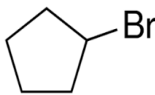


Q. P. Code: 20654**2 ½ Hours****Total Marks: 75****Note:**

1. Attempt **all** questions.
2. **All** questions carry **equal** marks.
3. Draw **neat labelled diagrams** wherever necessary.
4. Use of **log tables** and **non-programmable calculator** is **allowed**.
5. For **Q 2, Q 3 and Q 4** attempt A and B **OR** C and D.

Q.1 Do as directed: (Any fifteen)**15****Give IUPAC names for the following compounds:**

1. 
2. C_9H_{20}
3. CH_3-O-CH_3
4. $CH_3-CH_2-CH_2-OH$
5. $CH_3-CO-CH_2-CH_3$
6. CH_3CO-NH_2
7. $HOOC-CH_2-CH_2-CH_2-COOH$

Explain the terms:

8. Electrovalent compound.
9. Noncovalent bond.
10. Coordinate bond.
11. Dipole.
12. pH.
13. Normality.
14. Equivalent weight
15. Solution
16. Formality (Formal solution)
17. Standard solution.

Q. P. Code: 20654**Give one example for:**

18. Compound exhibiting covalent bond.
19. Non covalent bond.
20. Salts derived from Strong acids and weak bases.

Q 2 A Draw structures of the following compounds:-**08**

- i. Sodium methanoate
- ii. 1,2,3 Propanetriol
- iii. Trichloromethane
- iv. Butane

Q 2 B State basic rules of IUPAC nomenclature in Carboxylic acids**07****OR****Q 2 C** Draw structures of the following compounds:-**08**

- i. Sodium ethanoate
- ii. 1,2 Ethanediol
- iii. 1,2 Dibromoethane
- iv. Pentane

Q 2 D Discuss IUPAC nomenclature of Alkenes. Give suitable examples.**07****Q 3 A** Compare and contrast between Ionic and Covalent bond.**08****Q 3 B** Give a brief account of Hydrogen bond.**07****OR****Q 3 C** Explain the structure of NaCl and KCl based on concept of ionic bond.**08****Q 3 D** What is covalent bond? Draw structure of any three compounds bonded by covalent bond.**07**

Q. P. Code: 20654

Q 4 A i) Define secondary standard and state requirements for a substance to be used as secondary standard. **04**

ii) Calculate the weight of 0.125 m mol of ferric oxide, Fe_2O_3 (Given molar mass of $\text{Fe}_2\text{O}_3 = 159.7 \text{ mg mmol}^{-1}$). **04**

Q 4 B Explain formation of hydrogen bonds with polar solute in water. **07**

OR

Q 4 C i) Derive the relationship between pH and pOH. **04**

ii) Calculate the pOH of 0.006 M NaOH. **04**

Q 4 D Derive Henderson-Hasselbalch equation for basic buffers. **07**

Q.5 Write short notes on : (Any three) **15**

- IUPAC nomenclature of Aldehydes.
- Cycloalkanes.
- Van Der Val's forces.
- Bronsted-Lowry theory of acid and base.
- Properties of buffer solutions.