Telangana State Council Higher Education

Notations :

1.Options shown in green color and with ✔ icon are correct.

2.Options shown in red color and with ✖ icon are incorrect.

Question Paper Name :	Biomedical Engineering 13th Aug 2021 Shift 2
Subject Name :	Biomedical Engineering
Creation Date :	2021-08-13 17:43:10
Duration :	120
Total Marks :	120
Display Marks:	Yes
Calculator :	None
Magnifying Glass Required? :	No
Ruler Required? :	No
Eraser Required? :	No
Scratch Pad Required? :	No
Rough Sketch/Notepad Required? :	No
Protractor Required? :	No
Show Watermark on Console? :	Yes
Highlighter :	No
Auto Save on Console? :	Yes

Biomedical Engineering

Group Number :	1
Group Id :	12984026
Group Maximum Duration :	0
Group Minimum Duration :	120
Show Attended Group? :	No

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Edit Attended Group? :	No
Break time :	0
Group Marks :	120
Is this Group for Examiner? :	No

Mathematics

Section Id :	12984045
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	10
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	12984045
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 1298403001 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Similar matrices will have same

Options :

1. ✖ Annihilating polynomial

2. ✖ Eigen vectors

3. ✔ Eigen values

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4. ✖ Inverse

Question Number : 2 Question Id : 1298403002 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The number of solutions of the system of equations

$$x + 2y + z = 0$$
$$x - y + z = 3$$
$$x + y + z = 1$$ is

Options :

1. ✔ 1

2. ✖ 0

3. ✖ 2

4. ✖ ∞ by many

Question Number : 3 Question Id : 1298403003 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $\int_0^1 \int_0^1 xy\cos(x^2)dxdy = K \sin(1)$, then K =

Options :

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1. ✖ $\frac{1}{2}$

2. ✔ $\frac{1}{4}$

3. ✖ $\frac{1}{8}$

4. ✖ $\frac{1}{10}$

Question Number : 4 Question Id : 1298403004 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A curve $y = f(x)$ passes through the point $(0, 1)$ and satisfies $\frac{d^2y}{dx^2} = 2(1+y)^3$. Then one such a curve is

Options :

1. ✔ $y = \frac{1+2x}{1-2x}$

2. ✖ $y = \frac{1-2x}{1+2x}$

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3. ✖ $y=\frac{1-x}{1+x}$

4. ✖ $y=\frac{1+x}{1-x}$

Question Number : 5 Question Id : 1298403005 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $z = \tan^{-1}(y+x)^2 + \cos(y-2x)^3$, then $\frac{\partial^2 z}{\partial x^2} - 2\frac{\partial^2 z}{\partial y^2} =$

Options :

1. ✖ $2\frac{\partial^2 z}{\partial x \partial y}$

2. ✔ $\frac{\partial^2 z}{\partial x \partial y}$

3. ✖ $\frac{-2\partial^2 z}{\partial x \partial y}$

4. ✖ $\frac{-\partial^2 z}{\partial x \partial y}$

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Question Number : 6 Question Id : 1298403006 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

$$\int_{|z|=2} z^2 e^{\frac{1}{z^2}} dz =$$

Options :

1. ✖ $-\pi i$

2. ✖ $2\pi i$

3. ✖ πi

4. ✔ 0

Question Number : 7 Question Id : 1298403007 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A bag contains 7 red balls and 5 white balls. If two balls are drawn at random, then the probability that both the balls are of same color is

Options :

1. ✖ $\frac{23}{66}$

2. ✖ $\frac{29}{66}$

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3. ✔ $\frac{31}{66}$

4. ✖ $\frac{35}{66}$

Question Number : 8 Question Id : 1298403008 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If $f(x) = \frac{x!}{5^x}$ and the interval of differencing is of unit length, then $\frac{5\Delta(f(x))}{f(x)} =$

Options :

1. ✖ $x - 1$

2. ✖ $x - 2$

3. ✖ $x - 3$

4. ✔ $x - 4$

Question Number : 9 Question Id : 1298403009 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The particular integral of $(D^2 + D + 1)\, y = x^2 + x + 1$ is

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Options :

1. ✖ $x^2 + x$

2. ✔ $x^2 - x$

3. ✖ $x^2 - 2x$

4. ✖ $x^2 + 2x$

Question Number : 10 Question Id : 1298403010 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Residue of $z \tan(iz)$ at $z = \frac{-i\pi}{2}$ is

Options :

1. ✖ $\frac{\pi}{2}$

2. ✖ $\frac{3\pi}{2}$

3. ✔ $\frac{-\pi}{2}$

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4. ✖ $\frac{-3\pi}{2}$

Biomedical Engineering

Section Id :	12984046
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	110
Number of Questions to be attempted :	110
Section Marks :	110
Enable Mark as Answered Mark for Review and Clear Response :	Yes
Sub-Section Number :	1
Sub-Section Id :	12984046
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 1298403011 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The most suitable gate to check whether the number of 1s in a digital word is even or odd is

Options :

1. ✔ XOR

2. ✖ NAND

3. ✖ NOR

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4. ✖ AND

Question Number : 12 Question Id : 1298403012 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The simplified Boolean expression for the given term A+AB+ABC+ABCD is

_____

Options :

1. ✖ 1

2. ✔ A

3. ✖ A+AB

4. ✖ AB

Question Number : 13 Question Id : 1298403013 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The minimum number of full-adders required to construct an m-bit parallel adder are

Options :

1. ✖ m/2

2. ✔ m-1

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3. ✖ m

4. ✖ m+1

Question Number : 14 Question Id : 1298403014 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A multiplexer with 4 select bits is a

Options :

1. ✖ 4:1 multiplexer

2. ✖ 8:1 multiplexer

3. ✔ 16:1 multiplexer

4. ✖ 32:1 multiplexer

Question Number : 15 Question Id : 1298403015 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Master slave configuration is used in flip-flops to

Options :

1. ✖ Increase its clocking rate

2. ✖ Reduce power dissipation

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3. ✔ Eliminate race-around condition

4. ✖ Improve its reliability

Question Number : 16 Question Id : 1298403016 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A 4-bit synchronous counter uses flip-flops with propagation delay time of 25 ns each. The maximum possible time required for change of state will be

Options :

1. ✔ 25 ns

2. ✖ 50 ns

3. ✖ 75 ns

4. ✖ 100 ns

Question Number : 17 Question Id : 1298403017 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The ADC which has fixed conversion time is

Options :

1. ✖ Counter type

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2. ✖ Flash type

3. ✔ Successive approximation type

4. ✖ Dual slope type

Question Number : 18 Question Id : 1298403018 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Given that $(16)_{10} = (100)_b$, the value of **b** will be

Options :

1. ✔ 4

2. ✖ 5

3. ✖ 10

4. ✖ 12

Question Number : 19 Question Id : 1298403019 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The 8085 microprocessor instruction set consists of _____ number of instructions

Options :

1. ✖ 40

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2. ✖ 72

3. ✖ 80

4. ✔ 74

Question Number : 20 Question Id : 1298403020 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The intensity of an absorption band is always proportional to _____

Options :

1. ✖ Atomic population

2. ✖ Molecular population of the final state

3. ✔ Molecular population of the initial state

4. ✖ Temperature

Question Number : 21 Question Id : 1298403021 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A transistor amplifier has a mid-band power gain of 50dB. At the half power frequencies the gain is

Options :

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1. ✖ 25dB

2. ✔ 47dB

3. ✖ 35.5dB

4. ✖ 50dB

Question Number : 22 Question Id : 1298403022 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The amplifier circuit suitable for impedance matching is

Options :

1. ✖ CE

2. ✔ CC

3. ✖ CB

4. ✖ Diode

Question Number : 23 Question Id : 1298403023 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Maximum efficiency of a full wave rectifier is

Options :

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1. ✔ 81.2%

2. ✖ 40.6%

3. ✖ 33.33%

4. ✖ 50%

Question Number : 24 Question Id : 1298403024 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For an op-amp having differential gain A_d and common-mode gain A_c the CMRR is given by

Options :

1. ✖ $A_d + A_c$

2. ✔ $\frac{A_d}{A_c}$

3. ✖ $A_d - A_c$

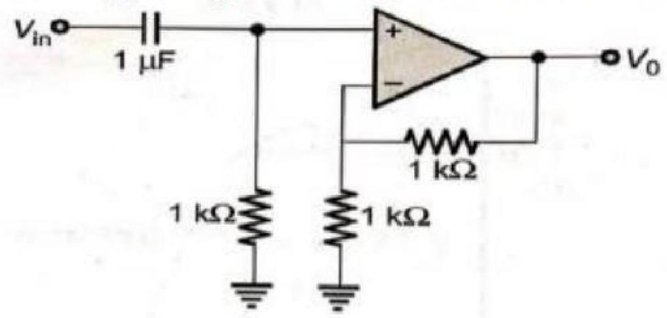
4. ✖ $\frac{A_c}{A_d}$

Question Number : 25 Question Id : 1298403025 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

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Correct Marks : 1 Wrong Marks : 0

The Op-amp circuit shown below is that of a



Options :

1. ✖ Low pass filter with a maximum gain of 1

2. ✖ Low pass filter with a maximum gain of 2

3. ✖ High pass filter with a maximum gain of 1

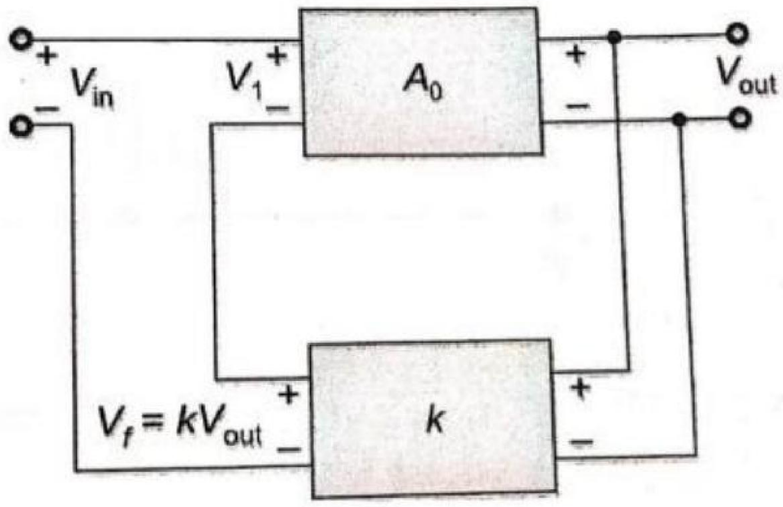
4. ✔ High pass filter with a maximum gain of 2

Question Number : 26 Question Id : 1298403026 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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In the feedback network shown below if the feedback factor k is increased, then the



Options :

1. ✔ Input impedance increases and output impedance decreases

2. ✖ Input impedance increases and output impedance increases

3. ✖ Input impedance decreases and output impedance decreases

4. ✖ Input impedance decreases and output impedance increases

Question Number : 27 Question Id : 1298403027 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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An input voltage of v(t) =10sin(100π)t volts is applied to a half-wave rectifier. Assuming ideal diode characteristics, the average power consumed in watts by the load resistance R_L = 100 ohms is _____

Options :

1. ✔ 0.25W

2. ✖ 10W

3. ✖ 0.5W

4. ✖ 1W

Question Number : 28 Question Id : 1298403028 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If both the junction of a transistor are forwarded biased it will be in

Options :

1. ✔ Saturation mode

2. ✖ Active mode

3. ✖ Cut-off mode

4. ✖ Inverse active mode

Question Number : 29 Question Id : 1298403029 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

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Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The operational amplifier is used in the non-linear mode in

Options :

1. ✖ Integrators

2. ✖ Active filters

3. ✔ Schmitt triggers

4. ✖ Instrumentation amplifiers

Question Number : 30 Question Id : 1298403030 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The bandwidth of the ideal Op-amp is of the order of

Options :

1. ✖ 10kHz

2. ✖ 5kHz

3. ✖ 20kHz

4. ✔ Infinite

Question Number : 31 Question Id : 1298403031 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

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Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If a 10 V battery is connected across the parallel resistors of 10 ohm, 5 ohm, 20 ohm, and 3 ohm. The voltage across 5 ohm resistor will be

Options :

1. ✔ 10V

2. ✖ 5V

3. ✖ 20V

4. ✖ 3V

Question Number : 32 Question Id : 1298403032 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

A practical current source consists of

Options :

1. ✖ An ideal current source in series with a resistance

2. ✔ An ideal current source in parallel with a resistance

3. ✖ An ideal current source only

4. ✖ An ideal voltage source in parallel with a resistance

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Question Number : 33 Question Id : 1298403033 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The nodal method of circuit analysis is based on

Options :

1. ✖ KVL and Ohm's Law

2. ✔ KCL and Ohm's Law

3. ✖ KCL, KVL and Ohm's Law

4. ✖ KCL and KVL

Question Number : 34 Question Id : 1298403034 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When the superposition theorem is applied to any circuit, the dependent voltage source in that circuit is always

Options :

1. ✖ Opened

2. ✖ Shorted

3. ✔ Active

4. ✖ Inactive

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Question Number : 35 Question Id : 1298403035 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Maximum power is transferred when load impedance is

Options :

1. ✔ Equal to source impedance

2. ✖ Equal to half of the source impedance

3. ✖ Equal to zero

4. ✖ Equal to one

Question Number : 36 Question Id : 1298403036 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a series RLC circuit, if C is increased, what happens to the resonant frequency

Options :

1. ✖ It increases

2. ✔ It decreases

3. ✖ It remains same

4. ✖ It is zero

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Question Number : 37 Question Id : 1298403037 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

What is the impedance of an ideal parallel resonant circuit without resistance in either branch

Options :

1. ✖ Zero

2. ✖ Inductive

3. ✖ Capacitive

4. ✔ Infinite

Question Number : 38 Question Id : 1298403038 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The RMS value of sinusoidal A.C. current is equal to its value at an angle of ____degree.

Options :

1. ✖ 60

2. ✔ 45

3. ✖ 30

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4. ✖ 90

Question Number : 39 Question Id : 1298403039 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The magnification of Electron Microscope is about _____

Options :

1. ✖ 100X

2. ✖ 1000X

3. ✔ 1,00,000X

4. ✖ 1500X

Question Number : 40 Question Id : 1298403040 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The voltage applied across an R-L circuit is equal to ___ of V_R and V_L.

Options :

1. ✖ Arithmetic sum

2. ✖ Algebraic sum

3. ✔ Phasor sum

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4. ✖ Sum of squares

Question Number : 41 Question Id : 1298403041 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The transient response occurs

Options :

1. ✖ Only in resistive circuits

2. ✖ Only in inductive circuits

3. ✖ Only in capacitive circuits

4. ✔ Both in inductive and capacitive circuits

Question Number : 42 Question Id : 1298403042 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Apparent power is expressed in

Options :

1. ✔ Volt- amperes

2. ✖ Watts

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3. ✖ Volt- amperes and watts

4. ✖ VAR

Question Number : 43 Question Id : 1298403043 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a pure capacitor, the voltage

Options :

1. ✖ Is in phase with the current

2. ✖ Is 180 degree out of phase with the current

3. ✔ lags behind the current by 90 degree

4. ✖ leads the current by 90 degree

Question Number : 44 Question Id : 1298403044 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Degree of scattering in transmission electron microscope is a function of ____

Options :

1. ✖ Nervous tissue wavelength of electron beam used

2. ✔ Number and mass of atoms that lie in the electron path

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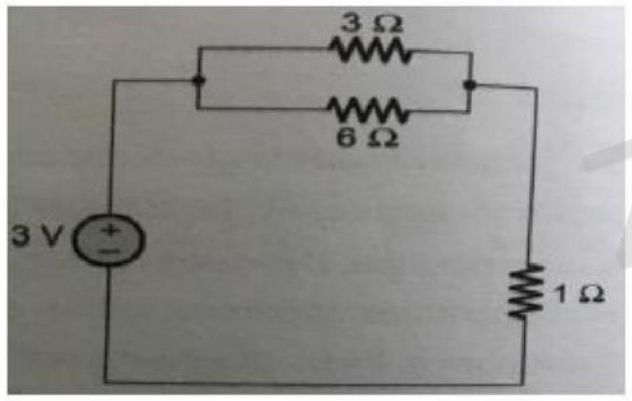
3. ✖ Number of atoms that lie in the electron path

4. ✖ Mass of atoms that lie in the electron path

Question Number : 45 Question Id : 1298403045 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The power supplied by the DC source in the circuit shown below is



Options :

1. ✖ 0 W

2. ✖ 1 W

3. ✖ 2.5 W

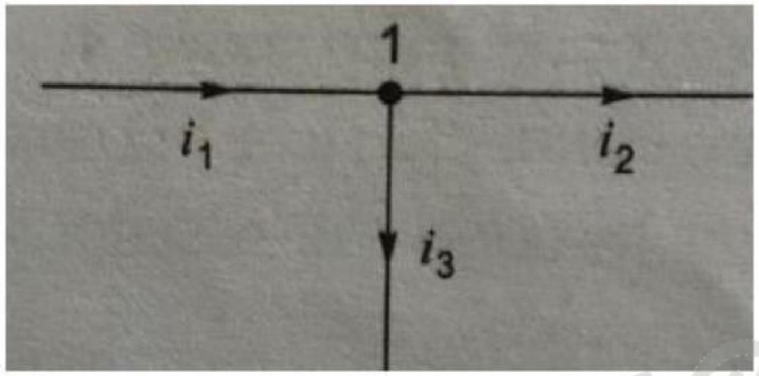
4. ✔ 3 W

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Question Number : 46 Question Id : 1298403046 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Three currents i_1, i_2 and i_3 meet at appoint as shown in the figure. If $i_1 = 3 \cos \omega t$ ampere, $i_2 = 4 \sin \omega t$ ampere and $i_3 = I_3 \cos (\omega t + \Theta)$ ampere, The value of I_3 in amperes is _____



Options :

1. ✔ 5 Ampere

2. ✖ 4 Ampere

3. ✖ 3 Ampere

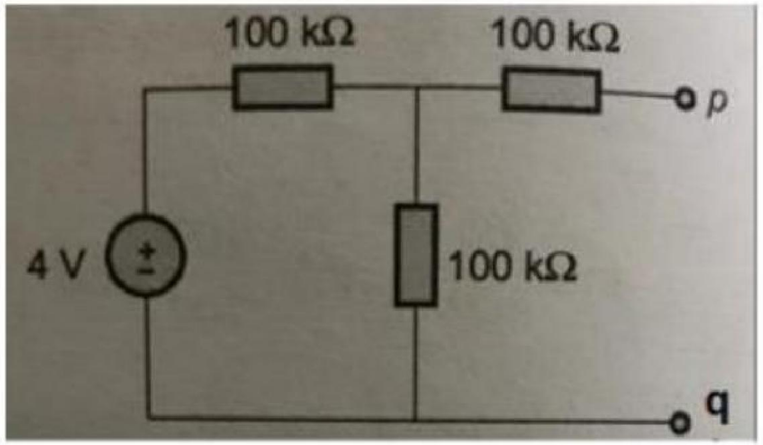
4. ✖ 7 Ampere

Question Number : 47 Question Id : 1298403047 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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The Thevenin equivalent circuit representation across terminals p-q of the circuit shown below is a



Options :

1. ✖ 1 V source in series with resistance of 150 K ohm

2. ✔ 2 V source in series with resistance of 150 K ohm

3. ✖ 1 V source in parallel with resistance of 150 K ohm

4. ✖ 2 V source in series with resistance of 100 K ohm

Question Number : 48 Question Id : 1298403048 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The total reactance of a series RLC circuit at resonance is

Options :

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1. ✖ Equal to X_L

2. ✖ Equal to R

3. ✖ Equal to X_C

4. ✔ Zero

Question Number : 49 Question Id : 1298403049 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Pipelining in Microprocessor is related to

Options :

1. ✔ Instructions

2. ✖ Memory mapping

3. ✖ ALU

4. ✖ Interrupts

Question Number : 50 Question Id : 1298403050 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The instruction used to clear the accumulator in 8085 is

Options :

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1. ✖ CLA A

2. ✔ XRA A

3. ✖ ORA A

4. ✖ ANA A

Question Number : 51 Question Id : 1298403051 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For the periodic signal $v(t)=30\sin100t + 10\cos300t + 6\sin(500t + \frac{\pi}{4})$, the fundamental frequency in rad/sec is _____

Options :

1. ✔ 100

2. ✖ 300

3. ✖ 500

4. ✖ 1500

Question Number : 52 Question Id : 1298403052 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The initial value of $20-5t-e^{2t}$ is

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Options :

1. ✖ 20

2. ✔ 19

3. ✖ 10

4. ✖ 25

Question Number : 53 Question Id : 1298403053 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The final value theorem is used to find the

Options :

1. ✔ Steady state value of the system output

2. ✖ Initial value of the system output

3. ✖ Transient behavior of the system output

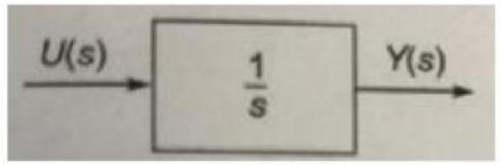
4. ✖ Both steady state value and transient behavior of the system output

Question Number : 54 Question Id : 1298403054 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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Assuming zero initial conditions, the response of the system given below to a unit step input u(t) is



Options :

1. ✖ $u(t)$

2. ✔ $tu(t)$

3. ✖ $t^2 u(t)$

4. ✖ $e^{-t} u(t)$

Question Number : 55 Question Id : 1298403055 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The fundamental period of discrete time signal $x[n]=e^{j5\pi n/6}$ is

Options :

1. ✖ $6/(5\pi)$

2. ✖ $12/5$

3. ✖ 6

4. ✔ 12

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Question Number : 56 Question Id : 1298403056 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

4-point DFT of a real discrete time signal of x[n] of length 4 is given by X[k], n=0, 1, 2, 3 and k = 0, 1, 2, 3. It is given that X[0]=5, X[1] = 1+j1, X[2] = 0, then X[3] is

Options :

1. ✔ $1 - j1$

2. ✖ $1 + j1$

3. ✖ $0.1 - j0.1$

4. ✖ $0.1 + j0.1$

Question Number : 57 Question Id : 1298403057 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

N point Radix-2 FFT algorithm requires_____ complex multiplications

Options :

1. ✔ $(N/2)\ log_2 N$

2. ✖ $N\ log_2 N$

3. ✖ N

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4. ✖ N^2

Question Number : 58 Question Id : 1298403058 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Z-transform of the discrete time signal x[n]=u[n] is

Options :

1. ✖ Z

2. ✖ 1

3. ✔ $\frac{1}{1-z^{-1}}$

4. ✖ z^{-1}

Question Number : 59 Question Id : 1298403059 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The system described by the input output equation y(n) = n x(n) is

Options :

1. ✔ Static and linear

2. ✖ Static and non-linear

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3. ✖ Dynamic and linear

4. ✖ Dynamic and non-linear

Question Number : 60 Question Id : 1298403060 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The Nyquist rate for the analog signal
$x_a(t) = 3 \cos 50\pi t + 10 \sin 300\pi t - \cos 100\pi t$ is

Options :

1. ✖ 50 Hz

2. ✔ 300 Hz

3. ✖ 100 Hz

4. ✖ 25 Hz

Question Number : 61 Question Id : 1298403061 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ window function is also known as raised cosine window function.

Options :

1. ✖ Rectangular

2. ✖ Kaiser

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3. ✖ Blackman

4. ✔ Hanning

Question Number : 62 Question Id : 1298403062 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A second order underdamped system has a damping factor of 0.8. It is subjected to a sinusoidal input of unit amplitude. It has a resonant peak of _____

Options :

1. ✖ 108%

2. ✖ 92%

3. ✖ 20%

4. ✔ It has no resonant peak

Question Number : 63 Question Id : 1298403063 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In order that a first order instrument should indicate an output which is within 10% of the true value of the output when subjected to a sinusoidal input, the product of angular frequency of input (ω) and time constant (τ) of the instrument should be

Options :

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1. ✔ Less than 0.5

2. ✖ Greater than 0.5

3. ✖ Less than 10

4. ✖ Greater than 10

Question Number : 64 Question Id : 1298403064 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The discrete time transfer function $\frac{1-2z^{-1}}{1-0.5z^{-1}}$ is

Options :

1. ✖ Non-minimum phase and unstable

2. ✖ Minimum phase and unstable

3. ✖ Minimum phase and stable

4. ✔ Non-minimum phase and stable

Question Number : 65 Question Id : 1298403065 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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In a continuous time signal x(t)=cos 2πt is sampled at 4Hz, the value of discrete time signal x(n) = 5 is

Options :

1. ✖ -0.707

2. ✖ -1

3. ✔ 0

4. ✖ 1

Question Number : 66 Question Id : 1298403066 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An irregular and jagged wound that is produced by the tearing of soft body tissue is known as _____

Options :

1. ✖ Abrasion

2. ✖ Avulsion

3. ✔ Laceration

4. ✖ Incision

Question Number : 67 Question Id : 1298403067 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

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Correct Marks : 1 Wrong Marks : 0

In a Kelvin's double bridge two sets of readings are taken when measuring a low resistance, one being the current in one direction and the other with the direction of current reversed. This is done to

Options :

1. ✖ Eliminate the effect of contact resistance

2. ✖ Eliminate the effect of resistance of leads

3. ✖ Correct the changes in battery voltage

4. ✔ Eliminate the effect of thermo-electric emfs

Question Number : 68 Question Id : 1298403068 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Moving iron instruments can be used on _____

Options :

1. ✔ Both A.C. and D.C.

2. ✖ D.C. only

3. ✖ A.C. only

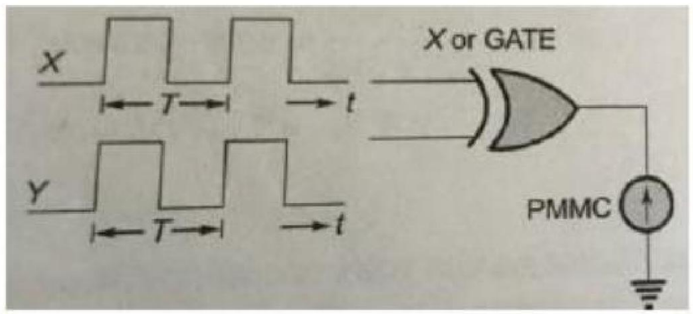
4. ✖ Half wave rectified A.C.

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Question Number : 69 Question Id : 1298403069 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For the two square inputs in the figure, the PMMC meter will read, maximum when the phase difference between them is_____



Options :

1. ✖ 0

2. ✖ T/4

3. ✔ T/2

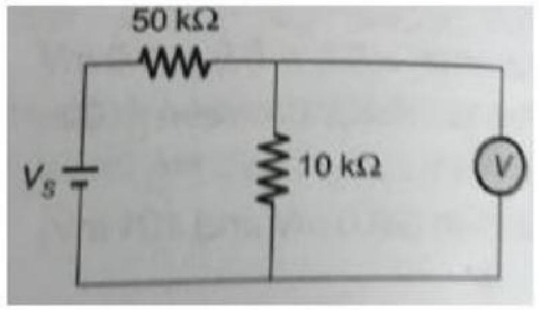
4. ✖ T

Question Number : 70 Question Id : 1298403070 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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A voltmeter is connected across the 10 KΩ resistor as shown in figure reads 5V. The voltmeter is rated at 1000 ohm/volt and has a full scale reading of 10V. The supply voltage V_s in volts is _____



Options :

1. ✖ 30

2. ✖ 50

3. ✔ 55

4. ✖ 80

Question Number : 71 Question Id : 1298403071 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Bone cells that function as phagocytic cells and are highly active in osteoporosis patients are called _____

Options :

1. ✖ Osteoprogenitor

2. ✔ Osteoclasts

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3. ✖ Fibroblasts

4. ✖ Osteoblasts

Question Number : 72 Question Id : 1298403072 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A very low loss coil is tested with a Q meter and the distributed (self) capacitance of the coil is found to be 820pF. Resonance occurred at an angular frequency of 10^6 rad/s with a capacitance of 9.18nF. The inductance of the coil is_____

Options :

1. ✖ 100 pH

2. ✔ 100 μH

3. ✖ 100 nH

4. ✖ 100 mH

Question Number : 73 Question Id : 1298403073 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Anderson bridge is a modified form of _____

Options :

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1. ✔ Maxwell bridge

2. ✖ Wheatstone's bridge

3. ✖ Schering bridge

4. ✖ Kelvin double bridge

Question Number : 74 Question Id : 1298403074 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The system having $G(s) = \frac{16}{s^2+8s+16}$ and unity feedback, system will be

Options :

1. ✖ Under damped

2. ✖ Over damped

3. ✔ Critically damped

4. ✖ Oscillatory

Question Number : 75 Question Id : 1298403075 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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The ratio of the output Laplace Transform to the input Laplace Transform assuming zero initial conditions is called _____

Options :

1. ✖ Nyquist's ratio

2. ✖ Dynamic quotient

3. ✔ Transfer function

4. ✖ Gibb's ratio

Question Number : 76 Question Id : 1298403076 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

For the system to be stable

Options :

1. ✖ All poles must lie on right of the imaginary axis

2. ✔ All poles must lie on left of the imaginary axis

3. ✖ All zeroes must lie on right of the imaginary axis

4. ✖ All zeroes must lie on left of the imaginary axis

Question Number : 77 Question Id : 1298403077 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

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Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

An input of 5 volt is applied to a negative feedback closed loop system. The system has a forward gain of 1 and a feedback gain of 1. The magnitude of the output voltage will be_____

Options :

1. ✖ 1 Volt

2. ✖ 1.5 Volt

3. ✖ 2.0 Volt

4. ✔ 2.5 Volt

Question Number : 78 Question Id : 1298403078 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The steady state error is determined as the difference between the reference input and the system output at

Options :

1. ✖ $t = t_p$

2. ✖ $t = 0$

3. ✖ $t =$ time constant

4. ✔ $t = \infty$

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Question Number : 79 Question Id : 1298403079 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A system is represented by the differential equation $M\frac{d^2y}{dt^2} + F\frac{dx}{dt} + Kx = u(t)$.

The transfer function relating X(s) and U(s) is

Options :

1. ✖ $\frac{M}{Ms^2+Fs+K}$

2. ✖ $\frac{F}{Ms^2+Fs+K}$

3. ✖ $\frac{K}{Ms^2+Fs+K}$

4. ✔ $\frac{1}{Ms^2+Fs+K}$

Question Number : 80 Question Id : 1298403080 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

With increase in the type of the system the steady state error for a particular input function

Options :

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1. ✖ Increases

2. ✔ Decreases

3. ✖ Remains constant

4. ✖ First increases then decreases

Question Number : 81 Question Id : 1298403081 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The location of the closed loop conjugate pair of pole on jω axis indicates that the system is

Options :

1. ✖ Stable

2. ✖ Unstable

3. ✔ Marginally stable

4. ✖ Critically stable

Question Number : 82 Question Id : 1298403082 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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In which type of strain gauge the gauge factor is maximum

Options :

1. ✔ Semiconductor

2. ✖ Pure metals

3. ✖ Carbon metal alloys

4. ✖ Super conductors

Question Number : 83 Question Id : 1298403083 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

LVDT works on the principle of

Options :

1. ✖ Variable resistance

2. ✖ Variable self-inductance

3. ✔ Variable mutual inductance

4. ✖ Variable capacitance

Question Number : 84 Question Id : 1298403084 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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The size of air cored inductive transducers as compared with their iron cored counterparts is

Options :

1. ✖ Smaller

2. ✔ Bigger

3. ✖ Same

4. ✖ Can be either bigger or smaller

Question Number : 85 Question Id : 1298403085 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Time dependent recoverable deformation under load is called _____ deformation

Options :

1. ✔ Anelastic

2. ✖ Elastic after-effect

3. ✖ Visco-elastic

4. ✖ Elastic

Question Number : 86 Question Id : 1298403086 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

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Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

A capacitive transducer working on the principle of change of capacitance with change of displacement, exhibits non-linear characteristics. The response of these transducers can be made linear by using

Options :

1. ✔ Differential arrangement

2. ✖ Working them over a large displacement range

3. ✖ The response can not be made linear

4. ✖ No special arrangement is required

Question Number : 87 Question Id : 1298403087 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

An optical pulse containing 6×10^6 photons is incident on photodiode and 4.5×10^6 electron hole pairs are created. The maximum possible quantum efficiency of photodiode is _____

Options :

1. ✔ 75%

2. ✖ 80%

3. ✖ 100%

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4. ✖ 0%

Question Number : 88 Question Id : 1298403088 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The frequency of light radiation with a wavelength of 500 mm is _____MHz

Options :

1. ✖ 500

2. ✖ 250

3. ✖ 50

4. ✔ 600

Question Number : 89 Question Id : 1298403089 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a photo-multiplier

Options :

1. ✖ Gain is independent of stray magnetic fields

2. ✖ High frequency response is improved by increasing the number of dynodes (emitting surface)

3. ✔ Secondary emission is used for amplification of low level photo current

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4. ✖ The electron are directed to the anode by applying a strong magnetic field

Question Number : 90 Question Id : 1298403090 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A piezoelectric crystal has a thickness of 2mm. Its voltage sensitivity is 0.012 Vm/N. It is subjected to a pressure of 0.5MN/m^2. The voltage generated is _____V

Options :

1. ✖ 3

2. ✖ 6

3. ✔ 12

4. ✖ 48

Question Number : 91 Question Id : 1298403091 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In a ECG wave QRS complex represents_____

Options :

1. ✔ Ventricular depolarization

2. ✖ Ventricular repolarization

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3. ✖ Atrial depolarization

4. ✖ Atrial repolarization

Question Number : 92 Question Id : 1298403092 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The test mostly used for the diagnosis of epilepsy is_____

Options :

1. ✔ EEG

2. ✖ EOG

3. ✖ EMG

4. ✖ ECG

Question Number : 93 Question Id : 1298403093 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____principal ion is not involved for the production of cell potentials

Options :

1. ✖ Sodium

2. ✖ Potassium

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3. ✖ Chlorine

4. ✔ Hydrogen

Question Number : 94 Question Id : 1298403094 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

EOG is used for the measurement of _____

Options :

1. ✔ Corneo-retinal standing potential

2. ✖ Blood Pressure

3. ✖ Respiration rate

4. ✖ Heart rate

Question Number : 95 Question Id : 1298403095 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A small branch of an artery leading into capillaries is called _____

Options :

1. ✖ Capillaries

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2. ✔ Arteriole

3. ✖ Areolas

4. ✖ Vessel

Question Number : 96 Question Id : 1298403096 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Defibrillators are devices that

Options :

1. ✔ Restore a normal heartbeat by sending an electric pulse

2. ✖ Helps the person to breathe

3. ✖ Measure the volume of air inspired

4. ✖ Uses dialysis to remove impurities and waste products

Question Number : 97 Question Id : 1298403097 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ Instrument is used to measures oxygen saturation level, or the oxygen levels in your blood

Options :

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1. ✔ Pulse oximeter

2. ✖ Defibrillator

3. ✖ Pacemaker

4. ✖ Sphygmometer

Question Number : 98 Question Id : 1298403098 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The force needs to be applied to an object to cause it to change from elastic deformation to plastic deformation is known as

Options :

1. ✖ Compressive stress

2. ✖ Impact stress

3. ✖ Tensile stress

4. ✔ Yield Stress

Question Number : 99 Question Id : 1298403099 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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Which valve does the blood flow through after passing through the right atrium into the right ventricle

Options :

1. ✔ Tricuspid valve

2. ✖ Mitral valve

3. ✖ Bicuspid valve

4. ✖ Aortic valve

Question Number : 100 Question Id : 1298403100 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Linear prediction method, Syntactic method and Long term prediction are the examples of _____ category of ECG compression technique

Options :

1. ✖ Transformation domain

2. ✖ Time domain

3. ✔ Parameter extraction

4. ✖ Frequency domain

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Question Number : 101 Question Id : 1298403101 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The blood in hemodialysis is filtered through _____

Options :

1. ✔ Dialyzer

2. ✖ Cholesterol screen

3. ✖ Hemolyzer

4. ✖ Hemoglobin

Question Number : 102 Question Id : 1298403102 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The compression ratio of ECG should be

Options :

1. ✔ Greater than one

2. ✖ Less than one

3. ✖ One

4. ✖ Zero

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Question Number : 103 Question Id : 1298403103 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Spirometer is an apparatus _____

Options :

1. ✖ That is capable of exchanging oxygen and carbon dioxide in the blood of human

2. ✔ For measuring the volume of air inspired and expired by the lungs

3. ✖ That is placed under the skin in your chest to help control your heartbeat

4. ✖ That restore a normal heartbeat by sending an electric pulse or shock to the heart

Question Number : 104 Question Id : 1298403104 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

X-rays can be used to detect _____disease

Options :

1. ✖ Bladder infection

2. ✔ Pneumonia

3. ✖ Diarrhea

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4. ✖ Fever

Question Number : 105 Question Id : 1298403105 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The most common form of medical imaging, using high-energy radiation to penetrate skin and tissues but not bone is_____

Options :

1. ✖ Ultrasound

2. ✖ MRI

3. ✔ X-rays

4. ✖ PET

Question Number : 106 Question Id : 1298403106 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

As an ultrasound pulse moves through tissue in a patient's body, which of the following parameter will not change

Options :

1. ✖ Amplitude (energy)

2. ✔ Frequency

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3. ✖ Intensity

4. ✖ Physical size

Question Number : 107 Question Id : 1298403107 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The smallest unit in the reconstruction of an MRI image is known as _____

Options :

1. ✖ Pixel

2. ✖ Binary unit

3. ✔ Voxel

4. ✖ Dot

Question Number : 108 Question Id : 1298403108 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Spatial localization in MRI primarily relies on

Options :

1. ✖ Distance from the transmission coil

2. ✖ Distance to the receiving coil

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3. ✔ Varying magnetic field across the patient

4. ✖ Tomographic reconstruction

Question Number : 109 Question Id : 1298403109 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The type of joint between the skull bones is _____

Options :

1. ✖ Ball and Socket joint

2. ✖ Synovial Joint

3. ✔ Fibrous joint

4. ✖ Cartilaginous joint

Question Number : 110 Question Id : 1298403110 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Galvanic skin response gives _____

Options :

1. ✖ Activity of endrocine glands

2. ✔ Activity of sweat glands

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3. ✖ Baseline value of skin resistance

4. ✖ Baseline value of breathing

Question Number : 111 Question Id : 1298403111 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The structure which is not present in the knee is _____

Options :

1. ✖ Anterior cruciate ligament

2. ✔ Glenohumeral ligament

3. ✖ Posterior cruciate ligament

4. ✖ Medial collateral ligament

Question Number : 112 Question Id : 1298403112 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The bond between amino acids is called _____

Options :

1. ✖ Ionic bond

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2. ✔ Peptide bond

3. ✖ Acidic bond

4. ✖ Hydrogen bond

Question Number : 113 Question Id : 1298403113 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The tissue which stores fats is known as _____

Options :

1. ✖ Nervous tissue

2. ✖ Epithelial tissue

3. ✔ Adipose tissue

4. ✖ Muscle tissue

Question Number : 114 Question Id : 1298403114 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The plasma protein which is responsible for blood coagulation is called _____

Options :

1. ✔ Fibrinogen

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2. ✖ Globulin

3. ✖ Serum amylase

4. ✖ Albumin

Question Number : 115 Question Id : 1298403115 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Ribs and sternum are connected by _____

Options :

1. ✖ Areolar tissue

2. ✖ White fibrous cartilage

3. ✔ Hyaline cartilage

4. ✖ Bony matter

Question Number : 116 Question Id : 1298403116 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The characterization technique used to measure Young's modulus of a biomaterial is_____

Options :

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1. ✔ Calculation from the stress-strain curve

2. ✖ Tensile test

3. ✖ Compression test

4. ✖ Three- and four-point bend test

Question Number : 117 Question Id : 1298403117 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The _____ properties of a biomaterial affect the maximum possible accommodation of cells in the scaffold.

Options :

1. ✔ Topography and roughness

2. ✖ Charge

3. ✖ Stiffness

4. ✖ Surface chemistry

Question Number : 118 Question Id : 1298403118 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Creep mechanism which operates at stress level $10^{-2}>\sigma/G>10^{-4}$ is

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Options :

1. ✔ Dislocation creep

2. ✖ Diffusion creep

3. ✖ Dislocation glide

4. ✖ Gb sliding

Question Number : 119 Question Id : 1298403119 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An inherited red blood cell disorder where there are not healthy red blood cells to carry oxygen throughout human body is known as_____

Options :

1. ✔ Sickle cell anemia

2. ✖ Alopecia

3. ✖ Hemolysis

4. ✖ Heterochromia

Question Number : 120 Question Id : 1298403120 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

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The condition where blood clot forms in circulatory system is known as _____

Options :

1. ✖ Strombus

2. ✖ Hematoma

3. ✔ Thrombus

4. ✖ Embolus

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