

Telangana State Council Higher Education

Notations :

- Options shown in **green** color and with  icon are correct.
- Options shown in **red** color and with  icon are incorrect.

Question Paper Name :Instrumentation Engineering 30th May 2026
Shift 1**Subject Name :**

Instrumentation Engineering

Creation Date :

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Duration :

120

Total Marks :

120

Display Marks:

Yes

Share Answer Key With Delivery Engine :

Yes

Actual Answer Key :

Yes

Change Font Color :

No

Change Background Color :

No

Change Theme :

No

Help Button :

No

Show Reports :

No

Show Progress Bar :

No

Instrumentation Engineering

Group Number :

1

Group Id :

10513141

Group Maximum Duration :

0

Group Minimum Duration :

120

Show Attended Group? :

No

Edit Attended Group? :

No

Break time :

0

Group Marks :

120

Mathematics

Section Id :

10513192

Section Number :

1

Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	10
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	10513192
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 1051315281 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes
 Correct Marks : 1 Wrong Marks : 0

Let $A = [a_{ij}]$ for $i, j = 1, 2, 3, \dots, n$ be $n \times n, (n > 1)$ matrix such that $a_{ij} = \begin{cases} i! & \text{if } i = j \\ j & \text{if } i > j \\ 0 & \text{if } i < j \end{cases}$

Which one of the following is correct?

Options :

1. ✖ A has exactly one eigenvalue
2. ✖ A is not a triangular matrix
3. ✔ The eigenvalues of A are $1!, 2!, 3!, \dots, n!$
4. ✖ $\det(A) = 0$

Question Number : 2 Question Id : 1051315282 Question Type : MCQ Option Shuffling : Yes
 Display Question Number : Yes
 Correct Marks : 1 Wrong Marks : 0

The value of $\begin{vmatrix} \log x & \log y & \log z \\ \log ax & \log ay & \log az \\ \log bx & \log by & \log bz \end{vmatrix}$ is

Options :

1. ✖ $\log ab$

2. ✖ $\log abxyz$

3. ✖ 1

4. ✔ 0

Question Number : 3 Question Id : 1051315283 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The value of $\int_0^{\infty} \frac{x^8(1-x^6)}{(1+x)^{24}} dx$ is

Options :

1. ✔ 0

2. ✖ 8

3. ✖ 24

4. ✖ 1

Question Number : 4 Question Id : 1051315284 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The divergence of $(2x^2z\bar{i} + xy^2z\bar{j} + 3yz^2\bar{k})$ at the point $(1, 1, 1)$ is

Options :

1. ✖ -8

2. ✖ 0

3. ✖ 8

4. ✔ 12

Question Number : 5 Question Id : 1051315285 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The general solution of $\log\left(\frac{dy}{dx}\right) = ax + by$ is

Options :

1. ✖ $e^{ax} + e^{by} = k$
2. ✔ $be^{ax} + ae^{-by} = k$
3. ✖ $be^{-ax} + ae^{-by} = k$
4. ✖ $e^{-ax} - e^{-by} = k$

Question Number : 6 Question Id : 1051315286 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The differential equation $\frac{\partial^2 u}{\partial x^2} + 4\frac{\partial^2 u}{\partial x \partial y} + 4\frac{\partial^2 u}{\partial y^2} - \frac{\partial u}{\partial x} + 2\frac{\partial u}{\partial y} = 0$ is classified as

Options :

1. ✔ Parabolic
2. ✖ Elliptic
3. ✖ Hyperbolic
4. ✖ Both Parabolic & Elliptic

Question Number : 7 Question Id : 1051315287 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For a given $u(x, y) = x^3 - 3xy^2 + 3x^2 - 3y^2 + 1$. The analytic function $f(z) = u + iv$ is

Options :

1. ✖ $z^3 - 3z^2 + c$
2. ✔

$$z^3 + 3z^2 + c$$

3. ✖ $3z^2 - z^3 + c$

4. ✖ $z^2 - 2z^3 + c$

Question Number : 8 Question Id : 1051315288 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

How many minimum number of iterations are required to get an accuracy of 0.001 for the interval $[1, 3]$ in the bisection method?

Options :

1. ✔ 11

2. ✖ 10

3. ✖ 9

4. ✖ 8

Question Number : 9 Question Id : 1051315289 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A continuous random variable X has the density function $f(x) = \begin{cases} e^{-x}, & x > 0 \\ 0, & \text{elsewhere} \end{cases}$, then

the expected value of $g(x) = e^{\frac{2x}{3}}$ is

Options :

1. ✖ 1

2. ✖ 2

3. ✖ 0

4. ✔ 3

Question Number : 10 Question Id : 1051315290 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For a binomial variate X if $n = 5$ and $P(X = 1) = 8P(X = 3)$ then its variance is

Options :

1. ✖ $\frac{1}{5}$

2. ✔ $\frac{4}{5}$

3. ✖ $\frac{3}{5}$

4. ✖ $\frac{2}{5}$

Instrumentation Engineering

Section Id :	10513193
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	110
Number of Questions to be attempted :	110
Section Marks :	110
Maximum Instruction Time :	0
Sub-Section Number :	1
Sub-Section Id :	10513193
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 1051315291 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes
Correct Marks : 1 Wrong Marks : 0

Magnetic flux through a coil changes from 8 mWb to 2 mWb in 0.2 s. What is the induced emf?

Options :

1. ✗ 15 mV
2. ✓ 30 mV
3. ✗ 20 mV
4. ✗ 25 mV

Question Number : 12 Question Id : 1051315292 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A capacitor of 50 μF is connected to a 200 V battery. A dielectric of $K = 4$ is inserted. Find new capacitance and energy?

Options :

1. ✓ 200 μF and 4 J
2. ✗ 100 μF and 40 J
3. ✗ 4 μF and 200 J
4. ✗ 40 μF and 100 J

Question Number : 13 Question Id : 1051315293 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Biot–Savart’s law is most suitable for calculating magnetic field due to

Options :

1. ✗ infinitely long straight conductor
2. ✗ symmetrical current distributions only
3. ✓ small current elements

4. ✖ changing electric fields

Question Number : 14 Question Id : 1051315294 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If a solenoid has 500 turns, length 0.5 m and cross-sectional area $4 \times 10^{-4} \text{ m}^2$, then its self-inductance is

Options :

- 1. ✖ 0.25 mH
- 2. ✖ 0.63 mH
- 3. ✔ 1.26 mH
- 4. ✖ 2.5 mH

Question Number : 15 Question Id : 1051315295 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following best represents an ideal current source?

Options :

- 1. ✖ Zero internal resistance in parallel
- 2. ✖ Infinite internal resistance in series
- 3. ✖ Zero internal resistance in series
- 4. ✔ Infinite internal resistance in parallel

Question Number : 16 Question Id : 1051315296 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A series RLC circuit has $L = 0.5 \text{ H}$, $C = 0.02 \text{ F}$. For critical damping, the required resistance R is

Options :

1. ✖ 5Ω
2. ✔ 10Ω
3. ✖ 20Ω
4. ✖ 40Ω

Question Number : 17 Question Id : 1051315297 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

An AC circuit has $V_{\text{rms}} = 230 \text{ V}$, $I_{\text{rms}} = 5 \text{ A}$ and power factor = 0.8 then the active power consumed is

Options :

1. ✖ 460 W
2. ✖ 575 W
3. ✔ 920 W
4. ✖ 1150 W

Question Number : 18 Question Id : 1051315298 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A series RLC circuit has $L = 0.1 \text{ H}$ and $C = 10 \mu\text{F}$ then the resonant frequency is

Options :

1. ✔ 159 Hz
2. ✖ 318 Hz
3. ✖ 503 Hz

4. ✖ 1000 Hz

Question Number : 19 Question Id : 1051315299 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In Thevenin's theorem, if a circuit has $V_{th} = 20\text{ V}$, $R_{th} = 4\Omega$, then the load current for $R_L = 4\Omega$ is?

Options :

1. ✔ 2.5 A

2. ✖ 5 A

3. ✖ 10 A

4. ✖ 20 A

Question Number : 20 Question Id : 1051315300 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a parallel resonant circuit, the line current at resonance is

Options :

1. ✖ Maximum

2. ✔ Minimum

3. ✖ Infinite

4. ✖ Equal to branch current

Question Number : 21 Question Id : 1051315301 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is TRUE?

Options :

1. ✖ Power factor of a series resonance circuit is zero
2. ✖ Circuit impedance is minimum at resonance in a series resonance circuit
3. ✖ Power dissipated is minimum at resonance in a series resonance circuit
4. ✔ Circuit current is minimum at resonance in a series resonance circuit

Question Number : 22 Question Id : 1051315302 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A 50 Hz sinusoidal voltage has a peak of 141V. Its RMS value is?

Options :

1. ✖ 70.7 V
2. ✔ 100 V
3. ✖ 141 V
4. ✖ 200 V

Question Number : 23 Question Id : 1051315303 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For a series RLC circuit, the impedance locus is plotted in the complex plane, the impedance circle is at

Options :

1. ✖ $(X_L, 0)$
2. ✔ $(R, 0)$
3. ✖ $(X, 0)$

4. ✖ (0,0)

Question Number : 24 Question Id : 1051315304 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

An RC high-pass filter has $R = 10 \text{ k}\Omega$ and $C = 0.01 \text{ }\mu\text{F}$. The cut-off frequency is

Options :

1. ✖ 159 Hz

2. ✖ 159 kHz

3. ✖ 15.9 kHz

4. ✔ 1.59 kHz

Question Number : 25 Question Id : 1051315305 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The power measured during the open-circuit test mainly represents

Options :

1. ✖ Copper loss

2. ✔ Core loss

3. ✖ Leakage loss

4. ✖ Stray loss

Question Number : 26 Question Id : 1051315306 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is a constant loss in an electric machine?

Options :

1. ✖ Armature copper loss

- 2. ✖ Field copper loss
- 3. ✔ Core loss
- 4. ✖ Load copper loss

Question Number : 27 Question Id : 1051315307 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A DC motor has an input power of 5 kW and total losses of 1 kW. The efficiency of the motor is

Options :

- 1. ✖ 75%
- 2. ✔ 80%
- 3. ✖ 85%
- 4. ✖ 90%

Question Number : 28 Question Id : 1051315308 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Semiconductor strain gauges typically have much higher gauge factors than those of metallic strain gauge, primarily due to

Options :

- 1. ✖ higher temperature sensitivity
- 2. ✔ higher piezoresistive coefficient
- 3. ✖ higher Poisson's ratio
- 4. ✖ higher magnetostrictive coefficient

Question Number : 29 Question Id : 1051315309 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Piezoelectric transducers are best suited for measurement of

Options :

1. ✖ Static displacement
2. ✖ Steady temperature
3. ✔ Dynamic pressure
4. ✖ DC voltage

Question Number : 30 Question Id : 1051315310 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The main function of an instrumentation amplifier is to

Options :

1. ✖ Increase frequency
2. ✔ Reduce noise and amplify small signals
3. ✖ Convert AC to DC
4. ✖ Measure resistance

Question Number : 31 Question Id : 1051315311 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A LVDT produces an output of 5 mV/mm sensitivity. For an excitation of 10 V and displacement of 2 mm, the output voltage is

Options :

1. ✖ 50 mV

2. ✓ 100 mV

3. ✗ 200 mV

4. ✗ 1 V

Question Number : 32 Question Id : 1051315312 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The principle of McLeod Gauge is the compression of a sample of a low pressure gas to a pressure sufficiently high to read with a

Options :

1. ✓ Manometer

2. ✗ Diaphragm

3. ✗ Bellow

4. ✗ Bourdon Tube

Question Number : 33 Question Id : 1051315313 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which signal conditioning circuit is used with piezoelectric transducers?

Options :

1. ✗ Wheatstone bridge

2. ✓ Charge amplifier

3. ✗ RC integrator

4. ✗ Rectifier

Question Number : 34 Question Id : 1051315314 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A rotary encoder has 360 pulses per revolution. The angular resolution is

Options :

1. ✖ 0.5°

2. ✖ 5°

3. ✖ 2°

4. ✔ 1°

Question Number : 35 Question Id : 1051315315 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A synchro is mainly used to measure

Options :

1. ✖ Linear displacement

2. ✔ Angular displacement

3. ✖ Velocity

4. ✖ Acceleration

Question Number : 36 Question Id : 1051315316 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

An orifice meter is installed in a pipe of diameter 20 cm. If the discharge coefficient is assumed constant, the flow rate is proportional to

Options :

1. ✔ Pressure difference

2. ✖ Square root of pressure difference

3. ✖ Velocity

4. ✖ Pipe diameter only

Question Number : 37 Question Id : 1051315317 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Force measurement using strain gauges is based on the principle of

Options :

1. ✖ Piezoelectric effect

2. ✖ Hall effect

3. ✔ Change in resistance due to strain

4. ✖ Change in capacitance

Question Number : 38 Question Id : 1051315318 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A U-tube manometer uses mercury ($\rho = 13,600 \text{ kg/m}^3$). If the level difference is 10 cm, then the pressure difference is approximately

Options :

1. ✖ 1.33 kPa

2. ✖ 6.67 kPa

3. ✔ 13.34 kPa

4. ✖ 26.68 kPa

Question Number : 39 Question Id : 1051315319 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A silicon diode has a forward voltage drop of 0.7 V. If it is connected in series with a $1\text{k}\Omega$ resistor to a 5 V supply, then the forward current is

Options :

1. ✖ 3.3 mA
2. ✖ 5.7 mA
3. ✖ 5.0 mA
4. ✔ 4.3 mA

Question Number : 40 Question Id : 1051315320 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A BJT has $\beta = 100$. If the base current is $40\text{ }\mu\text{A}$, then the collector current is

Options :

1. ✖ 2 mA
2. ✔ 4 mA
3. ✖ 40 mA
4. ✖ 400 mA

Question Number : 41 Question Id : 1051315321 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A JFET has $I_{\text{DSS}} = 10\text{ mA}$ and pinch-off voltage $V_{\text{P}} = -4\text{ V}$ and $V_{\text{GS}} = -3\text{ V}$, find the value of I_{D} ?

Options :

1. ✔ 2.5 mA
2. ✖ 5.0 mA
3. ✖ 7.5 mA

4. ✖ 10 mA

Question Number : 42 Question Id : 1051315322 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In the saturation region of a MOSFET, the drain current is primarily controlled by

Options :

1. ✖ V_{DS}

2. ✔ V_{GS}

3. ✖ Drain resistance

4. ✖ Temperature only

Question Number : 43 Question Id : 1051315323 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A full-wave rectifier has a peak voltage of 100 V. The average output voltage is

Options :

1. ✖ 31.8 V

2. ✖ 50 V

3. ✔ 63.7 V

4. ✖ 70.7 V

Question Number : 44 Question Id : 1051315324 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A CE amplifier has $h_{fe} = 100$ and load resistance $R_L = 2k\Omega$. The approximate low frequency current gain is

Options :

1. ✖ 2
2. ✖ 20
3. ✔ 100
4. ✖ 200

Question Number : 45 Question Id : 1051315325 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

At high frequencies, a transistor model must include

Options :

1. ✔ Junction capacitances
2. ✖ Only current sources
3. ✖ Only resistances
4. ✖ Ideal voltage sources

Question Number : 46 Question Id : 1051315326 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The mid-band gain of an amplifier is measured when

Options :

1. ✖ All capacitors act as open circuits
2. ✔ All capacitors act as short circuits
3. ✖ Input signal is zero
4. ✖ Load is removed

Question Number : 47 Question Id : 1051315327 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If each stage of a three-stage amplifier has a gain of 10, the overall gain in dB is

Options :

1. ✖ 10 dB
2. ✖ 20 dB
3. ✖ 30 dB
4. ✔ 60 dB

Question Number : 48 Question Id : 1051315328 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Compared to a single-stage amplifier, a multi-stage amplifier generally has

Options :

1. ✖ Larger bandwidth
2. ✖ Same bandwidth
3. ✔ Smaller bandwidth
4. ✖ Infinite bandwidth

Question Number : 49 Question Id : 1051315329 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Negative feedback in amplifiers results in

Options :

1. ✔ Decreased gain and reduced distortion
2. ✖ Decreased gain and increased distortion

- 3. ✖ Increased gain and distortion
- 4. ✖ Increased gain and noise

Question Number : 50 Question Id : 1051315330 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

An amplifier has an open-loop gain of 1000 and feedback factor of 0.05. The closed-loop gain is approximately

Options :

- 1. ✖ 20
- 2. ✔ 50
- 3. ✖ 100
- 4. ✖ 200

Question Number : 51 Question Id : 1051315331 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which feedback configuration is commonly used for voltage amplifiers?

Options :

- 1. ✖ Current-series
- 2. ✔ Voltage-series
- 3. ✖ Current-shunt
- 4. ✖ Voltage-shunt

Question Number : 52 Question Id : 1051315332 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The input impedance of an ideal op-amp is

Options :

1. ✖ Zero
2. ✖ Finite
3. ✖ Very low
4. ✔ Infinite

Question Number : 53 Question Id : 1051315333 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In an inverting op-amp, the voltage gain is

Options :

1. ✖ $+\frac{R_f}{R_{in}}$
2. ✖ $-\frac{R_{in}}{R_f}$
3. ✔ $-\frac{R_f}{R_{in}}$
4. ✖ $+\frac{R_{in}}{R_f}$

Question Number : 54 Question Id : 1051315334 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The main advantage of a precision rectifier over a diode rectifier is

Options :

1. ✔ Accurate rectification of small signals

- 2. ✖ No transformer is required
- 3. ✖ High power handling
- 4. ✖ High ripple voltage

Question Number : 55 Question Id : 1051315335 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A V-I converter uses a $500\ \Omega$ resistor. For an input voltage of 2 V, the output current is

Options :

- 1. ✖ 1 mA
- 2. ✖ 2 mA
- 3. ✔ 4 mA
- 4. ✖ 8 mA

Question Number : 56 Question Id : 1051315336 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In an RC phase shift oscillator using three RC sections, the total phase shift provided by the RC network is

Options :

- 1. ✖ 90°
- 2. ✖ 120°
- 3. ✔ 180°
- 4. ✖ 360°

Question Number : 57 Question Id : 1051315337 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The Boolean expression $\overline{(A+B+C)}$ is equal to

Options :

1. ✖ $\bar{A} + \bar{B} + \bar{C}$
2. ✖ $A(B+C)$
3. ✖ $(A+B)C$
4. ✔ $\bar{A}.\bar{B}.\bar{C}$

Question Number : 58 Question Id : 1051315338 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Karnaugh map is used to

Options :

1. ✖ Implement logic circuits
2. ✔ Minimize Boolean expressions
3. ✖ Test logic gates
4. ✖ Generate truth tables

Question Number : 59 Question Id : 1051315339 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Compared to TTL, CMOS ICs have

Options :

1. ✖ Higher power consumption
2. ✖ Lower noise immunity

- 3. ✓ Higher input impedance
- 4. ✗ Lower packing density

Question Number : 60 Question Id : 1051315340 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following converts analog signal into square wave?

Options :

- 1. ✗ Monostable multivibrator
- 2. ✓ Schmitt trigger
- 3. ✗ Multiplexer
- 4. ✗ Comparator

Question Number : 61 Question Id : 1051315341 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A full adder has

Options :

- 1. ✗ 2 inputs and 1 output
- 2. ✗ 2 inputs and 2 outputs
- 3. ✓ 3 inputs and 2 outputs
- 4. ✗ 3 inputs and 1 output

Question Number : 62 Question Id : 1051315342 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Convert 12.125 decimal into binary

Options :

1. ✖ 1100.111
2. ✔ 1100.001
3. ✖ 1100.110
4. ✖ 1100.101

Question Number : 63 Question Id : 1051315343 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Sequential circuits differ from combinational circuits because they

Options :

1. ✖ Do not use logic gates
2. ✖ Use only AND gates
3. ✖ Are faster
4. ✔ Have memory elements

Question Number : 64 Question Id : 1051315344 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The 555 timer in monostable mode produces

Options :

1. ✖ Continuous square wave
2. ✔ Single pulse
3. ✖ Triangular wave
4. ✖ Sawtooth wave

Question Number : 65 Question Id : 1051315345 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Among logic families, which offers the highest speed (lowest propagation delay)?

Options :

1. ✗ RTL
2. ✗ TTL
3. ✗ CMOS
4. ✓ ECL

Question Number : 66 Question Id : 1051315346 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A mod-10 counter requires

Options :

1. ✗ 2 flip-flops
2. ✗ 3 flip-flops
3. ✓ 4 flip-flops
4. ✗ 10 flip-flops

Question Number : 67 Question Id : 1051315347 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A shift register is mainly used for

Options :

1. ✗ Arithmetic operations

2. ✓ Data storage and transfer
3. ✗ Logic minimization
4. ✗ Counting only

Question Number : 68 Question Id : 1051315348 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A Sample-and-Hold circuit is used to

Options :

1. ✗ Store digital data
2. ✗ Generate pulses
3. ✗ Amplify signals
4. ✓ Hold sample of input

Question Number : 69 Question Id : 1051315349 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Resolution of an n-bit ADC is

Options :

1. ✓ $\frac{1}{2^n}$
2. ✗ $2n$
3. ✗ n^2
4. ✗ $\frac{1}{n}$

Question Number : 70 Question Id : 1051315350 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the use of HOLD and HLDA pin in microprocessor?

Options :

1. ✓ DMA operation
2. ✗ Serial interfacing
3. ✗ Interrupt handling
4. ✗ Power save mode

Question Number : 71 Question Id : 1051315351 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

What is the standard form of PSM?

Options :

1. ✗ Pass Some Memory
2. ✗ Pass Status Memory
3. ✓ Program Status Word
4. ✗ Program State Word

Question Number : 72 Question Id : 1051315352 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

RAM is called volatile memory because

Options :

1. ✗ It stores data permanently
2. ✓ Data is lost when power is off

- 3. ✖ It is slow
- 4. ✖ It is expensive

Question Number : 73 Question Id : 1051315353 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

An 8-bit microcontroller has an external memory map from 0000H to 1FFFH. The number of bytes this RAM can store is

Options :

- 1. ✖ 8193
- 2. ✖ 8191
- 3. ✔ 8192
- 4. ✖ 8000

Question Number : 74 Question Id : 1051315354 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In which addressing mode, the address of the data is stored in a register pair?

Options :

- 1. ✖ Direct addressing mode
- 2. ✖ Memory indirect addressing mode
- 3. ✖ Immediate addressing mode
- 4. ✔ Register indirect addressing mode

Question Number : 75 Question Id : 1051315355 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following has highest priority?

Options :

1. ✓ NMI
2. ✗ RESET
3. ✗ External interrupt
4. ✗ Software interrupt

Question Number : 76 Question Id : 1051315356 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following instruction brings the control back to main program from subroutine?

Options :

1. ✓ RET
2. ✗ HLT
3. ✗ JMP
4. ✗ CALL

Question Number : 77 Question Id : 1051315357 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A signal is defined as $x(t) = \cos(10\pi t) + \sin(15\pi t)$.

What is its fundamental period in seconds?

Options :

1. ✗ 0.1
2. ✗ 0.2
3. ✓ 0.4

4. ✖ 0.8

Question Number : 78 Question Id : 1051315358 Question Type : MCQ Option Shuffling : Yes**Display Question Number : Yes****Correct Marks : 1 Wrong Marks : 0**For an LTI system with impulse response $h(t) = e^{-2t}u(t)$, the system is**Options :**

- 1. ✖ Unstable
- 2. ✖ Non-causal
- 3. ✖ Stable but non-causal
- 4. ✔ Stable and causal

Question Number : 79 Question Id : 1051315359 Question Type : MCQ Option Shuffling : Yes**Display Question Number : Yes****Correct Marks : 1 Wrong Marks : 0**For a first-order system, $H(s) = \frac{1}{(s+1)}$ The magnitude of frequency response at $\omega = 0$ is**Options :**

- 1. ✖ 0
- 2. ✖ 0.5
- 3. ✔ 1
- 4. ✖ ∞

Question Number : 80 Question Id : 1051315360 Question Type : MCQ Option Shuffling : Yes**Display Question Number : Yes****Correct Marks : 1 Wrong Marks : 0**The Laplace transform of $e^{-at}u(t)$ is

Options :

1. ✓ $\frac{1}{s+a}$

2. ✗ $\frac{1}{s-a}$

3. ✗ $\frac{s}{s+a}$

4. ✗ $\frac{a}{s+a}$

Question Number : 81 Question Id : 1051315361 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Frequency response of a discrete-time LTI system is obtained by

Options :

1. ✗ Laplace transform of impulse response

2. ✗ Fourier transform of impulse response

3. ✓ Z-transform with $z = e^{j\omega}$

4. ✗ Inverse Z-transform

Question Number : 82 Question Id : 1051315362 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A discrete-time system is causal if it

Options :

1. ✗ Depends on future inputs

2. ✓ Depends only on present and past inputs

3. ✖ Depends on linearity

4. ✖ Is stable

Question Number : 83 Question Id : 1051315363 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A signal bandlimited to 5 kHz must be sampled at a minimum rate of

Options :

1. ✖ 5 kHz

2. ✖ 7.5 kHz

3. ✔ 10 kHz

4. ✖ 20 kHz

Question Number : 84 Question Id : 1051315364 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The Z-transform of $\delta(n)$ is

Options :

1. ✖ 0

2. ✔ 1

3. ✖ z^{-1}

4. ✖ $\frac{1}{(1-z^{-1})}$

Question Number : 85 Question Id : 1051315365 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The ROC of Laplace transform of a causal signal lies

Options :

1. ✖ Left of leftmost pole
2. ✖ On imaginary axis
3. ✖ Between poles
4. ✔ Right of rightmost pole

Question Number : 86 Question Id : 1051315366 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A carrier of frequency 1 MHz is amplitude modulated by a 5 kHz signal. The bandwidth of the AM signal is

Options :

1. ✖ 5 kHz
2. ✔ 10 kHz
3. ✖ 1 MHz
4. ✖ 2 MHz

Question Number : 87 Question Id : 1051315367 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For an FM signal with peak frequency deviation of 50 kHz and modulating frequency of 10 kHz, the modulation index is

Options :

1. ✖ 0.2
2. ✖ 2
3. ✔ 5

4. ✖ 10

Question Number : 88 Question Id : 1051315368 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In TDM

Options :

1. ✖ Each signal occupies different frequency band
2. ✔ Each signal occupies entire bandwidth for a short time
3. ✖ Carrier frequencies are different
4. ✖ Signals overlap in time

Question Number : 89 Question Id : 1051315369 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Sensitivity of an instrument is defined as

Options :

1. ✖ Accuracy
2. ✖ Reciprocal of resolution
3. ✖ Ability to measure large signals
4. ✔ Output per unit input

Question Number : 90 Question Id : 1051315370 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If a voltmeter has a full-scale deflection of 100 V and smallest division of 0.5 V, its resolution is

Options :

1. ✓ 0.5 V
2. ✗ 0.25 V
3. ✗ 1 V
4. ✗ 2 V

Question Number : 91 Question Id : 1051315371 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Frequency is most accurately measured using

Options :

1. ✗ CRO
2. ✗ Moving iron instrument
3. ✓ Digital frequency counter
4. ✗ PMMC

Question Number : 92 Question Id : 1051315372 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Phase difference between two signals is commonly measured using

Options :

1. ✓ Lissajous figures
2. ✗ Voltmeter
3. ✗ Wattmeter
4. ✗ Multimeter

Question Number : 93 Question Id : 1051315373 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The limiting error of an instrument is usually specified as

Options :

1. ✖ % of reading
2. ✔ Guaranteed error
3. ✖ Absolute error
4. ✖ Resolution

Question Number : 94 Question Id : 1051315374 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

For a standard second-order system the ξ value for underdamped is

Options :

1. ✖ $\xi = 1$
2. ✖ $\xi > 1$
3. ✔ $\xi < 1$
4. ✖ $\xi = 0$

Question Number : 95 Question Id : 1051315375 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the Nyquist plot encircles the point $(-1, 0)$ twice in the clockwise direction and the open-loop system has one RHP pole, then the number of closed-loop RHP poles is

Options :

1. ✖ 0

2. ✖ 1

3. ✖ 2

4. ✔ 3

Question Number : 96 Question Id : 1051315376 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Time delay in control systems is usually represented as

Options :

1. ✖ sT 2. ✖ $\frac{1}{sT}$ 3. ✔ e^{-sT} 4. ✖ $\frac{T}{s}$

Question Number : 97 Question Id : 1051315377 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The transfer function of a zero-order hold system is

Options :

1. ✔ $\frac{1 - e^{-st}}{s}$ 2. ✖ $\frac{1 + e^{-st}}{s}$ 3. ✖ $1 + \frac{e^{-st}}{s}$

4. ✖ $1 - \frac{e^{-st}}{s}$

Question Number : 98 Question Id : 1051315378 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which of the following is not a valid state-space representation?

Options :

1. ✖ $\dot{x} = Ax + Bu, y = Cx + Du$

2. ✔ $\dot{x} = Ax, y = Cx + Du$

3. ✖ $\dot{x} = Ax + Bu, y = Cx$

4. ✖ $\dot{x} = Ax + Bu, y = Du$

Question Number : 99 Question Id : 1051315379 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The corner frequencies of a system having transfer function as $\frac{100(1+0.2s)}{(1+0.5s)}$

Options :

1. ✖ $\omega_z = 2, \omega_p = 5$

2. ✖ $\omega_z = 0, \omega_p = 0.5$

3. ✖ $\omega_z = 0.5, \omega_p = 0.2$

4. ✔ $\omega_z = 5, \omega_p = 2$

Question Number : 100 Question Id : 1051315380 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a mechanical translational system, mass corresponds to which electrical element in force–voltage analogy?

Options :

1. ✖ Resistance
2. ✔ Inductance
3. ✖ Capacitance
4. ✖ Conductance

Question Number : 101 Question Id : 1051315381 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a hydraulic system, power is transmitted using

Options :

1. ✖ Compressed air
2. ✖ Electrical signals
3. ✖ Mechanical linkages
4. ✔ Pressurized liquid

Question Number : 102 Question Id : 1051315382 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Compared to hydraulic systems, pneumatic systems have

Options :

1. ✖ Higher force capability
2. ✖ Better speed control
3. ✔ Cleaner operation and lower force

4. ✖ Higher efficiency

Question Number : 103 Question Id : 1051315383 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A PI controller is preferred when

Options :

1. ✖ System has fast dynamics
2. ✔ Eliminating steady-state error
3. ✖ Speed of response is primary concern
4. ✖ System has low noise levels

Question Number : 104 Question Id : 1051315384 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Feed-forward control improves system performance by

Options :

1. ✔ Reacting after error occurs
2. ✖ Eliminating sensors
3. ✖ Compensating disturbances before they affect output
4. ✖ Increasing gain

Question Number : 105 Question Id : 1051315385 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Defuzzification in fuzzy control refers to

Options :

1. ✖ Fuzzifying inputs

2. ✖ Rule evaluation
3. ✔ Converting fuzzy output to crisp value
4. ✖ Error computation

Question Number : 106 Question Id : 1051315386 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a mass spectrometer, ions are separated based on their

Options :

1. ✔ Mass-to-charge ratio
2. ✖ Velocity only
3. ✖ Charge only
4. ✖ Kinetic energy

Question Number : 107 Question Id : 1051315387 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Beer–Lambert law states that absorbance is proportional to

Options :

1. ✖ Wavelength only
2. ✖ Concentration only
3. ✖ Path length only
4. ✔ Product of concentration and path length

Question Number : 108 Question Id : 1051315388 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

If the transmittance of a sample is 10%, the absorbance is

Options :

1. ✖ 0.1

2. ✔ 1

3. ✖ 10

4. ✖ 0

Question Number : 109 Question Id : 1051315389 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

The typical mid-IR region lies between

Options :

1. ✖ 200 – 400 nm

2. ✖ 400 – 700 nm

3. ✔ 2.5 – 25 μm

4. ✖ 0.01 – 1 Å

Question Number : 110 Question Id : 1051315390 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

A photodiode with a bandgap energy of 1.43 eV has a cutoff wavelength (approximately)

Options :

1. ✔ 870 nm

2. ✖ 1550 nm

3. ✖ 650 nm

4. ✖ 1310 nm

Question Number : 111 Question Id : 1051315391 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

An increase in reverse bias of a photodiode results in

Options :

1. ✖ Decreased depletion width
2. ✖ Increased junction capacitance
3. ✔ Faster response time
4. ✖ Reduced bandwidth

Question Number : 112 Question Id : 1051315392 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

In a Michelson interferometer, one fringe shift corresponds to a mirror displacement of

Options :

1. ✖ λ
2. ✔ $\frac{\lambda}{2}$
3. ✖ $\frac{\lambda}{4}$
4. ✖ 2λ

Question Number : 113 Question Id : 1051315393 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Numerical Aperture (NA) of an optical fiber is given by

Options :

1. ✖ Core indices and wavelength
2. ✔ Core and cladding indices
3. ✖ Refractive index of air and core
4. ✖ Wavelength and frequency

Question Number : 114 Question Id : 1051315394 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Compared to single-mode fibers, multimode fibers have

Options :

1. ✖ Higher bandwidth
2. ✖ Lower dispersion
3. ✔ Larger core diameter
4. ✖ Lower numerical aperture

Question Number : 115 Question Id : 1051315395 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Which optical source is preferred for long-distance, high-speed fiber communication?

Options :

1. ✖ LED
2. ✔ Laser diode
3. ✖ Photodiode
4. ✖ LDR

Question Number : 116 Question Id : 1051315396 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Alpha waves are dominant when a person is

Options :

1. ✖ Sleeping deeply
2. ✖ Mentally active
3. ✔ Relaxed with eyes closed
4. ✖ Under anaesthesia

Question Number : 117 Question Id : 1051315397 Question Type : MCQ Option Shuffling : Yes
Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Match the following biomedical recording techniques with their application

Biomedical recording techniques		Application	
A	EEG	I	Eye Movement
B	EMG	II	Gastric Motility
C	EOG	III	Muscle activity
D	EGG	IV	Brain activity
		V	Bladder activity

Options :

1. ✖ A – IV, B – V, C – I, D – III
2. ✔ A – IV, B – III, C – I, D – II
3. ✖ A – III, B – II, C – V, D – I
4. ✖ A – II, B – III, C – I, D – V

Question Number : 118 Question Id : 1051315398 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Ultrasonic transducers in medical imaging are based on

Options :

1. ✖ Hall effect
2. ✖ Photoelectric effect
3. ✖ Magnetostriction
4. ✔ Piezoelectric effect

Question Number : 119 Question Id : 1051315399 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

Third-generation CT scanners use

Options :

1. ✖ Translate-translate motion
2. ✖ Translate-rotate motion
3. ✔ Rotate-rotate motion
4. ✖ Stationary detectors and source

Question Number : 120 Question Id : 1051315400 Question Type : MCQ Option Shuffling : Yes

Display Question Number : Yes

Correct Marks : 1 Wrong Marks : 0

EMG signals have the highest frequency among EEG, ECG, and EMG because

Options :

1. ✔ Muscle fibers contract rapidly
2. ✖ Electrodes are invasive

3. ✖ Muscles generate large voltages
4. ✖ EMG uses DC amplification