

Name:	 UPES UNIVERSITY WITH A PURPOSE
Enrolment No:	

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES
End Semester Examination, August 2020

Course: Polymer Science and Engineering
Program: B. Tech (CE+RP)
Course Code: CHEG 384

Semester: VIII
Time 03 hrs.
Max. Marks: 100

Instructions: Answer all the questions from Section-A, Section-B and Section-C

SECTION A

S. No.	Question	Marks	CO
Q 1	What is the structure based name for Polyacrylonitrile_____	5	CO1
Q 2	What is termination by combination? _____	5	CO2
Q 3	Atom Transfer Free Radical polymerization is carried out in _____ (a) Bulk polymerization (b) Solution polymerizations (c) Suspension polymerization (d) All the above	5	CO2
Q 4	Determine the Number Average Molecular Weight, Weight Average Molecular Weight for three molecules 3.00×10^5 , 4.00×10^5 and 5.00×10^5	5	CO4

SECTION B

Q 5	Describe the nomenclature of the polymers in details	12	CO1
Q 6	(a) Anionic addition polymerization is called living polymerization. Justify (b) The polymer formed in cationic addition polymerization is called living polymer. Justify	6+6	CO2
Q 7	List out the techniques for molecular weight determination. Discuss the End Group Analysis to determine molecular weight.	12	CO4
Q 8	Classify various ways of degradation occurs in polymers. Discuss about Oxidative Degradation of polymers	12	CO5
Q 9	(a) Mention the disadvantages of solution polymerization (b) Describe the Bulk polymerization in detail	6+6	CO3

SECTION-C

Q 10	List out the techniques of polymerization. (a) Describe Suspension polymerization mentioning typical recipe for the production of polymers (b) Mention the typical recipe used in Emulsion polymerization	2+12+6	CO3
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