

**University of Mumbai**  
**Examination 2020 under cluster PCOE**

Program: BE Chemical Engineering

Curriculum Scheme: Revised 2012

Examination: Second Year Semester IV

Course Code: **CHC405**

Course Name: **Mechanical Equipment Design**

Time: 1 hour

Max. Marks: 50

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Note to the students:- All Questions are compulsory and carry equal marks .

Q1.	Power number is ratio of
Option A:	Imposed forced to inertial force
Option B:	Bouyant force to inertial force
Option C:	Gravitation force to inertial force
Option D:	Imposed force to gravitational force
Q2.	Paddle agitator
Option A:	Is suitable for mixing low viscosity liquids
Option B:	Produces axial flow
Option C:	Moves at very high speed
Option D:	Moves at very high speed with axial flow
Q3.	Which one of the following is not a type of jacket?
Option A:	Full conventional jacket
Option B:	Dimpled jacket
Option C:	Coiled Jacket
Option D:	Half-pipe jacket
Q4.	Which one of the following jacket is best suited for agitated vessels?
Option A:	Full conventional jacket
Option B:	Dimpled jacket
Option C:	Coiled Jacket
Option D:	Half-pipe jacket

**University of Mumbai**  
**Examination 2020 under cluster PCOE**

Q5.	Which jacket is used to provide better mechanical strength?
Option A:	Full conventional jacket
Option B:	Dimpled jacket
Option C:	Coiled Jacket
Option D:	Half-pipe jacket
Q6.	Vertical vessel are not supported by
Option A:	Brackets
Option B:	Skirts
Option C:	Columns
Option D:	Saddles
Q7.	Skirt support is most suitable for _____
Option A:	Small horizontal vessel
Option B:	Tall vertical Vessels
Option C:	Horizontal Vessels
Option D:	Thick walled small vertical vessels
Q8.	Bracket supports are most suitable for
Option A:	Thick walled vertical vessels
Option B:	Horizontal vessels
Option C:	Thin spherical vessels
Option D:	Vertical Vessels
Q9.	The joint efficiency factor for the tank for the double weld joint is
Option A:	0.8
Option B:	0.85
Option C:	0.9
Option D:	0.95
Q10.	Cast iron and alloy basic carbon percentage is
Option A:	3 to 4%
Option B:	1 to 2%
Option C:	0.5 to 1%
Option D:	0. 1%
Q11.	The ratio of shear stress to shear strain is called

**University of Mumbai**  
**Examination 2020 under cluster PCOE**

Option A:	Bulk modulus
Option B:	Shear modulus
Option C:	Modulus of rigidity
Option D:	Modulus of elasticity
Q12.	Monel metal is a copper nickel alloy and percentage of copper and nickel is
Option A:	65%- 35%
Option B:	60 %-40%
Option C:	55 % - 35%
Option D:	30%-45%
Q13.	The ratio of increasing length with original length is called
Option A:	Elongation
Option B:	Strain
Option C:	Percentage of elongation
Option D:	Yeild stress
Q14.	Storage tank bottom plate constructed by _____ welding
Option A:	Spot
Option B:	Butt
Option C:	Plasma
Option D:	Stick
Q15.	Fixed roof tank are meant for liquid _____ flash point
Option A:	High
Option B:	Medium
Option C:	Low
Option D:	Same
Q16.	In case of pressure vessels having open ends, the fluid pressure induces
Option A:	Longitudinal stress
Option B:	Circumferential stress
Option C:	Shear stress
Option D:	Shear force
Q17.	The stress which vary from a minimum value to a maximum value of the same nature (i.e. tensile or compressive) is called
Option A:	Repeated stress

**University of Mumbai**  
**Examination 2020 under cluster PCOE**

Option B:	Yield stress
Option C:	Fluctuating stress
Option D:	Alternating stress
Q18.	The design of the pressure vessel is based on
Option A:	Longitudinal stress
Option B:	Hoop stress
Option C:	Longitudinal and hoop stress
Option D:	Shear Stress
Q19.	_____ closure is the weakest enclosure for cylindrical vessels.
Option A:	Hemispherical
Option B:	Torispherical
Option C:	Conical or flat plate
Option D:	Elliptical
Q20.	Wall thickness of thin cylindrical shell with hemispherical ends as compared to that of the spherical ends, is
Option A:	Equal
Option B:	More
Option C:	Less
Option D:	Uncertain
Q21.	Which of the following parameters can be obtained by tension test of a standard specimen?
Option A:	Proportional Limit
Option B:	Yield Strength
Option C:	Percentage Reduction in area
Option D:	Tensile Strength
Q22.	Which of the following is measure of stiffness?
Option A:	Modulus of elasticity
Option B:	Modulus of plasticity
Option C:	Resilience
Option D:	Toughness
Q23.	Shafts are subjected to _____ forces.
Option A:	Compressive

**University of Mumbai**  
**Examination 2020 under cluster PCOE**

Option B:	Tensile
Option C:	Shear
Option D:	Pressure
Q24.	Design pressure for unfired pressure vessels is 1.05 times of _____
Option A:	Minimum working pressure
Option B:	Maximum working pressure
Option C:	Hydrostatic test pressure
Option D:	Atmospheric Pressure
Q25.	In unfired pressure vessels, category A consists of _____
Option A:	Joints connecting flanges and flat heads
Option B:	Welded joints connecting nozzles with main shell
Option C:	Circumferential welded joints
Option D:	Longitudinal welded joints

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