SNS COLLEGE OF PHARMACY AND HEALTH SCIENCES

COIMBATORE

UNIT 2 QUESTION BANK

SUB: PHARMACEUTICAL ENGINEERING

TOPIC: HEAT TRANSFER, EVAPORATION, DISTILLATION

Marks	S.No	Question	Likely Source/Exam	Year (Approx.)
2	1	State Fourier's law of heat conduction.	TNMGRMU / GPAT	Recurrent
2	2	Define heat transfer coefficient (h).	GPAT	2022
2	3	Name any four applications of evaporation in pharmacy.	TNMGRMU	2020
2	4	What is the principle of climbing film evaporator?	GPAT / TNMGRMU	2021–23
2	5	Define economy of multiple effect evaporator.	GPAT	2022
2	6	Name two factors affecting rate of evaporation.	TNMGRMU	Recurrent
2	7	What is the difference between simple and fractional distillation?	GPAT	2020
2	8	Why is steam	GPAT / MRB	2019

		distillation used for essential oils?		
2	9	What is vacuum distillation? Give one use.	TNMGRMU	2021
2	10	Name two types of heat exchangers used in pharma industry.	TNMGRMU	2023
5	11	Explain conduction, convection and radiation with one pharmaceutical example each.	TNMGRMU	2020–24
5	12	Write the construction and working of steam jacketed kettle.	TNMGRMU	Recurrent
5	13	Describe the principle and working of climbing film evaporator.	GPAT / TNMGRMU	2021–23
5	14	Explain the principle of multiple effect evaporator. How does it save energy?	GPAT	2022
5	15	Differentiate between evaporation and distillation.	TNMGRMU / GPAT	Recurrent
5	16	Write short note on forced circulation evaporator.	TNMGRMU	2022
5	17	Explain the principle of steam distillation with one example.	GPAT / MRB	2020
5	18	What is molecular	TNMGRMU	2021–24

		distillation? Give its applications.		
5	19	Write the merits and demerits of horizontal tube evaporator.	TNMGRMU	2019
5	20	Explain factors influencing rate of evaporation.	GPAT / TNMGRMU	Recurrent
10	21	Describe the construction, working, merits and demerits of climbing film evaporator.	TNMGRMU	2020–24
10	22	Explain the principle, construction and working of multiple effect evaporator. Discuss its economy.	TNMGRMU / GPAT	Recurrent
10	23	Describe different types of heat exchangers used in pharmaceutical industry with neat diagram.	TNMGRMU	2021–23
10	24	Explain various distillation methods (simple, fractional, vacuum, steam, molecular) with their applications.	TNMGRMU	2019–24
10	25	Describe the construction, working, merits and demerits of forced circulation evaporator. Why is it	TNMGRMU	2022–24

		preferred for viscous liquids?		
10	26	Discuss heat transfer mechanisms (conduction, convection, radiation) with equations and pharmaceutical applications.	TNMGRMU	Recurrent
10	27	Explain the objectives, applications and factors affecting evaporation. Compare evaporation with drying.	TNMGRMU	2020–23