

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

Program: Chemical Engineering

Curriculum Scheme: Rev 2012

Examination: Third Year Semester VI

Course Code: CHC601 and Course Name: Instrumentation

Time: 1 hour

Max. Marks: 50

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

Q1.	LOPA Means_____
Option A:	Layer of Protection analysis.
Option B:	Layer of Perfect analysis.
Option C:	Layer of Protection area.
Option D:	Layer of Professional analysis.
Q2.	Which of the following adjustments is usually adjusted first in an instrument requiring calibration?
Option A:	Span
Option B:	Hysteresis
Option C:	Zero
Option D:	Linearity
Q3.	Change in output of sensor with change in input is _____
Option A:	Threshold
Option B:	Slew rate
Option C:	Sensitivity
Option D:	Accuracy
Q4.	What is the term used to express the ability of a measuring system to maintain its standard performance?
Option A:	Zero stability
Option B:	Stability
Option C:	Sensitivity
Option D:	Linearity
Q5.	A multiplexer is used for
Option A:	accepting multiple inputs
Option B:	accepting single input
Option C:	accepting multiple outputs
Option D:	accepting single output
Q6.	Which of the following judges the accuracy of an instrument?
Option A:	Dead zone
Option B:	Drift
Option C:	Static error

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

Option D:	Repeatability
Q7.	Which of the following is caused by careless handling?
Option A:	Systematic error
Option B:	Gross error
Option C:	Random error
Option D:	Round Error
Q8.	Signal conditioner is used for
Option A:	attenuating the voltage
Option B:	maintaining a constant voltage
Option C:	keeping the voltage zero
Option D:	boosting the voltage
Q9.	Which of the following is the dynamic characteristics of an instrument?
Option A:	Reproducibility
Option B:	Sensitivity
Option C:	Dead zone
Option D:	Fidelity
Q10.	SIL Means_____
Option A:	Safety International Level.
Option B:	Safety Integrity Level.
Option C:	Safety Integrity Limited.
Option D:	Safety Intermittent Level
Q11.	The deflection of the free end of the bimetallic strips in a bimetallic thermometer with temperature is nearly.
Option A:	linear
Option B:	non-linear
Option C:	parabolic
Option D:	hyperbolic
Q12.	Safety Valve mostly use in _____
Option A:	Viscous liquid.
Option B:	Gas Service.
Option C:	Corrosive Liquid.
Option D:	High Ph Liquid.
Q13.	Mercury thermometer can be used to measure the temperature upto _____ °C
Option A:	100
Option B:	250
Option C:	350
Option D:	750
Q14.	How systematic errors are eliminated?

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

Option A:	Frequent measurement
Option B:	Replacement of instrument
Option C:	Finding mean of reading
Option D:	Finding variance of reading
Q15.	One of the simplest applications of a Wheatstone bridge is _____ by making use of a photo resistive device.
Option A:	voltage measurement
Option B:	current measurement
Option C:	light measurement
Option D:	power measurement
Q16.	Digital outputs are obtained from
Option A:	A/D converter
Option B:	D/A converter
Option C:	Oscilloscope
Option D:	Voltage source
Q17.	Modulation is used for _____
Option A:	Conversion of signal.
Option B:	Amplification of signal.
Option C:	Reducing loss in transmission.
Option D:	Reducing loss in amplification.
Q18.	Which of the following is not a type of pressure sensing element?
Option A:	Bellows
Option B:	Bourdon tube
Option C:	Diaphragm
Option D:	Orifice plate
Q19.	_____ works on the effect of hydrostatic pressure exerted by liquid column
Option A:	Thermometers
Option B:	Manometers
Option C:	Venturi
Option D:	Orifice
Q20.	The point where fluid comes to rest in pitot tube is _____
Option A:	Break point
Option B:	Point of interaction
Option C:	Stagnation point
Option D:	Impact point
Q21.	Following level measuring device works on the hydrostatic head developed by liquid

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

Option A:	Gauge stick
Option B:	Hook gauge
Option C:	Float gauges
Option D:	Differential pressure gauge
Q22.	When there is temperature difference between two junctions of thermocouple, e.m.f. is developed between the junctions. It is _____
Option A:	Peltier effect.
Option B:	Ohm effect.
Option C:	Seebeck effect.
Option D:	Newton effect.
Q23.	The valve flow coefficient for a valve that is required to control the flow of water when maximum flow rate required is 0.012 m <sup>3</sup> /s and permissible pressure drop across the valve at this flow is 300 kPa
Option A:	0.0693
Option B:	0.000693
Option C:	0.00639
Option D:	693
Q24.	The ratio of maximum to minimum rates of controlled flow is _____
Option A:	Rangeability
Option B:	Reproducibility
Option C:	Efficiency
Option D:	Recoverability
Q25.	Express 1000 mm of mercury pressure into kPa
Option A:	136 kPa
Option B:	13600 kPa
Option C:	13.6 kPa
Option D:	1.36 kPa