

SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES



UNIT 1

COURSE NAME: CONTROLLED RELEASE DRUG
DELIVERY SYSTEM

TOPIC: POLYMERS

2 MARKS

S.No	Questions	Mapping from TNMGRMU/GPAT/MRB/Various Pharma Company with Year	Bloom's Taxonomy
1	Define controlled release and sustained release in the context of polymers.	TNMGRMU March 2023 (Sept 2022 session); GPAT 2021 (Q on release types); MRB 2022; Cipla Interview 2023 (basic definitions).	Remembering
2	List two biodegradable polymers used in CRDDS with examples.	TNMGRMU March 2025; GPAT 2020 (biodegradable examples); MRB 2023; Dr. Reddy's Interview 2022 (polymer selection).	Remembering
3	State the glass transition temperature (T _g) and its role in polymer properties for drug release.	TNMGRMU May 2024; GPAT 2019 (T _g in release kinetics); MRB 2022; Sun Pharma Interview 2023 (formulation stability).	Understanding
4	Name two natural polymers and their source in CRDDS.	TNMGRMU May 2022 (Sept 2021); GPAT 2022 (natural vs. synthetic); MRB 2023; Lupin Interview 2021 (excipient origins).	Remembering
5	Differentiate between hydrophilic and hydrophobic polymers in CRDDS.	TNMGRMU Dec 2023 (Sept 2023); GPAT 2021; MRB 2022; Aurobindo Interview 2024 (release mechanisms).	Understanding

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5 MARKS

S.No	Questions	Mapping from TNMGRMU/GPAT/MRB/Various Pharma Company with Year	Bloom's Taxonomy
1	Explain the classification of polymers based on origin and charge for CRDDS.	TNMGRMU March 2023 (Sept 2022); GPAT 2020 (classification MCQs); MRB 2023; Cipla R&D 2022 (polymer categorization in interviews).	Understanding
2	Describe the properties of ideal polymers for controlled release formulations.	TNMGRMU Oct 2024 (Sept 2024); GPAT 2019; MRB 2022; Dr. Reddy's 2023 (ideal excipient criteria).	Understanding/Analyzing
3	Discuss the role of pH-responsive polymers in targeted CRDDS with examples.	TNMGRMU Aug 2023 (March 2023); GPAT 2022 (stimuli-responsive); MRB 2023; Sun Pharma 2024 (gastroretentive apps).	Applying/Analyzing
4	Write notes on advantages of biodegradable polymers in CRDDS applications.	TNMGRMU Dec 2021 (March 2021); GPAT 2021; MRB 2022; Lupin Interview 2023 (implant formulations).	Evaluating
5	Outline the applications of synthetic polymers in oral CRDDS with one example each.	TNMGRMU May 2024; GPAT 2023; MRB 2023; Aurobindo 2022 (matrix tablet design).	Applying

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10 MARKS

S.No	Questions	Mapping from TNMGRMU/GPAT/MRB/Various Pharma Company with Year	Bloom's Taxonomy
1	Discuss the introduction, classification, properties, advantages, and applications of polymers in CRDDS.	TNMGRMU March 2025; GPAT 2020 (comprehensive essay); MRB 2023 (NDDS overview); Cipla Senior R&D 2023 (full formulation discussion).	Analyzing/Evaluating
2	Elaborate on the role of polymers in designing controlled release formulations, including mechanisms and examples.	TNMGRMU Dec 2021 (March 2021); GPAT 2019 (design approaches); MRB 2022; Dr. Reddy's 2024 (project-based Q).	Analyzing/Creating
3	Explain the physicochemical properties of polymers influencing drug release in CRDDS, with advantages and limitations.	TNMGRMU Oct 2022 (March 2022); GPAT 2022; MRB 2023; Sun Pharma 2023 (release kinetics interview).	Evaluating
4	Describe the classification and applications of stimuli-responsive polymers in targeted CRDDS.	TNMGRMU Aug 2023 (March 2023); GPAT 2021 (smart polymers); MRB 2022; Lupin 2024 (targeted delivery).	Applying/Analyzing
5	Discuss biodegradable vs. non-biodegradable polymers in CRDDS: properties, advantages, and formulation examples.	TNMGRMU March 2023 (Sept 2022); GPAT 2023; MRB 2023; Aurobindo Interview 2022 (implant tech).	Evaluating/Creating