



Name : .....

Time : 6 hr

Total Marks = 63

Date: 25/10/2017

- Q1. Write the free radical mechanism for the polymerisation of ethene. 3**
- Q2. How are low density polythene and high density polythene manufactured? Write their uses also. 3**
- Q3. How is bakelite formed? Explain the reactions with equations. 3**
- Q4. Explain the differences between polyacrylates and polyesters. 3**
- Q5. Classify the condensation polymers on the basis of repeating units in their structure. 3**
- Q6. Write the information asked for in the following polymers: 3**
- (a) Bakelite — Materials used for preparation. (b) PVC — Monomer unit.  
(c) Synthetic rubber — Material required for preparation.  
(d) Nylon-6,6 — Materials required for preparation.
- Q7. Why is cationic polymerisation preferred in case of vinylic monomers containing electron donating groups? 3**
- Q8. Will you prefer to polymerise acrylonitrile under anionic or cationic polymerisation conditions? Explain your choice. 3**
- Q9. What is natural rubber? Explain the structure of natural rubber. 3**
- Q10. Why should one always use purest monomer in free radical polymerisation? 3**
- Q11. How does the presence of carbon tetrachloride influence the course of vinylic free radical polymerisation? Explain with an example. 3**
- Q12. Why does styrene undergo anionic polymerisation easily? 3**
- Q13. Write equations used for the synthesis of (a) terylene, (b) neoprene. 3**
- Q14. Mention one use each of the following drugs: 3**
- (a) Ranitidine (b) Paracetamol (c) Tincture of iodine
- Q15. (a) What is the problem with hard water for washing clothes with soap? 3**
- (b) Explain the following terms:**
- (i) Broad spectrum antibiotics (ii) Non-ionic detergents.
- Q16. What are detergents? How are they classified? Why are detergents preferred over soaps? 3**
- Q17. Define the following and give one example of each: 3**
- (a) Antihistamines, (b) Antacids
- Q18. What are biodegradable and non-biodegradable detergents? What are the consequences of using latter class of detergents? 3**

**Q19. Explain the following terms with suitable example:** **3**

(a) Cationic detergents      (b) anionic detergents and      (c) non-ionic detergents.

**Q20. If water contains dissolved calcium hydrogencarbonate, out of soaps and synthetic detergents, which one will you use for cleaning clothes?** **3**

**Q21. Label the hydrophilic and hydrophobic parts in the following compounds:** **3**

(a)  $\text{CH}_3(\text{CH}_2)_{10}\text{CH}_2\text{OSO}_3^- \text{Na}^+$       (b)  $\text{CH}_3(\text{CH}_2)_{15} - \overset{+}{\text{N}}(\text{CH}_3)_3\text{Br}^-$

(c)  $\text{CH}_3(\text{CH}_2)_{16}\text{COO}(\text{CH}_2\text{CH}_2\text{O})_n\text{CH}_2\text{CH}_2\text{OH}$

