

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 21st Sept 2020 Shift 2
Subject Name :	Biomedical Engineering
Creation Date :	2020-09-21 17:46:58
Duration :	120
Total Marks :	120
Display Marks:	No
Share Answer Key With Delivery Engine :	Yes
Actual Answer Key :	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 :	88039684
Group Maximum Duration :	0

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

Mathematics

Section Id :	880396153
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	10
Number of Questions to be attempted :	10
Section Marks :	10
Display Number Panel :	Yes
Group All Questions :	Yes
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	880396153
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 8803969961 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

$$z = \sin(x - y)^3 + \log(\cos(x + y)^4) \Rightarrow \frac{\partial^2 z}{\partial x^2} - \frac{\partial^2 z}{\partial y^2} =$$

Options :

88039639841. ✖ 3z

88039639842. ✘ 2z

88039639843. ✘ z

88039639844. ✔ 0

Question Number : 2 Question Id : 8803969962 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Sum of the squares of eigen values of the matrix $\begin{pmatrix} -1 & 1 & 1 \\ 1 & -1 & 1 \\ 1 & 1 & -1 \end{pmatrix}$ is

Options :

88039639845. ✘ 1

88039639846. ✘ 4

88039639847. ✔ 9

88039639848. ✘ 16

Question Number : 3 Question Id : 8803969963 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

If 'S' is the set of solutions of the system of equations

$$x + y + z = 4, 3x + 2z = 5, 2x - y + z = 5, \text{ then } S \text{ is}$$

Options :

88039639849. ✓ empty

88039639850. ✗ singleton

88039639851. ✗ a two element set

88039639852. ✗ Infinite

Question Number : 4 Question Id : 8803969964 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Residue of $f(z) = (e^{2z} + 1)^{-1}$ at the pole $z_0 = \frac{i\pi}{2}$ is

Options :

88039639853. ✗ $\frac{1}{3}$

88039639854. ✓ $-\frac{1}{2}$

88039639855. ✗ $\frac{1}{2}$

88039639856. ✖ $-\frac{1}{3}$

Question Number : 5 Question Id : 8803969965 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

For the function $f(z) = \frac{(z^2 - 4)^2}{(z - 2)^4(z^2 + 5z + 7)}$, $z = 2$ is a pole of order

Options :

88039639857. ✖ 1

88039639858. ✔ 2

88039639859. ✖ 3

88039639860. ✖ 4

Question Number : 6 Question Id : 8803969966 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

$$\oint_{|z|=10} \frac{dz}{z^2 + 5z + 7} =$$

Options :

88039639861. ✖ $3\pi i$

88039639862. ✘ $2\pi i$

88039639863. ✘ πi

88039639864. ✔ 0

Question Number : 7 Question Id : 8803969967 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

If the particular integral of $y''+4y' = \sin x$ is $k(\sin(x) + 4 \cos(x))$, then $k =$

Options :

88039639865. ✘ $-\frac{1}{15}$

88039639866. ✘ $\frac{1}{15}$

88039639867. ✘ $\frac{1}{17}$

88039639868. ✔ $-\frac{1}{17}$

Question Number : 8 Question Id : 8803969968 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The general solution of $xy'' + y' = x$, then $y(x) =$

Options :

88039639869. ✘ $\frac{a}{x^3} + b + \frac{x^2}{5}$

88039639870. ✘ $\frac{a}{x^2} + b + \frac{x^2}{10}$

88039639871. ✔ $\frac{a}{x^3} + b + \frac{x^2}{10}$

88039639872. ✘ $\frac{a}{x^3} + b + \frac{x^2}{20}$

Question Number : 9 Question Id : 8803969969 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The probability that a number chosen randomly from 1 through 100 that is of the form

$4n + 1$ is

Options :

88039639873. ✔ $\frac{1}{4}$

88039639874. ✘ $\frac{1}{10}$

88039639875. ✘ $\frac{1}{5}$

88039639876. ✘ $\frac{3}{8}$

Question Number : 10 Question Id : 8803969970 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Volume of the solid of revolution $f(x) = \sqrt{2-x^2}$ between $x = -1$ to 1 around the x -axis is

Options :

88039639877. ✘ $\frac{5}{3}\pi$

88039639878. ✔ $\frac{10}{3}\pi$

88039639879. ✘ 4π

88039639880. ✘ 3π

Biomedical Engineering

Section Id :

880396154

Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	110
Number of Questions to be attempted :	110
Section Marks :	110
Display Number Panel :	Yes
Group All Questions :	Yes
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	880396154
Question Shuffling Allowed :	Yes

Question Number : 11 Question Id : 8803969971 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

When determining the Thevenin resistance of the circuit

Options :

88039639881. ✘ All independent voltage and current sources are short circuited

88039639882. ✘ All independent voltage and current sources are open circuited

88039639883. ✔ All independent voltage sources are short circuited and current sources are open circuited

88039639884. ✘ All independent voltage sources are open circuited and current sources are short circuited

Question Number : 12 Question Id : 8803969972 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The phase angle of the series RLC circuit at resonance is

Options :

88039639885. ✓ Zero degree

88039639886. ✗ 90 degree

88039639887. ✗ 45 degree

88039639888. ✗ 30 degree

Question Number : 13 Question Id : 8803969973 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The template cross correlation technique of QRS detection requires the _____ of the
template with incoming signal using _____ points.

Options :

88039639889. ✗ Correlation, peak

88039639890. ✓ Alignment, fiducial

88039639891. ✗ Subtraction, fiducial

88039639892. ✘ Subtraction, isoelectric

Question Number : 14 Question Id : 8803969974 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Cellulose is used for

Options :

88039639893. ✘ Cell scaffold

88039639894. ✔ Drug delivery

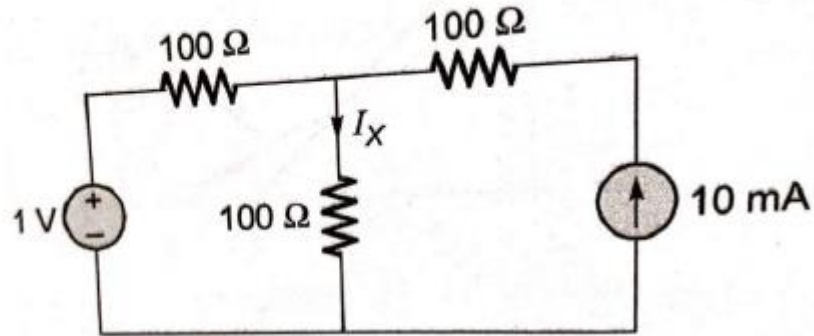
88039639895. ✘ Wound dressing

88039639896. ✘ Cosmetic surgery

Question Number : 15 Question Id : 8803969975 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The current I_x in the circuit given below in milliampere is



Options :

88039639897. ✓ 10 mA

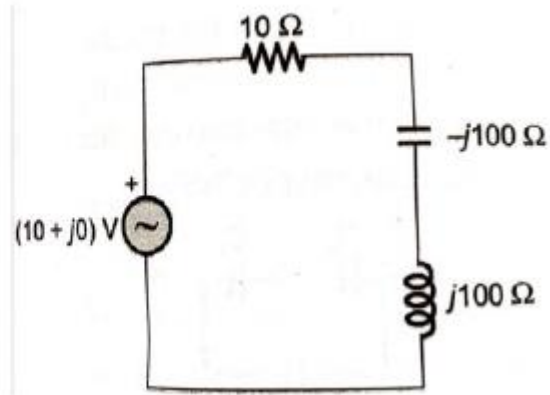
88039639898. ✗ 20 mA

88039639899. ✗ 5 mA

88039639900. ✗ 2 mA

Question Number : 16 Question Id : 8803969976 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

For the circuit shown below the voltage across the capacitor is



Options :

- 88039639901. ✘ $(10 + j0) \text{ V}$
- 88039639902. ✘ $(100 + j0) \text{ V}$
- 88039639903. ✘ $(0 + j100) \text{ V}$
- 88039639904. ✔ $(0 - j100) \text{ V}$

Question Number : 17 Question Id : 8803969977 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The time constant of a series RL circuit is

Options :

- 88039639905. ✘ LR

88039639906. ✘ $\frac{R}{L}$

88039639907. ✔ $\frac{L}{R}$

88039639908. ✘ $e^{-R/L}$

Question Number : 18 Question Id : 8803969978 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

In a parallel resonance circuit, the current lags behind the source voltage at frequencies below resonance because

Options :

88039639909. ✘ The circuit is predominantly resistive

88039639910. ✔ The circuit is predominantly inductive

88039639911. ✘ The circuit is predominantly capacitive

88039639912. ✘ At frequencies below resonance current leads the source voltage

Question Number : 19 Question Id : 8803969979 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The ratio of r.m.s. value to average value is called

Options :

88039639913. ✘ Peak factor

88039639914. ✘ Q factor

88039639915. ✘ Power factor

88039639916. ✔ Form factor

Question Number : 20 Question Id : 8803969980 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ are used in artificial hip joints, dental implants, Bone plates and screws and heart pacemaker, stents

Options :

88039639917. ✘ Bio resorbable materials

88039639918. ✔ Metallic bio materials

88039639919. ✘ Bio ceramics

88039639920. ✘ Bio polymers

Question Number : 21 Question Id : 8803969981 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The turning point approach employed in ECG compression is _____ the morphology of the incoming signal and it provides a _____ compression ratio.

Options :

88039639921. ✘ Independent of, variable

88039639922. ✔ Independent of, fixed

88039639923. ✘ Dependent on, variable

88039639924. ✘ Dependent, fixed

Question Number : 22 Question Id : 8803969982 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A source $V_s(t) = V \cos 100 \pi t$ has an internal impedance of $4+j3$ ohm. If a purely resistive load connected to this source has to extract the maximum power out of the source, its value in ohm should be

Options :

88039639925. ✘ 3

88039639926. ✘ 4

88039639927. ✔ 5

88039639928. ✘ 7

Question Number : 23 Question Id : 8803969983 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

While employing the averaging technique for recording evoked potential, the reduction in noise is proportional to

Options :

88039639929. ✘ The number of trials

88039639930. ✘ Twice the number of trials

88039639931. ✘ The square of the number of trails

88039639932. ✔ The square root of the number of trials

Question Number : 24 Question Id : 8803969984 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Which of the following statement is not correct?

Options :

88039639933. ✔ Ideal voltage source is one whose internal conductance is zero

88039639934. ✘ Ideal current source is one whose internal conductance is zero

88039639935. ✘ Ideal voltage source is one whose internal resistance is zero

Ideal voltage source is one whose generated voltage is equal to the available terminal

88039639936. ✘ voltage

Question Number : 25 Question Id : 8803969985 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The lung compliance is the ratio of _____ during the _____ phase in the lungs.

Options :

88039639937. ✔ Volume delivered to the pressure rise, inspiratory

88039639938. ✘ Volume expelled to the pressure rise, expiratory

88039639939. ✘ Pressure rise to the volume delivered, inspiratory

88039639940. ✘ Pressure rise to the volume delivered, expiratory

Question Number : 26 Question Id : 8803969986 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

If a continuous time signal $x(t) = \cos(2\pi t)$ is sampled at 4 Hz, the value of discrete time

sequence $x(n) = 5$ is

Options :

88039639941. ✘ -0.707

88039639942. ✘ -1

88039639943. ✔ 0

88039639944. ✘ 1

Question Number : 27 Question Id : 8803969987 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Consider the periodic signal $x(t) = (1 + 0.5\cos 40\pi t) \cos 200\pi t$, where, 't' is in seconds. Its fundamental frequency in Hz is

Options :

88039639945. ✔ 20

88039639946. ✘ 40

88039639947. ✘ 100

88039639948. ✘ 200

Question Number : 28 Question Id : 8803969988 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Identify the transfer function corresponding to an all pass filter from the following

Options :

88039639949. ✓ $\frac{1 - s\tau}{1 + s\tau}$

88039639950. ✘ $\frac{1 + s\tau_1}{1 + s\tau_2}$

88039639951. ✘ $\frac{1}{1 + s\tau}$

88039639952. ✘ $\frac{s\tau}{1 + s\tau}$

Question Number : 29 Question Id : 8803969989 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The minimum sampling frequency required for the ADC of a digital ECG monitor is

Options :

88039639953. ✘ 50 Hz

88039639954. ✘ 1000 Hz

88039639955. ✘ 500 Hz

88039639956. ✓ 300 Hz

Question Number : 30 Question Id : 8803969990 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How many memory locations are used for storage of the output point of a sequence of length M in direct form realization in FIR systems?

Options :

88039639957. ✘ $M+1$

88039639958. ✘ M

88039639959. ✔ $M-1$

88039639960. ✘ $M+2$

Question Number : 31 Question Id : 8803969991 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The spike-and-wave complex of the EEG can be detected using

Options :

88039639961. ✔ Template matching

88039639962. ✘ Wiener filter

88039639963. ✘ HPF

88039639964. ✘ LPF

Question Number : 32 Question Id : 8803969992 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

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

The system described by the input-output equation $y(n) = nx(n) + x^3(n)$ is

Options :

88039639965. ✓ Static

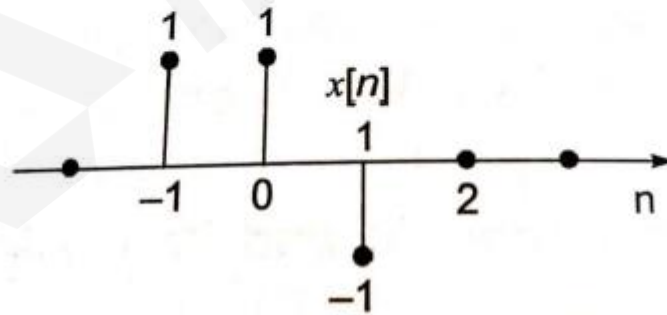
88039639966. ✗ Dynamic

88039639967. ✗ Identical

88039639968. ✗ Non-causal

Question Number : 33 Question Id : 8803969993 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
 Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
 Correct Marks : 1 Wrong Marks : 0

The signal $x[n]$ shown in the figure below is convolved with itself to get $y[n]$. The value of $y[0]$ is



Options :

88039639969. ✗ 1

88039639970. ✘ 2

88039639971. ✔ -1

88039639972. ✘ 0

Question Number : 34 Question Id : 8803969994 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The symmetry between two corresponding EEG channels on the left and right can be studied by the

Options :

88039639973. ✔ Coherence function

88039639974. ✘ Single differentiation

88039639975. ✘ Template matching

88039639976. ✘ Double differentiation

Question Number : 35 Question Id : 8803969995 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The Fourier transform of a unit step function is given by

Options :

88039639977. ✘ $F(j\omega) = \frac{1}{\omega}$

88039639978. ✘ $F(j\omega) = \frac{j}{\omega}$

88039639979. ✘ $F(j\omega) = j\omega$

88039639980. ✔ $F(j\omega) = \frac{1}{j\omega}$

Question Number : 36 Question Id : 8803969996 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The impulse response of a continuous time system is given by $h(t) = \delta(t-1) + \delta(t-3)$.

The value of step response at $t = 2$ is

Options :

88039639981. ✘ 0

88039639982. ✔ 1

88039639983. ✘ 2

88039639984. ✘ 3

Question Number : 37 Question Id : 8803969997 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The region of convergence of the Z-transform of the discrete time signal $x[n] = 2^n u[n]$

Options :

88039639985. ✓ $|Z| > 2$

88039639986. ✗ $|Z| < 2$

88039639987. ✗ $|Z| > \frac{1}{2}$

88039639988. ✗ $|Z| < \frac{1}{2}$

Question Number : 38 Question Id : 8803969998 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The input $x(\tau)$ and the corresponding output $y(\tau)$ of a system are related by

$$y(\tau) = \int_{-\infty}^{\tau} x(\tau) d\tau$$

The system is

Options :

88039639989. ✗ Time invariant and causal

88039639990. ✘ Time invariant and non-causal

88039639991. ✔ Time variant and non-causal

88039639992. ✘ Time variant and causal

Question Number : 39 Question Id : 8803969999 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

A transducer provides output in the form of current. Accurate measurement of the variable requires

Options :

88039639993. ✔ Source output impedance must be large compared to the preamplifier input impedance

88039639994. ✘ Source output impedance must be small compared to the preamplifier input impedance

88039639995. ✘ Source output impedance must be equal to the preamplifier input impedance

88039639996. ✘ There is no consideration of impedances

Question Number : 40 Question Id : 88039610000 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which is not a method to improve signal to noise ratio?

Options :

88039639997. ✘ Bandwidth reduction

88039639998. ✘ Adaptive noise cancellation

88039639999. ✔ Clamping of signal

88039640000. ✘ Filtering of signal

Question Number : 41 Question Id : 88039610001 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Time for the sensor to reach a stable output once it is turned on is called

Options :

88039640001. ✘ Rise time

88039640002. ✘ Time constant

88039640003. ✘ Response time

88039640004. ✔ Settling time

Question Number : 42 Question Id : 88039610002 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The binary representation of decimal number 1.375 is

Options :

88039640005. ✘ 1.111

88039640006. ✘ 1.010

88039640007. ✔ 1.011

88039640008. ✘ 1.001

Question Number : 43 Question Id : 88039610003 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The output 'y' of a 2-bit comparator is logic 1 whenever the 2-bit input 'A' is greater than the 2-bit input 'B'. The number of combinations for which the output is logic 1

Options :

88039640009. ✘ 4

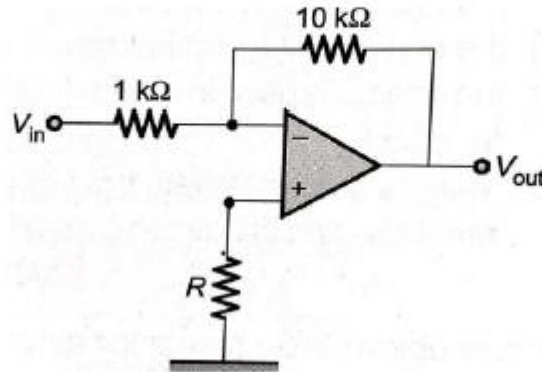
88039640010. ✔ 6

88039640011. ✘ 8

88039640012. ✘ 10

Question Number : 44 Question Id : 88039610004 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

If the value of resistance R in the following figure is increased by 50%, then the voltage gain of the amplifier will change by



Options :

- 88039640013. ✘ 50%
- 88039640014. ✘ -50%
- 88039640015. ✘ 5%
- 88039640016. ✔ Negligible amount

Question Number : 45 Question Id : 88039610005 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following has the widest range of temperature measurement?

Options :

- 88039640017. ✔ Thermocouple

88039640018. ✘ RTD

88039640019. ✘ Thermistor

88039640020. ✘ Mercury thermometer

Question Number : 46 Question Id : 88039610006 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Transistor as a digital device operates in which region

Options :

88039640021. ✘ Cut off region

88039640022. ✘ Saturation region

88039640023. ✘ Active region

88039640024. ✔ Both cut off and saturation region

Question Number : 47 Question Id : 88039610007 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The input resistance of BJT is

Options :

88039640025. ✘ More than that of MOSFET

88039640026. ✓ Less than that of MOSFET

88039640027. ✗ Same as that of MOSFET

88039640028. ✗ Infinity

Question Number : 48 Question Id : 88039610008 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Maximum efficiency of a half wave rectifier is

Options :

88039640029. ✗ 33.33%

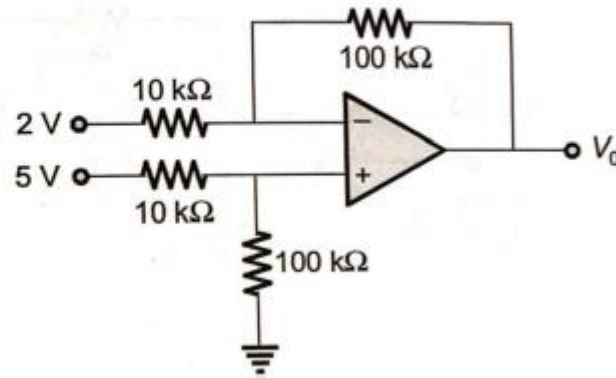
88039640030. ✓ 40.6%

88039640031. ✗ 50%

88039640032. ✗ 100%

Question Number : 49 Question Id : 88039610009 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The output voltage of the circuit shown in figure is



Options :

- 88039640033. ✘ -20 V
- 88039640034. ✘ 20 V
- 88039640035. ✘ -30 V
- 88039640036. ✔ 30 V

Question Number : 50 Question Id : 88039610010 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The CMRR for an op-amp having differential gain A_v and common-mode gain A_c is

Options :

- 88039640037. ✘ $A_v + A_c$

88039640038. ✘ $A_v - A_c$

88039640039. ✔ $\frac{A_v}{A_c}$

88039640040. ✘ $\frac{A_c}{A_v}$

Question Number : 51 Question Id : 88039610011 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Gain of a negative feedback amplifier with internal gain $A = 100$ and feedback factor 0.1 ,

will be

Options :

88039640041. ✘ 90.0

88039640042. ✘ 9.9

88039640043. ✔ 9.09

88039640044. ✘ 0.99

Question Number : 52 Question Id : 88039610012 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A NAND circuit with positive logic will operate as

Options :

88039640045. ✓ NOR with negative logic

88039640046. ✗ AND with negative logic

88039640047. ✗ OR with negative logic

88039640048. ✗ AND with positive logic

Question Number : 53 Question Id : 88039610013 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Monopolar needle electrodes have a coating of which material over the stainless steel wires which is bare only at the tips?

Options :

88039640049. ✗ Carbon

88039640050. ✗ Calcium

88039640051. ✗ Sodium

88039640052. ✓ Teflon

Question Number : 54 Question Id : 88039610014 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The output of a logic gate is 1 when all its inputs are at logic 0, the gate is either

Options :

88039640053. ✘ a NAND or an EX-OR

88039640054. ✘ an AND or an EX-OR

88039640055. ✘ an OR or an EX-NOR

88039640056. ✔ a NOR or an EX-NOR

Question Number : 55 Question Id : 88039610015 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

An ideal Op-Amp has

Options :

88039640057. ✘ Zero input impedance

88039640058. ✘ Infinite output impedance

88039640059. ✔ Infinite input impedance

88039640060. ✘ Zero CMRR

Question Number : 56 Question Id : 88039610016 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In 8085 microprocessor, sequencing the execution of instructions is done by

Options :

88039640061. ✘ Accumulator

88039640062. ✘ Flag

88039640063. ✘ Stack Pointer

88039640064. ✔ Program Counter

Question Number : 57 Question Id : 88039610017 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The 8051 microcontroller has _____ parallel I/O ports.

Options :

88039640065. ✘ 2

88039640066. ✘ 3

88039640067. ✔ 4

88039640068. ✘ 5

Question Number : 58 Question Id : 88039610018 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

How many flip flops are required to implement twisted ring counter having 10 states?

Options :

88039640069. ✘ 10

88039640070. ✘ 20

88039640071. ✔ 5

88039640072. ✘ 4

Question Number : 59 Question Id : 88039610019 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

8 bit D/A converter has a resolution of 10 mV per LSB. What is the output voltage when the digital input code is 10000001?

Options :

88039640073. ✘ 2 V

88039640074. ✔ 1.29 V

88039640075. ✘ 3 V

88039640076. ✘ 10 V

Question Number : 60 Question Id : 88039610020 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following statements is incorrect?

Options :

88039640077. ✘ RAM is volatile

88039640078. ✘ Dynamic RAM stores information by charging or discharging capacitors

88039640079. ✘ RAM is memory that can be written and read quickly

88039640080. ✔ Static RAM stores information by energizing or de-energising inductors

Question Number : 61 Question Id : 88039610021 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The conversion time of 8-bit successive approximation ADC with 1 MHz clock is nearly

Options :

88039640081. ✘ 64 μ s

88039640082. ✘ 256 μ s

88039640083. ✘ 128 μ s

88039640084. ✔ 8 μ s

Question Number : 62 Question Id : 88039610022 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

In a multiplexer, the number of select lines 'm', required to select one out of the 'n' input lines is

Options :

88039640085. ✓ $m = \log_2 n$

88039640086. ✗ $m = 2^n$

88039640087. ✗ $m = 2n$

88039640088. ✗ $m = n/2$

Question Number : 63 Question Id : 88039610023 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The time required to complete the conversion of analog to digital is _____ the duration of the hold mode of sample and hold circuit.

Options :

88039640089. ✗ Greater than

88039640090. ✗ Equals to

88039640091. ✓ Less than

88039640092. ✗ Greater than or equals to

Question Number : 64 Question Id : 88039610024 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Closeness of a calibration curve to a specified curve for an inherently non-linear transducer is called

Options :

88039640093. ✓ Conformance

88039640094. ✗ Linearity

88039640095. ✗ Saturation

88039640096. ✗ Hysteresis

Question Number : 65 Question Id : 88039610025 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

When a potentiometer is used for measurement of voltage of unknown source, the power consumed in the circuit of unknown source under null conditions is

Options :

88039640097. ✗ High

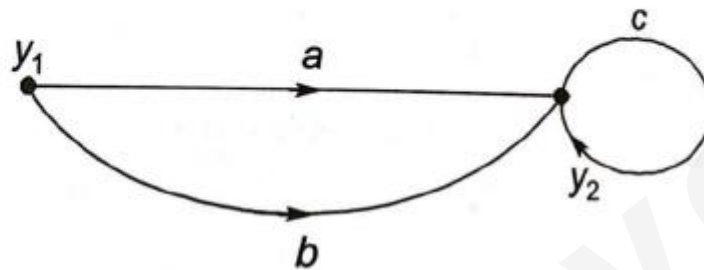
88039640098. ✗ Very High

88039640099. ✗ Small

88039640100. ✓ Zero (Ideally)

Question Number : 66 Question Id : 88039610026 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The transfer function between y_2 and y_1 in the figure is



Options :

88039640101. ✗ $a + b$

88039640102. ✓ $\frac{a + b}{1 - c}$

88039640103. ✗ $(a + b) c$

88039640104. ✗ $\frac{a + b}{1 + c}$

Question Number : 67 Question Id : 88039610027 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For a unit ramp input applied to a first order system with time constant ' τ ', the steady state error is

Options :

88039640105. ✓ τ

88039640106. ✗ 2τ

88039640107. ✗ 3τ

88039640108. ✗ 4τ

Question Number : 68 Question Id : 88039610028 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The diode current equation is not applicable in

Options :

88039640109. ✗ Forward biased state

88039640110. ✗ Reverse biased state

88039640111. ✗ Unbiased state

88039640112. ✓ It is applicable in all bias states

Question Number : 69 Question Id : 88039610029 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

For a unit step input, a system with a closed loop transfer function $G(s) = \frac{20}{s^2 + 2s + 5}$ has a

steady state error of

Options :

88039640113. ✘ 10

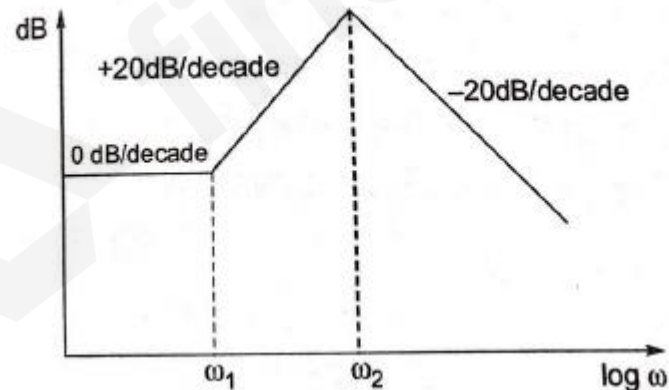
88039640114. ✘ 5

88039640115. ✔ 4

88039640116. ✘ 2

Question Number : 70 Question Id : 88039610030 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

A Bode asymptotic plot of a transfer function is given below. The transfer function has



Options :

88039640117. ✘ 3 poles and 1 zero

88039640118. ✘ 1 pole and 2 zeros

88039640119. ✔ 2 poles and 1 zero

88039640120. ✘ 2 poles and 2 zeros

Question Number : 71 Question Id : 88039610031 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

To achieve the low frequency response for medical applications, the amplifier configuration must contain?

Options :

88039640121. ✘ Higher input resistance

88039640122. ✔ Higher coupling capacitance

88039640123. ✘ Lower output resistance

88039640124. ✘ Lower bypass capacitance

Question Number : 72 Question Id : 88039610032 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Which of the following is not a piezo-electric material?

Options :

88039640125. ✘ Quartz

88039640126. ✘ Rochelle salt

88039640127. ✔ Aluminium

88039640128. ✘ Barium Titanate

Question Number : 73 Question Id : 88039610033 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Another name for a unity gain operational amplifier is

Options :

88039640129. ✔ Voltage follower

88039640130. ✘ Differential amplifier

88039640131. ✘ Single ended amplifier

88039640132. ✘ Current amplifier

Question Number : 74 Question Id : 88039610034 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The condition for stability of a closed loop system with characteristic equation $s^3 + bs^2 + cs + 1 = 0$, with positive coefficients is

Options :

88039640133. ✘ $b + c > 1$

88039640134. ✔ $bc > 1$

88039640135. ✘ $b = c$

88039640136. ✘ $b > c$

Question Number : 75 Question Id : 88039610035 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

A loop transfer function is given by $G(s)H(s) = \frac{K(s+2)}{s^2(s+10)}$. The point of intersection of the asymptotes of $G(s)H(s)$ in the root locus in the s plane is at

Options :

88039640137. ✔ - 4

88039640138. ✘ - 8

88039640139. ✘ - 3

88039640140. ✘ -10

Question Number : 76 Question Id : 88039610036 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The transfer function of a system is the Laplace transform of its

Options :

88039640141. ✘ Square wave response

88039640142. ✘ Step response

88039640143. ✘ Ramp response

88039640144. ✔ Impulse response

Question Number : 77 Question Id : 88039610037 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Light Emitting Diodes are made out of

Options :

88039640145. ✘ Germanium

88039640146. ✘ Silicon

88039640147. ✔ Gallium

88039640148. ✘ Germanium and Silicon but not Gallium

Question Number : 78 Question Id : 88039610038 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Photo conductive cell is also known as

Options :

88039640149. ✘ Solar cell

88039640150. ✔ Light dependent resistor

88039640151. ✘ Photo voltaic cell

88039640152. ✘ Photo capacitor

Question Number : 79 Question Id : 88039610039 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Phonocardiography is listening to _____ sound.

Options :

88039640153. ✘ Lungs

88039640154. ✘ Arm muscle

88039640155. ✔ Heart

88039640156. ✘ Respiratory tract

Question Number : 80 Question Id : 88039610040 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Electrode paste _____ contact impedance.

Options :

88039640157. ✘ Increases

88039640158. ✘ Equates

88039640159. ✔ Reduces

88039640160. ✘ Absorbs

Question Number : 81 Question Id : 88039610041 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Maximum signal amplitude in normal ECG signal (PQRST wave) is at point

Options :

88039640161. ✘ P

88039640162. ✘ Q

88039640163. ✔ R

88039640164. ✘ S

Question Number : 82 Question Id : 88039610042 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Odd number denotes which side of the brain as per the international 10/20 system to measure EEG.

Options :

88039640165. ✓ Left

88039640166. ✗ Right

88039640167. ✗ Top

88039640168. ✗ Front

Question Number : 83 Question Id : 88039610043 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

To measure EEG, electrodes are placed on

Options :

88039640169. ✗ Cheek

88039640170. ✓ Scalp

88039640171. ✗ Ears

88039640172. ✗ Forehead

Question Number : 84 Question Id : 88039610044 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

_____ are used to pick EOG potentials.

Options :

88039640173. ✘ Tape Recorder

88039640174. ✘ Oscilloscope

88039640175. ✔ Surface Electrodes

88039640176. ✘ Preamplifier

Question Number : 85 Question Id : 88039610045 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Galvanic skin response gives

Options :

88039640177. ✔ Activity of sweat glands

88039640178. ✘ Activity of endocrine glands

88039640179. ✘ Baseline value of skin resistance

88039640180. ✘ Baseline value of breathing

Question Number : 86 Question Id : 88039610046 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

The pressure exerted by blood against _____ is known as blood pressure.

Options :

88039640181. ✘ Brain

88039640182. ✔ Artery walls

88039640183. ✘ Kidneys

88039640184. ✘ Stomach

Question Number : 87 Question Id : 88039610047 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

_____ capacity is the maximum volume of air contained in the lung by a full forced inhalation.

Options :

88039640185. ✘ Vital

88039640186. ✘ Tidal

88039640187. ✔ Total lung

88039640188. ✘ Inspiratory

Question Number : 88 Question Id : 88039610048 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The blood pressure measuring instrument is

Options :

88039640189. ✓ Sphygmomanometer

88039640190. ✗ Rotameter

88039640191. ✗ Ergometer

88039640192. ✗ Holtemanometer

Question Number : 89 Question Id : 88039610049 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Needle electrode is used to measure

Options :

88039640193. ✗ ECG

88039640194. ✗ EEG

88039640195. ✗ EOG

88039640196. ✓ EMG

Question Number : 90 Question Id : 88039610050 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The frequency range of ECG is

Options :

88039640197. ✘ 70-120 Hz

88039640198. ✔ 0.05-120 Hz

88039640199. ✘ 50-120 Hz

88039640200. ✘ 12-120 Hz

Question Number : 91 Question Id : 88039610051 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ principle ion is not involved with the phenomena of producing cell potentials.

Options :

88039640201. ✘ Potassium

88039640202. ✘ Chlorine

88039640203. ✘ Sodium

88039640204. ✔ Hydrogen

Question Number : 92 Question Id : 88039610052 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The variation of the electrical potential associated with the passage of a pulse along the membrane of the muscle/nerve cell is called _____ potential.

Options :

88039640205. ✘ Muscle

88039640206. ✔ Action

88039640207. ✘ Resting

88039640208. ✘ Half cell

Question Number : 93 Question Id : 88039610053 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ is not a characteristic of a LED.

Options :

88039640209. ✘ Long life

88039640210. ✔ High Warm-up time

88039640211. ✘ Low operational voltage

88039640212. ✘ Fast action

Question Number : 94 Question Id : 88039610054 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Air cored inductive transducers are suitable for use

Options :

88039640213. ✘ At lower frequencies

88039640214. ✔ At higher frequencies

88039640215. ✘ At equal frequencies

88039640216. ✘ As are employed for iron cored transducers

Question Number : 95 Question Id : 88039610055 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Resistance potentiometer is a

Options :

88039640217. ✘ First order instrument

88039640218. ✘ Second order instrument

88039640219. ✔ Zero order instrument

88039640220. ✘ Third order instrument

Question Number : 96 Question Id : 88039610056 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In the Hall effect, the electric field is in the X-direction and the velocity is in Y-direction.

What is the direction of magnetic field?

Options :

88039640221. ✘ X

88039640222. ✘ Y

88039640223. ✔ Z

88039640224. ✘ XY plane

Question Number : 97 Question Id : 88039610057 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

In photodiode, the reverse current (when there is no incident light) is called

Options :

88039640225. ✘ PIN current

88039640226. ✔ Dark Current

88039640227. ✘ Photo current

88039640228. ✘ Zener Current

Question Number : 98 Question Id : 88039610058 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

_____ transducer can only be used in dynamic measurement conditions.

Options :

88039640229. ✓ Piezoelectric

88039640230. ✗ Strain Gauge

88039640231. ✗ LVDT

88039640232. ✗ Thermocouple

Question Number : 99 Question Id : 88039610059 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

All arteries regulate the blood flow

Options :

88039640233. ✗ To the liver

88039640234. ✗ To brain

88039640235. ✗ Away from the lungs

88039640236. ✓ Away from heart

Question Number : 100 Question Id : 88039610060 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

Erythrocyte is another name for

Options :

88039640237. ✓ Red Cells

88039640238. ✗ White cells

88039640239. ✗ Hemoglobin

88039640240. ✗ Platelets

Question Number : 101 Question Id : 88039610061 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is

Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

The compressive strength of bone is about

Options :

88039640241. ✓ 150 MPa

88039640242. ✗ 500 MPa

88039640243. ✗ 400 MPa

88039640244. ✗ 2400 MPa

Question Number : 102 Question Id : 88039610062 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Most of the volume of normal human blood is composed of

Options :

88039640245. ✘ Red cells

88039640246. ✔ Plasma

88039640247. ✘ Hemoglobin

88039640248. ✘ White cells

Question Number : 103 Question Id : 88039610063 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Which cell secretes the matrix for bone formation?

Options :

88039640249. ✘ Osteoclastoma

88039640250. ✘ Mesoblasts

88039640251. ✘ Osteoclasts

88039640252. ✔ Osteoblasts

Question Number : 104 Question Id : 88039610064 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Through which structure does blood pass from the right atrium to the right ventricle

Options :

- 88039640253. ✘ Bicuspid valve
- 88039640254. ✔ Tricuspid valve
- 88039640255. ✘ Interventricular Septum
- 88039640256. ✘ Mtral valve

Question Number : 105 Question Id : 88039610065 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Bones are so strong because of

Options :

- 88039640257. ✘ Silica
- 88039640258. ✘ Blood and Marrow
- 88039640259. ✘ Cartilage
- 88039640260. ✔ Calcium and Phosphorous

Question Number : 106 Question Id : 88039610066 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Blood flowing through the veins tends to

Options :

- 88039640261. ✘ Pulsate
- 88039640262. ✔ Flow smoothly
- 88039640263. ✘ Carry oxygen to the blood cells
- 88039640264. ✘ Flow at the faster rate than in the artery

Question Number : 107 Question Id : 88039610067 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Decreasing the angle between the bones is called

Options :

- 88039640265. ✔ Flexion
- 88039640266. ✘ Extension
- 88039640267. ✘ Adduction
- 88039640268. ✘ Opposition

Question Number : 108 Question Id : 88039610068 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The semilunar valves prevents blood from flowing backward

Options :

- 88039640269. ✘ Into the atria
- 88039640270. ✘ Into the brain
- 88039640271. ✔ Into the ventricle
- 88039640272. ✘ Into the liver

Question Number : 109 Question Id : 88039610069 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The only vein in the body that transports oxygen rich blood is the _____ vein.

Options :

- 88039640273. ✘ Coronary
- 88039640274. ✔ Pulmonary
- 88039640275. ✘ Hepatic Portal
- 88039640276. ✘ Aortic

Question Number : 110 Question Id : 88039610070 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

Most of the cardiac muscle of the heart is found in the

Options :

88039640277. ✘ Endocardium

88039640278. ✔ Myocardium

88039640279. ✘ Epicardium

88039640280. ✘ Pericardium

Question Number : 111 Question Id : 88039610071 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The pericardium is double-walled sac membrane that

Options :

88039640281. ✔ Encloses the heart

88039640282. ✘ Makes up the heart valves

88039640283. ✘ Line the aorta

88039640284. ✘ Is found only in capillaries

Question Number : 112 Question Id : 88039610072 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The interventricular septum and the interatrial septum separate the

Options :

88039640285. ✓ Chambers of the heart

88039640286. ✗ Aorta and pulmonary artery

88039640287. ✗ Chambers of the lungs

88039640288. ✗ Bicuspid and tricuspid valve

Question Number : 113 Question Id : 88039610073 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is
Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical
Correct Marks : 1 Wrong Marks : 0

The presence of noise in a medical image will generally

Options :

88039640289. ✗ Produce artifacts

88039640290. ✗ Produce blurring

88039640291. ✓ Reduce visibility of low contrast objects

88039640292. ✗ Produce image distortion

Question Number : 114 Question Id : 88039610074 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

In x-ray photograph, bones look white because

Options :

- 88039640293. ✘ They are bad absorbers of x-rays
- 88039640294. ✘ They reflect x-rays
- 88039640295. ✔ They are good absorbers of x-rays
- 88039640296. ✘ They are bad absorbers of ultraviolet rays

Question Number : 115 Question Id : 88039610075 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical

Correct Marks : 1 Wrong Marks : 0

A good x-ray source should produce narrow beam and _____ x-rays.

Options :

- 88039640297. ✔ Parallel
- 88039640298. ✘ Anti-parallel
- 88039640299. ✘ Perpendicular
- 88039640300. ✘ Anti-perpendicular

Question Number : 116 Question Id : 88039610076 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

_____ medical imaging modality other than ultrasound does not use any form of radiation.

Options :

88039640301. ✘ CT Scan

88039640302. ✘ SPECT Scan

88039640303. ✘ PET Scan

88039640304. ✔ MRI

Question Number : 117 Question Id : 88039610077 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

_____ of sound waves acts like the principle of ultrasound.

Options :

88039640305. ✔ Reflection and Refraction properties

88039640306. ✘ Reflection property

88039640307. ✘ Refraction property

88039640308. ✘ Propagation property

Question Number : 118 Question Id : 88039610078 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

_____ is the cooling agent for the MRI magnet.

Options :

88039640309. ✔ Helium

88039640310. ✘ Xenon

88039640311. ✘ Neon

88039640312. ✘ Argon

Question Number : 119 Question Id : 88039610079 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

MRI has a high _____ resolution.

Options :

88039640313. ✔ Spatial

88039640314. ✘ Temporal

88039640315. ✘ Frequency

88039640316. ✘ Magnitude

Question Number : 120 Question Id : 88039610080 Question Type : MCQ Option Shuffling : Yes Display Question Number : Yes Is Question Mandatory : No Single Line Question Option : No Option Orientation : Vertical Correct Marks : 1 Wrong Marks : 0

Extracorporeal means

Options :

88039640317. ✘ Outer layer of the tissue

88039640318. ✔ Outside of the body

88039640319. ✘ Inner layer of the tissue

88039640320. ✘ Inside of the body