Total No. of Questions: 3 *Total No. of Printed Pages:2*

Enrollment No.....

Faculty of Pharmacy

End Sem (Odd) Examination Dec-2022

PY3CO12 Pharmaceutical Engineering

Programme: B. Pharm. Branch/Specialisation: Pharmacy

Duration: 3 Hrs. **Maximum Marks: 75**

Note: All questions are compulsory. Internal choices, if any, are indicated.

Q.1	i.	Describe Reynold's number with its applications.	**2**
	ii.	Write any two applications of cyclone separator.	**2**
	iii.	Write the statement of Fourier's law of heat conduction through a metal wall.	**2**
	iv.	Explain the term black body and grey body.	**2**
	v.	Give the mechanism of drying process.	**2**
	vi.	Explain the mechanism of solid - solid mixing.	**2**
	vii.	Write the mechanism of filtration process.	**2**
	viii.	Enlist the applications of centrifugation.	**2**
	ix.	Define corrosion and give the types of corrosion.	**2**
	x.	Explain the effect of pH on corrosion.	**2**
Q.2		Attempt any two:	
	i.	Give a neat diagram of two fluid manometers and explain its working principle.	**10**
	ii.	Explain the principle and working of steam distillation with its Diagram and applications.	**10**
	iii.	(a) Explain the construction and working of hammer mill with its diagram.	**5**
		(b) Explain the construction and working of forced circulation evaporator with its diagram.	**5**
Q.3		Attempt any seven: Two questions from each section is compulsory.	
		Section - A	
	i.	Describe the principle with the help of a labelled diagram of fluidised bed dryer.	**5**

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	ii.	Explain the principle and applications of freeze dryer with a labelled diagram.	**5**
	iii.	Explain the working and principle of silverson emulsifier with a labelled diagram.	**5**
		Section - B	
	iv.	Explain the factors affecting rate of filtration.	**5**
	v.	Explain applications and theory of centrifugation.	**5**
	vi.	Write the working of super centrifuge with its diagram.	**5**
		Section - C	
	vii.	Describe factors influencing selection of materials.	**5**
	viii.	Explain materials used in pharmaceutical plant construction.	**5**
	ix.	Explain the prevention and control of corrosion.	**5**

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Marking Scheme
PY3CO12 Pharmaceutical Engineering

Q.1	i)	Reynold's number – 1 mark Application – 1 mark	**2**
	ii)	1 mark for each application (1 mark * 2)	**2**
	iii)	statement of fourier's law with equation – 2 marks	**2**
	iv)	Black body – 1 mark Grey body – 1 Mark	**2**
	v)	Mechanism – 2 marks	**2**
	vi)	Mechanism – 2 Marks	
	vii)	Mechanism – 2 marks	**2**
	viii)	4 Applications – 2 marks	**2**
	ix)	Definition – 1 mark 4 Types -1 mark	**2**
	x)	2 Points – 2 marks	**2**
Q.2		Attempt any two:	
	i.	diagram of two fluid manometers – 2 Marks working of two manometers – 4 Marks principle of two manometers – 4 Marks	**10**
	ii.	Labelled Diagram – 2 Principle – 3 Working – 3 Application - 2	**10**
	iii. (A)	Diagram – 2 Marks Construction – 1.5 Marks Working. - 1.5 Marks	**5**
	B)	Construction – 1.5 Marks Working – 1.5 Marks Diagram – 2 Marks	**5**
Q.3		Attempt any seven: Two questions from each section is compulsory.	
		Section - A	
	i.	Diagram – 2 Marks Principle – 3 Marks	**5**
	ii.	principle – 1.5 Marks applications - 1.5 Marks labelled diagram – 2 Marks	**5**
	iii.	working – 1.5 Marks	**5**
		principle - 1.5 Marks labelled diagram – 2 Marks	
		Section - B	
	iv.	1 mark for each points (1 Mark * 5)	**5**
	v.	Applications – (5 Points) – 3 Marks theory - 2 Marks	**5**
	vi.	working – 3 Marks diagram – 2 Marks	**5**
		Section - C	
	vii.	2 Chemical factors -2 Marks 3 Physical factors -3 Marks	**5**
	viii.	theory – 1 Mark Materials types – 3 marks Application – 1 mark	**5**
	ix.	1 mark for each points (1 Mark * 5)	**5**

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