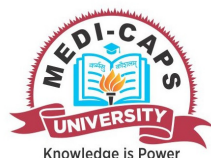


Total No. of Questions: 3

Total No. of Printed Pages: 2

Enrollment No.....



Faculty of Pharmacy
End Sem Examination Dec-2023
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. Assume suitable data if necessary. Notations and symbols have their usual meaning.

- Q.1
- What is sieve number? 2
 - Enlist any two types of manometers. 2
 - Define convection. 2
 - Enlist any two types of evaporators. 2
 - Enlist any two types of dryers. 2
 - Give any two applications of mixing in pharmaceuticals. 2
 - What do you mean by filter aid? 2
 - Define centrifugation. 2
 - What is corrosion? 2
 - Enlist different categories of materials used for pharmaceutical plant construction. 2

- Q.2
- Attempt any two:
- What is Bernoulli's theorem? Write the principle and working of venturimeter along with diagram. 10
 - Explain basic principle and methodology of at least three different types of distillation process with proper diagrams. 10
 - Explain working, principle and applications of fluid energy mill. 5
 - Write any five differences between heat interchangers and heat exchangers. 5

- Q.3
- Attempt any seven: Two questions from each section is compulsory.

Section - A

- Explain the principle, construction, working and uses of silverson emulsifiers. 5
- Explain the principle, construction, working and uses of freeze dryer. 5
- Write method of the measurement of equilibrium moisture content and rate of drying. 5

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Section - B

- Explain the principle of centrifugation along with construction, working and uses of perforated basket centrifuge. 5
- Write the principle of filtration along with construction, working and uses of filter leaf. 5
- Define objective of filtration along with the factors affecting filtration. 5

Section - C

- Classify the different materials used for pharmaceutical plant construction with suitable examples. 5
- Explain different types of corrosion along with the methods for their prevention. 5
- Write about different factors affecting selection of materials for pharmaceutical plant construction in complete detail. 5

P.T.O.

Marking Scheme

PY3CO12 - Pharmaceutical Engineering

Q.1	i)	Definition of sieve number	2 Marks	2
	ii)	Name of two types of manometers	2 Marks	2
	iii)	Definition of convection	2 Marks	2
	iv)	Name of any two types of evaporators	2 Marks	2
	v)	Name of any two types of dryers	2 Marks	2
	vi)	Any two applications of mixing in pharmaceuticals	2 Marks	2
	vii)	Definition of filter aid	2 Marks	2
	viii)	Definition of centrifugation	2 Marks	2
	ix)	Definition of corrosion	2 Marks	2
	x)	Listing of different categories of materials used for pharmaceutical plant construction-	2 Marks	2
Q.2	Attempt any two:			
	i.	Bernoulli's theorem-	2 Marks	10
		Principle and working of venturimeter-	5 Marks	
		Diagram of venturimeter-	3 Marks	
	ii.	basic principle and methodology of at least three different types of distillation process with diagram-	2 Marks each	10
	iii.	a) Working-	1 Marks	5
		Principle-	2 Marks and	
		Applications of fluid energy mill-	2 Marks	
		b) Short note on heat interchangers-	2.5 Marks	5
		Short note on heat exchangers-	2.5 Marks	
Q.3	Attempt any seven: Two questions from each section is compulsory.			
	Section - A			
	i.	Principle-	1 Mark	5
		Construction-	2 Marks	
		Working-	1 Mark	
		Use of silverson emulsifiers	1 Mark	
	ii.	Principle-	1 Mark	5
		Construction-	2 Mark	
		Working-	1 Mark	
		Use of freeze dryers-	1 Mark	

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iii.	Explanation of measurement of equilibrium moisture content-	5
		2.5 Marks
	Explanation of measurement of rate of drying-	2.5 Marks

Section – B

iv.	Principle-	1 Mark	5
	Construction-	2 Marks	
	Working-	1 Mark	
	Use of perforated basket centrifuge-	1 Mark	
v.	Principle-	1 Mark	5
	Construction-	2 Marks	
	Working-	1 Mark	
	Use of filter leaf-	1 Mark	
vi.	Objective of filtration-	1 Mark	5
	Factors affecting filtration-	4 Marks	

Section – C

vii.	Classify different materials used for pharmaceutical plant construction with suitable examples-	5
		5 Marks
viii.	Explanation of different types of corrosion along with the methods for their prevention-	5
		5 Marks
ix.	Explanation different factors affecting selection of materials for pharmaceutical plant construction in complete detail--	5
		5 Marks
