

B**0123**

Total No. of Questions - 21

Regd.

Total No. of Printed Pages - 2

No.

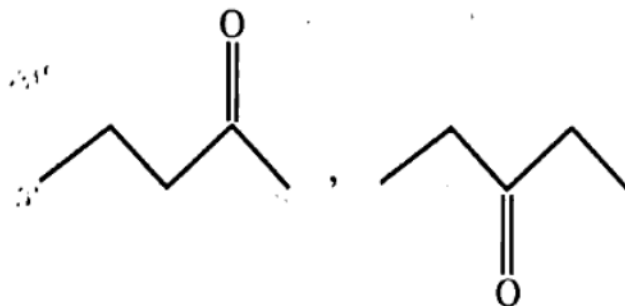
Part - III**CHEMISTRY, Paper - I****(English Version)****Time : 3 Hours****Max. Marks : 60**

189491

SECTION - A**10×2=20****Note:**

- (i) Answer **ALL** questions.
- (ii) Each question carries **TWO** marks.
- (iii) All are very short answer type questions.

1. What is Chemical Oxygen Demand (COD)?
2. What happens when magnesium metal is burnt in air?
3. Write the relation between K_p and K_c .
4. State Graham's law of diffusion.
5. Calculate the weight of 0.1 mole of sodium carbonate.
6. Write the use of ZSM-5.
7. Write completely the electronic configurations of K and Rb.
8. How does graphite function as a lubricant?
9. What is PAN? What effect is caused by it?
10. Write the IUPAC names of :



SECTION - B

6×4=24

Note:

- (i) Answer **ANY SIX** questions.
- (ii) Each question carries **FOUR** marks.
- (iii) All are short answer type questions.

11. Explain the hybridization involved in PCl_5 molecule.
12. Explain the formation of Coordinate Covalent Bond with one example.
13. Explain extensive and intensive properties.
14. Deduce (a) Boyle's law and (b) Charles' law from Kinetic Gas Equation.
15. Explain the structure of diborane.
16. Balance the following redox reactions by ion – electron method :
 $\text{MnO}_4^- (\text{aq}) + \text{SO}_2 (\text{g}) \rightarrow \text{Mn}^{2+} (\text{aq}) + \text{HSO}_4^- (\text{aq})$
 (in acidic solution)
17. Write a few lines on the utility of hydrogen as a fuel.
18. Write the conjugate acid and conjugate base of each of the following :
 (a) OH^- (b) H_2O (c) HCO_3^- (d) H_2O_2

SECTION - C

2×8=16

Note:

- (i) Answer **ANY TWO** questions.
- (ii) Each question carries **EIGHT** marks.
- (iii) All are long answer type questions.

19. What are the postulates of Bohr's model of hydrogen atom? Discuss the importance of this model to explain various series of line spectra in hydrogen atom.
20. Define IE_1 and IE_2 . Why is $IE_2 > IE_1$ for a given atom? Discuss the factors that affect IE of an element.
21. Describe two methods of preparation of ethane. Give any three reactions of ethane.