



**INDIAN SCHOOL DARSAIT**  
**DEPARTMENT OF CHEMISTRY**



Subject: Chemistry		Topic : Polymers	Date of Worksheet: 29.5.2019
Resource Person: SREEKALA M		Date of Submission: _____	
Name of the Student: _____		Class & Division: XII	Roll Number: _____
1.	What is the repeating structural unit in polythene polymer?		1
2.	What are addition polymers? How are the two types of addition polymers different from each other? Give one example of each type.		2
3.	Differentiate the following pair of polymers based on the property mentioned against each i) Novolac and Bakelite (structure) ii) Buna-S and Terylene ( intermolecular forces of attraction)		2
4.	Distinguish between the terms 'homopolymer' and 'copolymer' and give one example of each type.		2
5.	Write: a) Reaction involved in the preparation of biodegradable polyester b) Monomer unit of synthetic rubber (Neoprene) c) One use of Nylon-6,6		3
6.	Define the terms Elastomers and Fibres and give one example of each.		2
7.	Write the monomers used and one use for each of the following i) Terylene ii) Neoprene iii) Nylon-2-Nylon-6		3
8.	Identify the four groups into which the polymers are classified on the basis of the magnitude of intermolecular forces present in them. To which group or groups do polythene and Bakelite belong?		3
9.	Differentiate between the modes of formation of addition polymer and a condensation polymer. Give one example of each of these formations.		3
10.	Write names of monomer/s of the following polymers and classify them as addition or condensation polymers. a) Teflon b) Bakelite c) Natural rubber		3

11.	<p>a) Identify aliphatic biodegradable polyester which is used in packaging and orthopedic devices.</p> <p>i) Write its full form.</p> <p>ii) Give the structures of monomers from which it is formed.</p> <p>iii) Show the formation of polymer.</p> <p>b) Write the name and structure of the monomer of nylon-6</p>	3
12.	<p>Mention two important uses of each of the following polymers:</p> <p>i) Bakelite ii) Nylon6,6 iii) PVC</p>	3
13.	<p>a)What does the designation '6,6' in Nylon 6,6, polymer mean?</p> <p>b)Which polymer is obtained when free radical polymerization of chloroprene occurs? Write the structure of the polymer thus obtained.</p>	3
14.	<p>a)What is the role of Benzoyl peroxide in polymerization of ethene?</p> <p>b)What are LDPE and HDPE? How are they prepared? Write the structural difference between LDPE and HDPE?</p>	3
15.	Distinguish between Chain growth (Addition) polymerization and step growth (Condensation) polymerization and give one example of each process.	3
16.	<p>Write the names of monomers of the following polymers:</p> <p>(i) <math>\left[ \begin{array}{c} \text{H} \\   \\ \text{N} - (\text{CH}_2)_6 - \text{N} - \text{C} \\    \\ \text{O} \end{array} - (\text{CH}_2)_4 - \text{C} \right]_n</math> (ii) <math>\left[ \begin{array}{c} \text{O} \\    \\ \text{C} - (\text{CH}_2)_5 - \text{N} \\   \\ \text{H} \end{array} \right]_n</math> (iii) <math>\left[ \text{CF}_2 - \text{CF}_2 \right]_n</math></p>	3
17.	<p>Arrange the following polymers in increasing order of their intermolecular forces.</p> <p>(i) Nylon 6,6, Buna-S, Polythene.</p> <p>(ii) Nylon 6, Neoprene, Polyvinyl chloride.</p>	3