## University of Mumbai Online Examination 2020

Program: BE Chemical Engineering Curriculum Scheme: Revised 2016 Examination: Fourth Year Semester VII

Course Code: CHC 702 Course Name: Process Engineering

Time: 1 Hour Max. Marks: 50

\_\_\_\_\_

## Note to the Students: All Questions are compulsory and carry equal marks.

Q.1.	Patent protection lasts for years from the filing date of the patent.
Option A:	5 years
Option B:	10 years
Option C:	15 years
Option D:	20 years
Q.2.	Fluctuation in the operating conditions of the process can be avoided by adding proper
	system to the process.
Option A:	Utility
Option B:	Piping
Option C:	Control
Option D:	Separation
Q.3.	P&ID stands for
Option A:	Process and Instrumentation diagram
Option B:	Process and Information diagram
Option C:	Piping and Information diagram
Option D:	Piping and Instrumentation diagram
Q.4.	What is capacity of pump means?
Option A:	Flow rate of fluid created by pump
Option B:	Total head
Option C:	Power of the pump
Option D:	Efficiency of the pump
Q.5.	Find the outlet temperature of gas from a compressor if its inlet temperature is 26.7 °C, specific
Oution A	heat ratio 1.31 and compression ratio is 4.01
Option A: Option B:	150°C 110°C
Option B:	143.3°C
Option C:	143.5 °C 149.5°C
Option D.	177.5 C
Q.6.	For safe operation of the pump important requirement is
Option A:	$(NPSHA)_A \ge (NPSHA)_R$
1	\ \tag{20}

Option B: (INPSHA)a (NPSHA)a   Option D: (NPSHA)a   Option D: (NPSHA)a   Option D: (NPSHA)a   Option D: (NPSHA)a   (NPSHA)b   = O  Q.7. (NPSHA)a (NPSHA)b   E   Option D: (NPSHA)a   Option A: Flooding Option A: Flooding Option C: Weeping Option D: Priming  Q.8. Find the pressure drop due to fitting with K factor (equivalent number of velocity head) 0.24 for a fluid with density 1.609 kg/m³and velocity 20 m/s flowing in pipe.  Option A: 77.25 pa Option B: 80 Pa Option D: 84.69 Pa Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option B: Oharles' law Option B: Charles' law Option B: Charles' law Option C: Raoult's law Option D: In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as Option A: Flooding Option B: Entrainment Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated liquid Option D: Cold liquid  Option D: Increases in number of trays in distillation column  Option B: Partialy vaporized Option D: Increases or decreases reflux ratio Option D: Increase or decreases reflux ratio Option D: Increase or decreases reflux ratio Option D: Increase or decreases reflux ratio Option A: More than 0.9 9		(ATROLLA) (ATROLLA)
Option D: (NPSHA)a (NPSHA)a = 0  Q.7. (NPSH)a should be greater than zero to avoid Option A: Flooding Option B: Cavitation Option D: Weeping Option D: Priming  Q.8. Find the pressure drop due to fitting with K factor (equivalent number of velocity head) 0.24 for a fluid with density 1.609 kg/m² and velocity 20 m/s flowing in pipe.  Option A: 77.25 pa Option B: 80 Pa Option C: 94.69 Pa Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option D: Charles' law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as  Option B: Intrainment Option B: Intrainment Option B: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy kg component in mixture are 2, 16, 1 and 0,6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated liquid Option D: Cold liquid  Q.12. Increases in number of trays in distillation column Option B: Decreases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Dies not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Increases or decreases reflux ratio Option C: Dies not affect reflux ratio Option C: Dies not affect reflux ratio Option C: Increase or decreases reflux ratio Option C: Increase or decreases reflux ratio Option D: Increases or decreases reflux ratio Option C: Increase or decreases reflux ratio	Option B:	$(NPSHA)_A < (NPSHA)_R$
Q.7.   (NPSH) <sub>A</sub> should be greater than zero to avoid		
Option A: Flooding Option A: Cavitation Option D: Weeping Option D: Priming  Q.8. Find the pressure drop due to fitting with K factor (equivalent number of velocity head) 0.24 for a fluid with density 1.609 kg/m³ and velocity 20 m/s flowing in pipe.  Option A: 77.25 pa Option B: 80 Pa Option D: 71.35 Pa Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option B: Charles' law Option B: Raoult's law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constatut in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated liquid Option D: Saturated liquid Option D: Saturated liquid Option B: Octob liquid  Option B: Decreases reflux ratio Option B: Decreases reflux ratio Option B: Decreases or decreases reflux ratio Option Discreases or decreases reflux ratio Option C: Does not affect reflux ratio Option Discreases or decreases reflux ratio	Option D:	$(NPSHA)_A (NPSHA)_R = 0$
Option A: Flooding Option A: Cavitation Option D: Weeping Option D: Priming  Q.8. Find the pressure drop due to fitting with K factor (equivalent number of velocity head) 0.24 for a fluid with density 1.609 kg/m³ and velocity 20 m/s flowing in pipe.  Option A: 77.25 pa Option B: 80 Pa Option D: 71.35 Pa Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option B: Charles' law Option B: Raoult's law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constatut in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated liquid Option D: Saturated liquid Option D: Saturated liquid Option B: Octob liquid  Option B: Decreases reflux ratio Option B: Decreases reflux ratio Option B: Decreases or decreases reflux ratio Option Discreases or decreases reflux ratio Option C: Does not affect reflux ratio Option Discreases or decreases reflux ratio		
Option B: Cavitation Option C: Weeping Option D: Priming  Q.8. Find the pressure drop due to fitting with K factor (equivalent number of velocity head) 0.24 for a fluid with density 1.609 kg/m³ and velocity 20 m/s flowing in pipe. Option A: 77.25 pa Option B: 88.69 Pa Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option B: Charles' law Option D: Henry's law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as Plooding Perforations; this phenomenon is known as Option A: Roult's law Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Increases or decreases reflux ratio Option D: Increase or decreases reflux ratio	_ `	
Option D: Priming  Q.8. Find the pressure drop due to fitting with K factor (equivalent number of velocity head) 0.24 for a fluid with density 1.609 kg/m³ and velocity 20 m/s flowing in pipe.  Option A: 77.25 pa Option B: 80 Pa Option C: 84.69 Pa Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option B: Charles' law Option D: Raoult's law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as Option B: Flording Option B: Flording Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option B: Partialy vaporized Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Increases reflux ratio Option B: Decreases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option C: Does not affect reflux ratio Option C: Does not affect reflux ratio Option C: Increase in distillate will be		
Option D: Priming  Q.8. Find the pressure drop due to fitting with K factor (equivalent number of velocity head) 0.24 for a fluid with density 1.609 kg/m³and velocity 20 m/s flowing in pipe.  Option A: 77.25 pa Option C: 84.69 Pa Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option B: Charles' law Option C: Raoult's law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as Option B: Entrainment Option B: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated liquid Option B: Partialy vaporized Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column  Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Increases or decreases reflux ratio Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be		Cavitation
Q.8. Find the pressure drop due to fitting with K factor (equivalent number of velocity head) 0.24 for a fluid with density 1.609 kg/m³and velocity 20 m/s flowing in pipe.  Option A: 77.25 pa Option B: 80 Pa Option C: 84.69 Pa Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option B: Charles' law Option C: Raoult's law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as Option A: Flooding Option A: Plooding Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated Vapor Option B: Partialy vaporized Option C: Cold liquid  Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Increases reflux ratio Option B: Decreases reflux ratio Option D: Increases or decreases reflux ratio		
fluid with density 1.609 kg/m³and velocity 20 m/s flowing in pipe.  Option A: 77.25 pa Option C: 84.69 Pa Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option A: Boyle's law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as  Option A: Flooding Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option B: Decreases reflux ratio Option D: Does not affect reflux ratio Option D: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Does not affect reflux ratio Option D: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Does not affect reflux ratio Option D: Increases or decreases reflux ratio	Option D:	Priming
fluid with density 1.609 kg/m³and velocity 20 m/s flowing in pipe.  Option A: 77.25 pa Option C: 84.69 Pa Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option A: Boyle's law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as  Option A: Flooding Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option B: Decreases reflux ratio Option D: Does not affect reflux ratio Option D: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Does not affect reflux ratio Option D: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Does not affect reflux ratio Option D: Increases or decreases reflux ratio		
Option B: 80 Pa Option C: 84.69 Pa Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option B: Charles' law Option D: Henry's law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as Option A: Flooding Option B: Entrainment Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor Option B: Partialy vaporized Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option D: Does not affect reflux ratio Option D: Increases or decreases reflux ratio		
Option C: 84.69 Pa Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option B: Charles' law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as Option A: Flooding Option B: Entrainment Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option D: Increases or decreases reflux ratio	Option A:	77.25 pa
Option D: 71.35 Pa  Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using  Option A: Boyle's law Option B: Charles' law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as  Option A: Flooding Option B: Entrainment Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column  Increases reflux ratio Option D: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be	Option B:	80 Pa
Q.9. While designing distillation column, vapor liquid equilibrium (VLE) data can be generated using Option A: Boyle's law Option B: Charles' law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as  Option A: Flooding Option B: Entrainment Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be	Option C:	84.69 Pa
Option A: Boyle's law Option C: Raoult's law Option D: Henry's law  Option A: Flooding Option B: Entrainment Option B: Entrainment Option C: Channeling Option D: Weeping  Option D: Weeping  Option B: A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated liquid Option C: Saturated liquid Option C: Saturated liquid Option D: Cold liquid  Option D: Increase in number of trays in distillation column Option B: Decreases reflux ratio Option D: Increases or decreases reflux ratio Option D: Increase or decreases reflux ratio Option D: Increases or decreases reflux ratio Option D: Increase or decreases reflux ratio	Option D:	71.35 Pa
Option A: Boyle's law Option C: Raoult's law Option D: Henry's law  Option A: Flooding Option B: Entrainment Option B: Entrainment Option C: Channeling Option D: Weeping  Option D: Weeping  Option B: A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated liquid Option C: Saturated liquid Option C: Saturated liquid Option D: Cold liquid  Option D: Increase in number of trays in distillation column Option B: Decreases reflux ratio Option D: Increases or decreases reflux ratio Option D: Increase or decreases reflux ratio Option D: Increases or decreases reflux ratio Option D: Increase or decreases reflux ratio		
Option B: Charles' law Option C: Raoult's law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as Option A: Flooding Option B: Entrainment Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Increase or decreases reflux ratio Option D: Increase or decreases reflux ratio Option D: If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be	Q.9.	
Option B: Charles' law Option C: Raoult's law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as Option A: Flooding Option B: Entrainment Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Increase or decreases reflux ratio Option D: Increase or decreases reflux ratio Option D: If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be	Option A:	U
Option C: Raoult's law Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as Option A: Flooding Option B: Entrainment Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Increases or decreases reflux ratio Option D: Increase or decreases reflux ratio Option D: If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be		
Option D: Henry's law  Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as  Option A: Flooding  Option B: Entrainment  Option C: Channeling  Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor  Option B: Partialy vaporized  Option C: Saturated liquid  Option D: Cold liquid  Q.12. Increase in number of trays in distillation column  Option A: Increases reflux ratio  Option B: Decreases reflux ratio  Option C: Does not affect reflux ratio  Option D: Increases or decreases reflux ratio  Option D: Increase in distillate will be		Raoult's law
Q.10. In distillation operation, due to low value for vapour velocity, liquid rain down through perforations; this phenomenon is known as  Option A: Flooding Option B: Entrainment Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Option D: If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be		
Option A: Flooding Option B: Entrainment Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constatnt in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Option D: Increase in flight key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be		
Option A: Flooding Option B: Entrainment Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constatnt in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Option D: Increase in flight key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be	O.10.	In distillation operation, due to low value for vapour velocity, liquid rain down through
Option A: Flooding Option B: Entrainment Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor Option B: Partially vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio Option D: Increases or decreases reflux ratio Option D: Increases or decreases reflux ratio Option D: Increase or decreases reflux ratio Option D: Increase or decreases reflux ratio Option D: Increase or decreases reflux ratio		
Option B: Entrainment Option C: Channeling Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be	Option A:	
Option C: Channeling  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor  Option B: Partialy vaporized  Option C: Saturated liquid  Option D: Cold liquid  Q.12. Increase in number of trays in distillation column  Option A: Increases reflux ratio  Option B: Decreases reflux ratio  Option C: Does not affect reflux ratio  Option D: Increases or decreases reflux ratio  Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be		
Option D: Weeping  Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constatnt in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor  Option B: Partialy vaporized  Option C: Saturated liquid  Option D: Cold liquid  Q.12. Increase in number of trays in distillation column  Option A: Increases reflux ratio  Option B: Decreases reflux ratio  Option C: Does not affect reflux ratio  Option D: Increases or decreases reflux ratio  Option D: Increases or decreases reflux ratio  Option D: Increases or decreases reflux ratio		Channeling
Q.11. A saturated liquid containing components P, Q, R and S with 40, 10, 25 and 25 mole% respectively is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constatnt in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor  Option B: Partialy vaporized  Option C: Saturated liquid  Option D: Cold liquid  Q.12. Increase in number of trays in distillation column  Option A: Increases reflux ratio  Option B: Decreases reflux ratio  Option C: Does not affect reflux ratio  Option D: Increases or decreases reflux ratio  Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be		
is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in Underwood's equation is 1.2. Then identify the feed condition.  Option A: Saturated vapor  Option B: Partialy vaporized  Option D: Cold liquid  Q.12. Increase in number of trays in distillation column  Option A: Increases reflux ratio  Option B: Decreases reflux ratio  Option C: Does not affect reflux ratio  Option D: Increases or decreases reflux ratio  Option D: Increase or decreases reflux ratio  Option D: Increase or decreases reflux ratio	1	
Option A: Saturated vapor Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be	Q.11.	is fractionated in distillation column. The average relative volatilities of P, Q, R and S with respect to heavy key component in mixture are 2, 1.6, 1 and 0.6 respectively. The value of constant in
Option B: Partialy vaporized Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be	Option A:	
Option C: Saturated liquid Option D: Cold liquid  Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be		•
Option D: Cold liquid  Q.12. Increase in number of trays in distillation column  Option A: Increases reflux ratio  Option B: Decreases reflux ratio  Option C: Does not affect reflux ratio  Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be	<del></del>	
Q.12. Increase in number of trays in distillation column Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be		*
Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be		•
Option A: Increases reflux ratio Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be	Q.12.	Increase in number of trays in distillation column
Option B: Decreases reflux ratio Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be		
Option C: Does not affect reflux ratio Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be		Decreases reflux ratio
Option D: Increases or decreases reflux ratio  Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be	-	Does not affect reflux ratio
Q.13. If recovery of light key component in distillate is 0.9, then recovery of lighter than light key component in distillate will be		
component in distillate will be	1	
Option A:   More than 0.9	Q.13.	component in distillate will be
	Option A:	More than 0.9

Option B:	Less than 0.9
Option C:	Equal to 0.9
Option D:	Equal to 0
Option D.	
Q.14.	As per thumb rule, absorption factor for key component is generally taken as
Option A:	1
Option B:	1.25
Option C:	1.4
Option D:	0.75
Q.15.	If flow rate of solvent required in absorber is 14 mol/s, vapour pressure of key component to be
	absorbed is 0.5 bar, operating pressure in column is 10 bar, and absorption factor for key component
	is 1.4, then flow rate of gaseous feed entering the absorber will bemol/s.
Option A:	100
Option B:	200
Option C:	50
Option D:	150
Q.16.	To increase the absorption factor, (where, G = gas flow rate, S = solvent flow rate):
Option A:	Increase both 'G' and 'S'
Option B:	Decrease both 'G' and 'S'
Option C:	Increase 'S' and decrease 'G'
Option D:	Increase 'G' and decrease 'S'
O.17.	Technically, the absorption operation is opposite to operation.
Q.17. Option A:	Technically, the absorption operation is opposite to operation.  Stripping
Option A:	Technically, the absorption operation is opposite to operation.  Stripping  Flash
Option A: Option B:	Stripping
Option A: Option B: Option C:	Stripping Flash
Option A: Option B:	Stripping Flash Distillation
Option A: Option B: Option C:	Stripping Flash Distillation
Option A: Option B: Option C: Option D:	Stripping Flash Distillation Adsorption
Option A: Option B: Option C: Option D: Q.18.	Stripping Flash Distillation Adsorption Pick out the wrong statement:
Option A: Option B: Option C: Option D:  Q.18. Option A:	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction
Option A: Option B: Option C: Option D:  Q.18. Option A: Option B:	Stripping Flash Distillation Adsorption Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction
Option A: Option B: Option C: Option D:  Q.18. Option A: Option B: Option C: Option C:	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction A catalyst does not alter the final position of equilibrium in a reversible reaction
Option A: Option B: Option C: Option D:  Q.18. Option A: Option B: Option C: Option D:	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction A catalyst does not alter the final position of equilibrium in a reversible reaction  In gas – liquid reactor, equilibrium conditions at interface can be described by
Option A: Option B: Option C: Option D:  Q.18. Option A: Option B: Option C: Option D:  Q.19. Option A:	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction A catalyst does not alter the final position of equilibrium in a reversible reaction  In gas – liquid reactor, equilibrium conditions at interface can be described by Boyle's Law
Option A: Option B: Option C: Option D:  Q.18. Option A: Option B: Option C: Option D:  Q.19. Option A: Option A:	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction A catalyst does not alter the final position of equilibrium in a reversible reaction  In gas – liquid reactor, equilibrium conditions at interface can be described by Boyle's Law Henry's law
Option A: Option B: Option C: Option D:  Q.18. Option A: Option B: Option C: Option D:  Q.19. Option A: Option A: Option C: Option C: Option C:	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction A catalyst does not alter the final position of equilibrium in a reversible reaction  In gas – liquid reactor, equilibrium conditions at interface can be described by Boyle's Law Henry's law Raoult's ;aw
Option A: Option B: Option C: Option D:  Q.18. Option A: Option B: Option C: Option D:  Q.19. Option A: Option A:	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction A catalyst does not alter the final position of equilibrium in a reversible reaction  In gas – liquid reactor, equilibrium conditions at interface can be described by Boyle's Law Henry's law
Option A: Option B: Option C: Option D:  Q.18. Option A: Option B: Option C: Option D:  Q.19. Option A: Option B: Option C: Option C: Option D:	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction A catalyst does not alter the final position of equilibrium in a reversible reaction  In gas – liquid reactor, equilibrium conditions at interface can be described by Boyle's Law Henry's law Raoult's ;aw Charle's law
Option A: Option B: Option C: Option D:  Q.18. Option A: Option B: Option C: Option D:  Q.19. Option A: Option A: Option C: Option C: Option C:	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction A catalyst does not alter the final position of equilibrium in a reversible reaction  In gas — liquid reactor, equilibrium conditions at interface can be described by Boyle's Law Henry's law Raoult's ;aw Charle's law  As a safety factor one should choose the vessel (Gauge) pressure to be percent higher than
Option A: Option B: Option C: Option D:  Q.18. Option A: Option B: Option C: Option D:  Q.19. Option A: Option B: Option C: Option D:  Q.20.	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction A catalyst does not alter the final position of equilibrium in a reversible reaction  In gas – liquid reactor, equilibrium conditions at interface can be described by Boyle's Law Henry's law Raoult's ;aw Charle's law  As a safety factor one should choose the vessel (Gauge) pressure to be percent higher than the actual processes pressure from mass and energy balance.
Option A: Option B: Option C: Option D:  Q.18. Option A: Option A: Option B: Option C: Option D:  Q.19. Option A: Option B: Option C: Option D:  Q.20. Option A:	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction A catalyst does not alter the final position of equilibrium in a reversible reaction  In gas – liquid reactor, equilibrium conditions at interface can be described by Boyle's Law Henry's law Raoult's ;aw Charle's law  As a safety factor one should choose the vessel (Gauge) pressure to be percent higher than the actual processes pressure from mass and energy balance.
Option A: Option B: Option C: Option D:  Q.18. Option A: Option B: Option C: Option D:  Q.19. Option A: Option B: Option C: Option C: Option D:  Q.20.  Option A: Option B:	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction A catalyst does not alter the final position of equilibrium in a reversible reaction  In gas – liquid reactor, equilibrium conditions at interface can be described by Boyle's Law Henry's law Raoult's ;aw Charle's law  As a safety factor one should choose the vessel (Gauge) pressure to be percent higher than the actual processes pressure from mass and energy balance.  10 20
Option A: Option B: Option C: Option D:  Q.18. Option A: Option A: Option B: Option C: Option D:  Q.19. Option A: Option B: Option C: Option D:  Q.20. Option A:	Stripping Flash Distillation Adsorption  Pick out the wrong statement: A catalyst is specific in reaction A catalyst ideally remains unchanged in chemical composition at the end the reaction A catalyst initiates a reaction A catalyst does not alter the final position of equilibrium in a reversible reaction  In gas – liquid reactor, equilibrium conditions at interface can be described by Boyle's Law Henry's law Raoult's ;aw Charle's law  As a safety factor one should choose the vessel (Gauge) pressure to be percent higher than the actual processes pressure from mass and energy balance.

Q.21.   Choose correct one   Option A: For fixed number of compressors, it can be shown that the minimum work occurs when all compression ratios are equal.   Option B: For fixed number of compressors, it can be shown that the minimum work occurs when all compression ratios are equal.   Option C: For different number of compressors, it can be shown that the minimum work occurs when all compression ratios are equal.   Option D: For fixed number of compressors, it can be shown that the minimum work occurs when all compression ratios are equal.   Option D: For fixed number of compressors, it can be shown that the maximum work occurs when all compression ratios are equal.   Option D: For fixed number of compressors, it can be shown that the maximum work occurs when all compression ratios are equal.   Option D: For fixed number of compressors, it can be shown that the minimum work occurs when all compression ratios are equal.   Option D: For fixed number of compressors, it can be shown that the minimum work occurs when all compression ratios are equal.   Option A: Pressure factor of 4.23, then what is the present bare module cost (BMC) of this equipment if present and base cost index value are 359 and 115 respectively?   Option B: Rs. 846000   Option B: Rs. 846000   Option B: Rs. 489256   Option A: Module pressure factor   Option A: Module pressure factor   Option B: Material and pressure factor   Option B: Material and pressure factor   Option C: Modular pressure function   Option D: Material pressure function   Option B: Semi batch mode only   Option B: Semi batch mode only   Option C: Ontinuous mode only   Option D: Batch, semi batch or continuous mode   Option C: Ontinuous mode only   Option C: Continuous mode only   Option C: Continuous mode   Option C: Continuou		
compression ratios are equal.  Option B: For fixed number of compressors, it can be shown that the minimum work occurs when all compression ratios are not equal.  Option C: For different number of compressors, it can be shown that the minimum work occurs when all compression ratios are equal.  Option D: For fixed number of compressors, it can be shown that the maximum work occurs when all compression ratios are equal.  Q.22. If a process equipment has base cost (BC) of Rs. 200000, material & pressure factor of 1, and module factor of 4.23, then what is the present bare module cost (BMC) of this equipment if present and base cost index value are 359 and 115 respectively?  Option A: Rs. 846000  Option B: Rs. 2640991  Option C: Rs. 500000  Option D: Module pressure factor  Option A: Module pressure factor  Option B: Material and pressure factor  Option D: Material pressure function  Option D: Material pressure function  Option D: Stirred tank reactors can be operated in  Option C: Continuous mode only  Option D: Batch, semi batch or continuous mode  Q.24. Stirred tank reactors can be operated in  Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out_around/of the process.  Option A: Material balance  Option B: Safety analysis  Option C: Energy balance	Q.21.	Choose correct one
Option B: For fixed number of compressors, it can be shown that the minimum work occurs when all compression ratios are not equal.  Option C: For different number of compressors, it can be shown that the minimum work occurs when all compression ratios are equal.  Option D: For fixed number of compressors, it can be shown that the maximum work occurs when all compression ratios are equal.  Q.22. If a process equipment has base cost (BC) of Rs. 200000, material & pressure factor of 1, and module factor of 4.23, then what is the present bare module cost (BMC) of this equipment if present and base cost index value are 359 and 115 respectively?  Option A: Rs. 846000  Option B: Rs. 2640991  Option D: Rs. 489256  Q.23. MPF is  Option A: Module pressure factor  Option B: Material and pressure factor  Option D: Material pressure function  Option D: Material pressure function  Q.24. Stirred tank reactors can be operated in  Option B: Semi batch mode only  Option B: Semi batch mode only  Option C: Continuous mode only  Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out	Option A:	
Option C: For different number of compressors, it can be shown that the minimum work occurs when all compression ratios are equal.  Option D: For fixed number of compressors, it can be shown that the maximum work occurs when all compression ratios are equal  Q.22. If a process equipment has base cost (BC) of Rs. 200000, material & pressure factor of 1, and module factor of 4.23, then what is the present bare module cost (BMC) of this equipment if present and base cost index value are 359 and 115 respectively?  Option A: Rs. 846000  Option B: Rs. 2640991  Option C: Rs. 500000  Option D: Rs. 489256  Q.23. MPF is  Option A: Module pressure factor  Option B: Material and pressure factor  Option C: Modular pressure function  Option D: Material pressure function  Q.24. Stirred tank reactors can be operated in  Option A: Batch mode only  Option B: Semi batch mode only  Option C: Continuous mode only  Option C: Continuous mode only  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out	Option B:	For fixed number of compressors, it can be shown that the minimum work occurs when all
Option D: For fixed number of compressors, it can be shown that the maximum work occurs when all compression ratios are equal  Q.22. If a process equipment has base cost (BC) of Rs. 200000, material & pressure factor of 1, and module factor of 4.23, then what is the present bare module cost (BMC) of this equipment if present and base cost index value are 359 and 115 respectively?  Option A: Rs. 846000 Option B: Rs. 2640991 Option C: Rs. 500000 Option D: Rs. 489256  Q.23. MPF is Option A: Module pressure factor Option B: Material and pressure factor Option D: Material pressure function Option D: Material pressure function  Q.24. Stirred tank reactors can be operated in Option A: Batch mode only Option C: Continuous mode only Option C: Continuous mode only Option C: Heating and cooling utility requirement of process can be evaluated by carrying out_around/of the process.  Option A: Material balance Option B: Safety analysis Option C: Energy balance	Option C:	For different number of compressors, it can be shown that the minimum work occurs when all
module factor of 4.23, then what is the present bare module cost (BMC) of this equipment if present and base cost index value are 359 and 115 respectively?  Option A: Rs. 846000  Option B: Rs. 2640991  Option C: Rs. 500000  Option D: Rs. 489256  Q.23. MPF is  Option A: Module pressure factor  Option B: Material and pressure factor  Option D: Modular pressure function  Option D: Material pressure function  Option D: Material pressure function  Option A: Stirred tank reactors can be operated in  Option A: Batch mode only  Option B: Semi batch mode only  Option C: Continuous mode only  Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out_around/of the process.  Option A: Material balance  Option B: Safety analysis  Option C: Energy balance	Option D:	For fixed number of compressors, it can be shown that the maximum work occurs when all
Option B: Rs. 2640991 Option C: Rs. 500000 Option D: Rs. 489256  Q.23. MPF is Option A: Module pressure factor Option B: Material and pressure factor Option C: Modular pressure function Option D: Material pressure function  Q.24. Stirred tank reactors can be operated in Option A: Batch mode only Option B: Semi batch mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out_around/of the process.  Option A: Material balance Option B: Safety analysis Option C: Energy balance	Q.22.	module factor of 4.23, then what is the present bare module cost (BMC) of this equipment if
Option C: Rs. 500000 Option D: Rs. 489256  Q.23. MPF is Option A: Module pressure factor Option B: Material and pressure factor Option C: Modular pressure function Option D: Material pressure function  Q.24. Stirred tank reactors can be operated in Option A: Batch mode only Option B: Semi batch mode only Option C: Continuous mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out around/of the process.  Option A: Material balance Option B: Safety analysis Option C: Energy balance	Option A:	Rs. 846000
Option D: Rs. 489256  Q.23. MPF is Option A: Module pressure factor Option B: Material and pressure factor Option C: Modular pressure function Option D: Material pressure function  Q.24. Stirred tank reactors can be operated in Option A: Batch mode only Option B: Semi batch mode only Option C: Continuous mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out around/of the process.  Option A: Material balance Option B: Safety analysis Option C: Energy balance	Option B:	Rs. 2640991
Q.23. MPF is Option A: Module pressure factor Option B: Material and pressure factor Option C: Modular pressure function Option D: Material pressure function  Q.24. Stirred tank reactors can be operated in Option A: Batch mode only Option B: Semi batch mode only Option C: Continuous mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out	Option C:	Rs. 500000
Option A: Module pressure factor Option B: Material and pressure factor Option C: Modular pressure function Option D: Material pressure function  Q.24. Stirred tank reactors can be operated in Option A: Batch mode only Option B: Semi batch mode only Option C: Continuous mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out around/of the process.  Option A: Material balance Option B: Safety analysis Option C: Energy balance	Option D:	Rs. 489256
Option A: Module pressure factor Option B: Material and pressure factor Option C: Modular pressure function Option D: Material pressure function  Q.24. Stirred tank reactors can be operated in Option A: Batch mode only Option B: Semi batch mode only Option C: Continuous mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out around/of the process. Option A: Material balance Option B: Safety analysis Option C: Energy balance		
Option B: Material and pressure factor Option C: Modular pressure function Option D: Material pressure function  Q.24. Stirred tank reactors can be operated in Option A: Batch mode only Option B: Semi batch mode only Option C: Continuous mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out around/of the process. Option A: Material balance Option B: Safety analysis Option C: Energy balance	`	
Option C: Modular pressure function  Option D: Material pressure function  Q.24. Stirred tank reactors can be operated in  Option A: Batch mode only  Option B: Semi batch mode only  Option C: Continuous mode only  Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out_around/of the process.  Option A: Material balance  Option C: Energy balance	•	
Option D: Material pressure function  Q.24. Stirred tank reactors can be operated in Option A: Batch mode only Option B: Semi batch mode only Option C: Continuous mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out around/of the process.  Option A: Material balance Option B: Safety analysis Option C: Energy balance		
Q.24. Stirred tank reactors can be operated in Option A: Batch mode only Option B: Semi batch mode only Option C: Continuous mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out		±
Option A: Batch mode only Option B: Semi batch mode only Option C: Continuous mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out around/of the process.  Option A: Material balance Option B: Safety analysis Option C: Energy balance	Option D:	Material pressure function
Option A: Batch mode only Option B: Semi batch mode only Option C: Continuous mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out around/of the process.  Option A: Material balance Option B: Safety analysis Option C: Energy balance	Q.24.	Stirred tank reactors can be operated in
Option C: Continuous mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out around/of the process.  Option A: Material balance Option B: Safety analysis Option C: Energy balance	Option A:	
Option C: Continuous mode only Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out around/of the process.  Option A: Material balance Option B: Safety analysis Option C: Energy balance	Option B:	Semi batch mode only
Option D: Batch, semi batch or continuous mode  Q.25. Heating and cooling utility requirement of process can be evaluated by carrying out around/of the process.  Option A: Material balance Option B: Safety analysis Option C: Energy balance		Continuous mode only
around/of the process.  Option A: Material balance  Option B: Safety analysis  Option C: Energy balance	Option D:	Batch, semi batch or continuous mode
Option B: Safety analysis Option C: Energy balance		around/of the process.
Option C: Energy balance	-	
	Option B:	Safety analysis
Option D: Cost estimation	Option C:	Energy balance
	Option D:	Cost estimation