gas is attained from to a process carried out at
 - a) 300°C
 - b) 700°C
 - c) 900°C
 - d) 1300°C

(3)

9. Regular use of Ammonium Sulphate increases the acidity of soil.
(a) True (b) False
10. Based on the important category, concrete and fibre glass are the examples of _____.
11. Hardness of water is due to the presence of salts of _____.
12. _____ gas is used for heating open-hearth furnaces.

Section-B

Note:- Attempt any five questions. Each question carries two marks.

Q. II. Very Short Answer Type (25-30 Words) 2x5

1. What is NPK value?
2. What is the chemical composition of super phosphate?
3. What is molecular mass?
4. Write function of Viscometry?
5. What is saponification?
6. What is Cetane number?
7. What is the composition of water gas?

(4)

Section-C

Note:- Attempt any five questions. Each question carries four marks.

Q.III. Short Answer Type (250 Words) 4x5

1. Explain process of Ozonisation.
2. Write analysis of commercially available fertilizers for N, P & K.
3. Explain inorganic polymers.
4. Write kinetics and mechanism of polymerisation.
5. How do you determine flash point and aniline point?
6. Write analysis of naphtha and their feed stocks.
7. What is nuclear waste? How does it affect the environment?

Section-D

Note:- Attempt any three questions. Each question carries ten marks.

Q.IV. Essay type (more than 500 Words) 3x10

(5)

1. What are water quality parameters? Explain total dissolved solid, hardness, dissolved oxygen, physical, chemical, and biological contaminants in water.
2. Discuss names of pesticides and their chemical structures, application dosage of different pesticides and analysis methods of specific pesticide.
3. Describe gaseous pollutants. How do they affect human health and their control methods
4. Write short note on: (any two)
 - (a) Knocking and anti-knocking compounds.
 - (b) Producer gas blast furnace gas
 - (c) Enamels and lacquers
 - (d) Biopolymers and co-polymers