

# University of Mumbai

## Examination 2020

Program: SE Electronics Engineering  
Curriculum Scheme: Revised 2016 (CBCS)  
Examination: Second Year Semester III

Course Code: ELX305 Course Name: Electronics Instruments and Measurement

Time: 1-hour

Max. Marks: 50

Note:

1. All Questions are compulsory and carry equal marks.
2. Assume suitable data wherever necessary.

Q1.	Which is dynamic characteristic of Instruments?
Option A:	Resolution
Option B:	Sensitivity
Option C:	Fidelity
Option D:	Accuracy
Q2.	Errors that occur due to human mistakes is called
Option A:	Environmental Errors
Option B:	Random Errors
Option C:	Systematic Errors
Option D:	Gross Errors
Q3.	The bridge used to measure below 1ohm resistance value is
Option A:	Anderson bridge
Option B:	Thomson bridge
Option C:	Wein's bridge
Option D:	Wheatstone Bridge
Q4.	Which Instruments indicate the instantaneous value of the electrical quantity being measured at the time at which it is being measured?
Option A:	Absolute
Option B:	Indicating
Option C:	Recording
Option D:	Integrating
Q5.	When the condition $R1/R2=R3/R4$ is satisfied, the current in the Galvanometer of Wheatstone bridge is
Option A:	Four
Option B:	Ten
Option C:	Zero
Option D:	One
Q6.	Which of the following instrument can be used in ac bridges for less frequencies up to 200 Hz only?
Option A:	Vibration galvanometer
Option B:	Tunable amplifier detector
Option C:	Headphone
Option D:	Transistor amplifier
Q7.	The advantage of dual slope ADC in digital voltmeter is that

**University of Mumbai**  
**Examination 2020**

Option A:	Its Conversion time is small.
Option B:	Its accuracy is high.
Option C:	It does not require comparator.
Option D:	It gives output in BCD format.
Q8.	In heterodyne wave analyser what is the output of first mixer?
Option A:	The output of first mixer is 30MHz
Option B:	The output of first mixer is in between 30Mhz-48MHz
Option C:	The output of first mixer is 40 MHz
Option D:	The output of first mixer is 45-50 MHz
Q9.	MacLeod Gauge consists of a reservoir containing _____ and its working is based on _____ law.
Option A:	Mercury, Pascal
Option B:	Mercury, Boyle's
Option C:	Oil, Newtons
Option D:	Oil, Pascal
Q10.	Which setup done to the Digital Storage Oscilloscope at the time of measurement?
Option A:	Normal Setup
Option B:	Factory Setup
Option C:	Measurement Setup
Option D:	Default Setup
Q11.	Which acquisition mode is used by the DSO to sample the highest and lowest values of the input signal?
Option A:	Average Mode
Option B:	Sample Mode
Option C:	Peak detect mode
Option D:	Auto mode
Q12.	Triggering of Sweep Generator is done by
Option A:	Flip-flop
Option B:	Transformer
Option C:	Channel A or B
Option D:	Oscillator
Q13.	In an electron gun, to accelerate the electrons, the anode is connected to
Option A:	Positive Potential
Option B:	Negative Potential
Option C:	Both negative and positive potential
Option D:	No potential
Q14.	Which is not the component of CRT?
Option A:	Focusing and Accelerating Anodes
Option B:	Horizontal and Vertical Deflection Plates.
Option C:	Evacuated Glass Envelope

**University of Mumbai**  
**Examination 2020**

Option D:	Time Base Generator
Q15.	Saw-tooth voltage of a CRO means:
Option A:	Only fly back time
Option B:	Sweep time + fly back time
Option C:	Only sweep time
Option D:	fly back time + sweep time
Q16.	When a strain gauge subjected to tension i.e. positive strain , its
Option A:	Length decreases and cross-section area increases
Option B:	Length increases and cross-section area decreases
Option C:	Length increases and area constant
Option D:	Length decreases and cross-section area constant
Q17.	Which statement is true for active transducer?
Option A:	Active transducer do not require external power supply for its operation
Option B:	Active transducer requires external power supply for its operation
Option C:	It is called externally power transducer
Option D:	Strain Gauge is an active transducer.
Q18.	What is the output of second mixer in heterodyne wave analyzer?
Option A:	0 Hz
Option B:	100 Hz
Option C:	150 Hz
Option D:	300 Hz
Q19.	In Sweep generator if the master oscillator frequency is fixed at 10.00 MHz and the variable frequency is varied between 10.01 MHz to 35 MHz, the mixer will give sinusoidal output whose frequency is swept from
Option A:	10 KHz to 35 MHz.
Option B:	10 KHz to 25 MHz.
Option C:	100 KHz to 25 MHz.
Option D:	10 MHz to 25 MHz.
Q20.	You have been asked to measure the displacement of shaft, which is linearly attached to piston in a machine wherein shaft has a rectilinear motion going back and forth. which transducer will use for above application?
Option A:	LVDT
Option B:	Strain Gauge
Option C:	Potentiometers
Option D:	Capacitive Transducer
Q21.	In function generator output of integrator is ----- wave which is change to ----- by voltage comparator multivibrator.
Option A:	Sine, triangular
Option B:	Sine, triangular
Option C:	Triangular, square

**University of Mumbai**  
**Examination 2020**

Option D:	Triangular, sine
Q22.	What is the moving part of a linear variable differential transformer?
Option A:	Diaphragm
Option B:	Primary
Option C:	Secondary
Option D:	Core
Q23.	Which of the following devices are used for a level to force conversion?
Option A:	Diaphragm
Option B:	Voltmeter
Option C:	Membrane
Option D:	Load cell
Q24.	Potentiometer transducer are used for the measurement of
Option A:	Displacement
Option B:	Force
Option C:	Weight
Option D:	Humidity
Q25.	A dead weight tester is an instrument that calibrates _____ and its formula to design a dead weight tester is expressed as _____.
Option A:	Pressure, $P = F / A$
Option B:	Force, $F=M*G$
Option C:	Pressure, $P= F*A$
Option D:	Force, $F= M/G$