

Enrollment No: _____ Exam Seat No: _____

C. U. SHAH UNIVERSITY

Winter Examination-2022

Subject Name: Physical Chemistry-II

Subject Code: 5SC02PCH1

Branch: M.Sc. (Chemistry)

Semester: 2

Date: 20/09/2022

Time: 11:00 To 02:00

Marks: 70

Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
 - (2) Instructions written on main answer book are strictly to be obeyed.
 - (3) Draw neat diagrams and figures (if necessary) at right places.
 - (4) Assume suitable data if needed.
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SECTION – I

Q-1	Attempt the Following questions	(07)
a.	Give the definition of polymer.	01
b.	What are isotactic polymers?	01
c.	What is telomerization?	01
d.	Write down the structure of polystyrene.	01
e.	What is the full form of PVF?	01
f.	Which catalyst used in anionic polymerization?	01
g.	Define: oligomers	01

Q-2	Attempt all questions	(14)
a.	Explain the classification of polymers.	07
b.	Write a note on intersection and linear graphic methods.	07

OR

Q-2	Attempt all questions	(14)
a.	Write a note on solution polymerization.	05
b.	Discuss coordination polymerization.	05
c.	Give the difference between isotactic and atactic polymers.	04



Q-3	Attempt all questions	(14)
a.	Discuss kinetics of anionic polymerization.	07
b.	Write the initiation methods of free radical polymerization.	07

OR

Q-3	Attempt all questions	(14)
a.	Write a note on functionality of monomers.	07
b.	How will you control molecular weight in polycondensation reaction?	07

SECTION – II

Q-4	Attempt the Following questions	(07)
a.	What is polycondensation?	01
b.	Write any one example of cyclization reaction.	01
c.	Why we should add a monofunctional group to the polycondensation?	01
d.	Write the full form of PVC.	01
e.	What is curing process in polymer industry?	01
f.	Can we get soft product using cross link reaction (yes/no)? Give reason.	01
g.	Give the examples of thermoplastics.	01

Q-5	Attempt all questions	(14)
a.	What is melt and solid phase polycondensation reaction?	07
b.	Discuss coordination polymerization.	07

OR

Q-5	Attempt all questions	(14)
a.	Write a note on the kinetics of polycondensation reaction.	07
b.	What is ring scission polymerization? Write the mechanism.	07

Q-6	Attempt all questions	(14)
a.	Explain the thermal degradation of polymers in detail.	14

OR

Q-6	Attempt all Questions	
a.	Write a note on emulsion polymerization.	07
b.	Discuss vulcanization of rubber.	07

