

University of Mumbai
Examination 2020 under cluster PCOE

Program: BE Chemical Engineering

Curriculum Scheme: Revised 2016

Examination: **Second Year Semester III**

Course Code: **CHC303**

Course Name: **Fluid Flow Operations**

Time: 1 hour

Max. Marks: 50

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

Q1.	The ratio of specific weight of a liquid to the specific weight of pure water at a standard temperature is called
Option A:	Density of liquid
Option B:	Specific gravity of liquid
Option C:	Compressibility of liquid
Option D:	Surface tension of liquid
Q2.	The Pascal's law is applicable to the liquid which is _____
Option A:	Compressible
Option B:	In-compressible
Option C:	Solid in phase
Option D:	Super-compressive
Q3.	The pressure at any given point of a non-moving fluid is called the _____
Option A:	Gauge Pressure
Option B:	Atmospheric Pressure
Option C:	Differential Pressure
Option D:	Hydrostatic Pressure
Q4.	Which device is popularly used for measuring difference of low pressure?
Option A:	Inverted U-tube Differential Manometer
Option B:	U-tube Differential Manometer
Option C:	Inclined Single column manometer
Option D:	Vertical Single column manometer
Q5.	If the streamlines of the particles in a flow are parallel to each other, what type of flow can it be?
Option A:	Steady
Option B:	Unsteady
Option C:	Uniform
Option D:	Non-uniform

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Q6.	Which of the following assumption is incorrect in the derivation of Bernoulli's equation?
Option A:	The fluid is ideal
Option B:	The flow is steady
Option C:	The flow is incompressible
Option D:	The flow is rotational
Q7.	Water is flowing through a pipe of 3.8 cm diameter under a pressure of 20 N/cm ² (gauge) and with mean velocity of 3.7 m/s. Find the total head or total energy per unit weight of the water at a cross section, which is 7 m above the datum line.
Option A:	56.14 m
Option B:	28.07 m
Option C:	84.18 m
Option D:	10.52 m
Q8.	In a steady, ideal flow of an incompressible fluid, total energy at any point of the fluid is always constant. This theorem is known as
Option A:	Euler's theorem
Option B:	Navier-stokes theorem
Option C:	Reynold's theorem
Option D:	Bernoulli's theorem
Q9.	Which among the following is not a loss that is developed in the pipe?
Option A:	Entry
Option B:	Exit
Option C:	Connection between two pipes
Option D:	Liquid velocity
Q10.	In a venturimeter, the velocity of the liquid at the throat is
Option A:	Higher than inlet
Option B:	Higher than outlet
Option C:	Lesser than inlet
Option D:	Minimum
Q11.	Which of the following instrument can be used for measuring the speed of a submarine moving in deep-sea?
Option A:	Venturimeter
Option B:	Hot wire anemometer
Option C:	Rotameter
Option D:	Pitot tube
Q12.	When a fluid is called turbulent?
Option A:	Reynolds number is greater than 2000
Option B:	Reynolds number is less than 2000
Option C:	The density of the fluid is low
Option D:	High viscosity of fluid

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Q13.	Which among the following is an assumption of Hagen-Poiseuille equation?
Option A:	Fluid is compressible
Option B:	Fluid is uniform
Option C:	Fluid is laminar
Option D:	Fluid is turbulent
Q14.	Total pressure is an addition of static pressure and _____
Option A:	Dynamic pressure
Option B:	Stagnation pressure
Option C:	Fluid pressure
Option D:	Instantaneous pressure
Q15.	What is the function of Reynolds number?
Option A:	To detect pressure changes
Option B:	To predict flow patterns
Option C:	Temperature
Option D:	Viscosity
Q16.	Speed of sound is the _____
Option A:	Distance travelled per unit length
Option B:	Distance travelled per unit time
Option C:	Distance travelled per unit pressure
Option D:	Distance travelled per unit temperature
Q17.	The sound wave is transmitted through liquids as _____
Option A:	Longitudinal waves
Option B:	Transverse waves
Option C:	Elongated waves
Option D:	Refracted waves
Q18.	The drag coefficient is directly proportional to the _____
Option A:	Drag force
Option B:	Mass density
Option C:	Area
Option D:	Flow speed
Q19.	The velocity distribution at any section of a pipe for steady laminar flow is
Option A:	Linear
Option B:	Exponential
Option C:	Parabolic
Option D:	Hyperbolic
Q20.	Different velocities in a centrifugal pump are determined by using _____
Option A:	Velocity triangle
Option B:	Reynolds number

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Option C:	Froude number
Option D:	Overall efficiency
Q21.	A multistage centrifugal pumps has more than two _____
Option A:	Pumps
Option B:	Impellers
Option C:	Turbines
Option D:	Magnetic pumps
Q22.	When a pump casing is filled with liquid before it is started, it is called as _____
Option A:	Adiabatic expansion
Option B:	Priming
Option C:	Adiabatic compression
Option D:	Isentropic expansion
Q23.	What is the function of a butterfly valve?
Option A:	On/ off control
Option B:	Flow regulation
Option C:	Pressure control
Option D:	Hydraulic control
Q24.	Reciprocating pump is a _____
Option A:	Negative displacement pump
Option B:	Positive displacement pump
Option C:	Diaphragm pump
Option D:	Emulsion pump
Q25.	Impellers for high heads usually have ...
Option A:	High specific speed
Option B:	Low specific speed
Option C:	Medium specific speed
Option D:	Variable specific speed