University of Mumbai
Examination 2020

Program: Civil Engineering
Curriculum Scheme: Rev2016
Examination: Third Year Semester **VI**
Course Code: **CEC603** and Course Name: **Applied Hydraulics II**

Time: 1 hour   Max. Marks: 50

Q1.	Momentum is a _____ quantity
Option A:	Scalar
Option B:	Vector
Option C:	Infinite
Option D:	Zero
Q2.	Impulse Momentum equation is based on
Option A:	Newton's First law of motion
Option B:	Law of conservation of mass
Option C:	Newton's third law of motion
Option D:	Newton's Second law of motion
Q3.	A nozzle of diameter 20 mm is fitted to a pipe of diameter 40 mm. Find the force exerted by the nozzle on the water which is flowing through the pipe at the rate of 1.2 m3/minute.
Option A:	1472.09 N
Option B:	14720.9 N
Option C:	147.209 N
Option D:	14.7209 N
Q4.	If Equation contains total 6 variables and having fundamental dimensions M, L, T, then number of π-terms
Option A:	6
Option B:	2
Option C:	3
Option D:	4
Q5.	If there are m fundamental dimensions, then according to Buckingham's π – theorem, each π term may contain maximum of _____variables
Option A:	m+1
Option B:	m-1
Option C:	m
Option D:	n-m
Q6.	The repeating variables in dimensional analysis should:
Option A:	include the dependent variable
Option B:	have amongst themselves all the basic dimensions
Option C:	be derivable from one another
Option D:	exclude one of the basic dimensions

Q7.	A force that is caused due to attraction of particles in the layer of fluid bulk is called?
Option A:	Viscous force
Option B:	Inertial force
Option C:	Surface tension force
Option D:	Pressure force
Q8.	In a stationery vertical plate, the jet after striking the plate will move _____
Option A:	In opposite direction
Option B:	Along the plate
Option C:	Perpendicular to the plate
Option D:	Parallel to the plate
Q9.	A jet after striking a smooth plate comes out with a _____ velocity
Option A:	Same
Option B:	Decreased
Option C:	Increased
Option D:	Zero
Q10.	The propulsive force drives the jet in the _____
Option A:	Backward direction
Option B:	Forward direction
Option C:	Perpendicular direction
Option D:	Parallel movement
Q11.	What is the equation for efficiency of jet propulsion?
Option A:	2u/(V-2u)
Option B:	V/2u
Option C:	2u/v
Option D:	2u/(V+2u)
Q12.	As compare to flat plate, the force of jet on semi-circular vane will be
Option A:	Half
Option B:	Equal
Option C:	Triple
Option D:	Double
Q13.	Which kind of turbine is a Pelton Wheel turbine?
Option A:	Tangential flow turbine
Option B:	Radial flow turbine
Option C:	Outward flow turbine
Option D:	Inward flow turbine
Q14.	In what type of turbine water enters in radial direction and leaves axial direction?

Option A:	Tangential flow turbine
Option B:	Axial flow turbine
Option C:	Outward flow turbine
Option D:	Mixed flow turbine
Q15.	The ratio of power at the shaft of turbine and power delivered by water to runner is known as?
Option A:	Mechanical efficiency
Option B:	Volumetric efficiency
Option C:	Hydraulic efficiency
Option D:	Overall efficiency
Q16.	The hydraulic efficiency of Pelton turbine will be maximum when blade velocity is equal to _____
Option A:	V/2
Option B:	V/3
Option C:	V/4
Option D:	V/5
Q17.	The ratio of pitch diameter of Pelton wheel to diameter of jet is known as _____
Option A:	Speed ratio
Option B:	Jet ratio
Option C:	Velocity ratio
Option D:	Co-efficient of velocity
Q18.	_____is ratio of pressure energy change inside runner to total energy change inside runner.
Option A:	Degree of reaction
Option B:	Speed ratio
Option C:	Flow ratio
Option D:	Hydraulic efficiency
Q19.	In this type of low head turbine, the guide vanes are fixed to the hub of the turbine and are not adjustable. What is the type of turbine called?
Option A:	Propeller turbine
Option B:	Kaplan turbine
Option C:	Francis turbine
Option D:	Pelton turbine
Q20.	If the speed of the centrifugal pump is doubled, the power required to drive the pump will
Option A:	Increase 8 times
Option B:	Increase 4 times
Option C:	Double
Option D:	Remains same

Q21.	Reciprocating pumps works on the principle of _____
Option A:	Drag force
Option B:	Liquid flow push
Option C:	Shock waves
Option D:	Flow speed
Q22.	At higher pressures, the impeller is connected in _____
Option A:	Series
Option B:	Parallel
Option C:	Equilibrium
Option D:	Series and parallel
Q23.	Reciprocating pump is a _____
Option A:	Negative displacement pump
Option B:	Positive displacement pump
Option C:	Diaphragm pump
Option D:	Emulsion pump
Q24.	The fluid coming into the centrifugal pump is accelerated by
Option A:	Throttle
Option B:	Nozzle
Option C:	Impeller
Option D:	Governor
Q25.	A _____ is a hydraulic machine for converting hydraulic power at low pressure into a reduced volume at higher pressure.
Option A:	Hydraulic Ram
Option B:	Hydraulic crane
Option C:	Hydraulic Intensifier
Option D:	Hydraulic accumulator