Question Paper Preview

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 :	Electronics and Communication Engineering 31st Aug 2020 Shift 1 SET 2
Subject Name :	Electronics and Communication Engineering
Creation Date :	2020-08-31 17:38:57
Duration :	180
Total Marks :	200
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

Electronics and Communication Engineering

Group Number :	1
Group Id :	76439061
Group Maximum Duration :	0
Group Minimum Duration :	180
Show Attended Group? :	No
Edit Attended Group? :	No
Break time :	0
Group Marks :	200
Is this Group for Examiner? :	No

Mathematics

Section Id :	764390235
Section Number :	1
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	50
Number of Questions to be attempted :	50
Section Marks :	50
Display Number Panel :	Yes
Group All Questions :	Yes
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	764390265
Question Shuffling Allowed :	Yes

Question Number : 1 Question Id : 76439012025 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 $P=\begin{bmatrix}1 & 2 & 3\\ 2 & 3 & 4\\ 0 & 1 & 2\end{bmatrix}=A+B$, where A is symmetric and B is skew symmetric, then $B=$

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

76439048001. $\begin{bmatrix}2 & 4 & 3\\ -4 & 6 & 5\\ -3 & -5 & 4\end{bmatrix}$

76439048002. $\begin{bmatrix}0 & 0 & 3\\ 4 & 0 & 3\\ -3 & -3 & 0\end{bmatrix}$

76439048003. $\begin{bmatrix}2 & 3 & 1\\ -3 & 6 & 5\\ -1 & -5 & 4\end{bmatrix}$

76439048004. $\begin{bmatrix}1 & 1 & 1\\ -1 & 0 & 1\\ -1 & -1 & 0\end{bmatrix}$

Question Number : 2 Question Id : 76439012026 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

Let $A=\begin{bmatrix}1 & 2 & 3\\ 2 & 3 & 4\\ 0 & 1 & 2\end{bmatrix}$, $C=\begin{bmatrix}3 & 0 & 0\\ 0 & 3 & 0\\ 0 & 0 & 3\end{bmatrix}$, $E=\begin{bmatrix}0 & 1 & 6\\ -1 & 0 & 8\\ -6 & -8 & 0\end{bmatrix}$, $F=\begin{bmatrix}1 & 6 & 0\\ 8 & 0 & -8\\ 0 & -6 & -1\end{bmatrix}$. The non skew symmetric matrix having rank 2 is

Options :

76439048005. ✖ E

76439048006. ✔ F

76439048007. ✔ A

76439048008. ✖ C

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 3 Question Id : 76439012027 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 $A=\begin{bmatrix}1 & 2 & 3\\ 2 & 3 & 4\\ 0 & 1 & 2\end{bmatrix}$, $B=\begin{bmatrix}1 & w & w^2\\ w & w^2 & 1\\ w^2 & 1 & w\end{bmatrix}$, where w is complex cube root of unity,

$C=\begin{bmatrix}3 & 0 & 0\\ 0 & 3 & 0\\ 0 & 0 & 3\end{bmatrix}$, $D=\begin{bmatrix}0 & 0 & 3\\ 0 & 3 & 0\\ 3 & 0 & 0\end{bmatrix}$, then the matrix having rank 1 is

Options :

76439048009. ✖ A

76439048010. ✖ D

76439048011. ✔ B

76439048012. ✖ C

Question Number : 4 Question Id : 76439012028 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 $A=\left(a_{ij}\right)_{3\times3}$ is a real skew symmetric matrix, then $a_{11}+a_{22}+a_{33}+\left|A\right|=$

Options :

76439048013. ✔ 0

76439048014. ✖ 1

76439048015. ✖ 3

76439048016. ✖ 4

Question Number : 5 Question Id : 76439012029 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 $\frac{x^2+13x+15}{(2x+3)(x+3)^2}=\frac{A}{2x+3}+\frac{B}{x+3}+\frac{C}{(x+3)^2}$ then $6A+9B+2C=$

Options :

76439048017. ✖ 0

76439048018. ✖ 1

76439048019. ✔ 13

76439048020. ✖ 15

Question Number : 6 Question Id : 76439012030 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 $\log_{10} k=A$ then $\log_{10}\left(\frac{1}{10k}\right)$ is equal to

Options :

76439048021. ✔ $-(A+1)$

76439048022. ✖ $(A+10)$

76439048023. ✖ $(A+k)$

76439048024. ✖ $(A+10k)$

Question Number : 7 Question Id : 76439012031 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

$\sin^2 10^\circ+\sin^2 20^\circ+\sin^2 30^\circ+.....+\sin^2 80^\circ+\sin^2 90^\circ=$

Options :

76439048025. ✖ 0

76439048026. ✖ 2

76439048027. ✖ 4

76439048028. ✔ 5

Question Number : 8 Question Id : 76439012032 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

Assertion(A): $\tan 6^\circ \tan 42^\circ \tan 66^\circ \tan 78^\circ = 1$.

Reasoning(R): If 3A is not an odd multiple of $\pi/2$ then,

$\tan A \cdot \tan(60^\circ + A)\tan(60^\circ - A) = \tan 3A$

Options :

76439048029. ✔ A is true, R is true and R is correct explanation of A

76439048030. ✖ A is true, R is true and R is not correct explanation of A

76439048031. ✖ A is true, R is false

76439048032. ✖ A is false, R is true

Question Number : 9 Question Id : 76439012033 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 θ_1, θ_2 are solutions of the equation $\cos 2\theta + 2\sin 2\theta = 3$, $\tan\theta_1 \neq \tan\theta_2$, then $\cot\theta_1 \cdot \cot\theta_2 =$

Options :

76439048033. ✖ 0

76439048034. ✖ 1/2

76439048035. ✖ 1

76439048036. ✔ 2

Question Number : 10 Question Id : 76439012034 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 $\tan^{-1}\left(\frac{1-x}{1+x}\right) = \frac{1}{2}\tan^{-1} x$, then the value of x is

Options :

76439048037. ✖ 0

76439048038. ✔ $1/\sqrt{3}$

76439048039. ✖ $\sqrt{3}$

76439048040. ✖ 2

Question Number : 11 Question Id : 76439012035 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 $\sinh^3 x - \cosh^3 x = \frac{Ke^x - e^{Kx}}{1-K}$, then $K =$

Options :

76439048041. ✖ -4

76439048042. ✔ -3

76439048043. ✖ 3

76439048044. ✖ 4

Question Number : 12 Question Id : 76439012036 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 in a ΔABC, with usual notation $(a-b)(S-c) = (b-c)(S-a)$, then

Options :

76439048045. ✖ r_1, r_2, r_3 are in GP.

76439048046. ✖ a, b, c are in AP.

76439048047. ✔ r_1, r_2, r_3 are in AP.

76439048048. ✖ a, b, c are in GP.

Question Number : 13 Question Id : 76439012037 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 a triangle ABC and its incircle. Let 2S be the perimeter of the triangle. Let D,E, F be the points of contact of the incircle with the triangle. Suppose D, E, F lie on AB, BC and CA respectively, then AD+BE+CF =

Options :

76439048049. ✖ S/2

76439048050. ✖ S/3

76439048051. ✔ S

76439048052. ✖ 2S

Question Number : 14 Question Id : 76439012038 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 $\sin\alpha+\sin\beta+\sin\gamma=3$, then the value of $\tan\frac{\alpha}{2}+\tan\frac{\beta}{2}+\tan\frac{\gamma}{2}$ is

Options :

76439048053. ✖ 3/2

76439048054. ✖ 2

76439048055. ✖ 5/2

76439048056. ✔ 3

Question Number : 15 Question Id : 76439012039 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

$cis\frac{\pi}{5}cis\frac{\pi}{10}cis\frac{3\pi}{10}cis\frac{4\pi}{10}=$

Options :

76439048057. ✔ -1

76439048058. ✖ 0

76439048059. ✖ 1

76439048060. ✖ 4

Question Number : 16 Question Id : 76439012040 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 complex number $\frac{2-i}{(1-2i)^2}$ lies in the

Options :

76439048061. ✖ first quadrant

76439048062. ✔ second quadrant

76439048063. ✖ third quadrant

76439048064. ✖ fourth quadrant

Question Number : 17 Question Id : 76439012041 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 equation of the circle whose ends of a diameter are (1,2) and (5,2) is

Options :

76439048065. ✔ $x^2+y^2-6x-4y+9=0$

76439048066. ✖ $x^2+y^2+6x-4y+9=0$

76439048067. ✖ $x^2+y^2-6x-4y+13=0$

76439048068. ✖ $x^2+y^2-6x-4y+5=0$

Question Number : 18 Question Id : 76439012042 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 equation of the circle passing through (0,0), (0,1) and (1,0) is

Options :

76439048069. ✔ $x^2+y^2-x-y=0$

76439048070. ✖ $x^2+y^2+x-y=0$

76439048071. ✖ $x^2+y^2-x+y=0$

76439048072. ✖ $x^2+y^2+x+y-2=0$

Question Number : 19 Question Id : 76439012043 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 circle $x^2+y^2-4x+2fy+4=0$ touches both coordinate axes, then the set of all possible values of f is

Options :

76439048073. ✖ $\{-4,4\}$

76439048074. ✖ $\{-\sqrt{2},\sqrt{2}\}$

76439048075. ✔ $\{-2,2\}$

76439048076. ✖ $\{4\}$

Question Number : 20 Question Id : 76439012044 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 $y=\cos^{-1}\left(\frac{a^2-x^2}{a^2+x^2}\right)+\sin^{-1}\left(\frac{2ax}{a^2+x^2}\right)$, then $\frac{dy}{dx}=$

Options :

76439048077. ✖ $\frac{4a^2}{a^2+x^2}$

76439048078. ✔ $\frac{4a}{a^2+x^2}$

76439048079. ✖ $\frac{2a}{a^2+x^2}$

76439048080. ✖ $\frac{2a^2}{a^2+x^2}$

Question Number : 21 Question Id : 76439012045 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

Let $f:\mathbb{R}\to\mathbb{R}$ be defined by $f(x)=|x+1|+|x+2|+|x+3|$. If f is differentiable at x, then x belongs to the set

Options :

76439048081. ✖ $\{-1,-2,-3\}$

76439048082. ✖ $\mathbb{R}$ -{1,2,3}

76439048083. ✔ $\mathbb{R}$ -$\{-1,-2,-3\}$

76439048084. ✖ $\{1,2,3\}$

Question Number : 22 Question Id : 76439012046 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 $y = \sin(m\sin^{-1}x)$, then $\left(1-x^2\right)\frac{d^2y}{dx^2} - x\frac{dy}{dx} =$

Options :

76439048085. ✖ my

76439048086. ✔ $-m^2y$

76439048087. ✖ m^2y

76439048088. ✖ $-my$

Question Number : 23 Question Id : 76439012047 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 slope of the tangent to the curve $x^{2/3} + y^{2/3} = 2$ at (1,1) is

Options :

76439048089. ✖ 0

76439048090. ✔ -1

76439048091. ✖ 1

76439048092. ✖ 2

Question Number : 24 Question Id : 76439012048 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 interval in which the rational function $f(x) = \frac{x^2+x+1}{x^2-x+1}$ is decreasing is

Options :

76439048093. ✖ $(-1, 1)$

76439048094. ✖ $(-\infty, 1)$

76439048095. ✖ $(-1, \infty)$

76439048096. ✔ $(-\infty, -1) \cup (1, \infty)$

Question Number : 25 Question Id : 76439012049 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 $\tan u = \frac{x^3+y^3}{x-y}$, $x \neq y$, then $x\frac{\partial u}{\partial x} + y\frac{\partial u}{\partial y} =$

Options :

76439048097. ✖ $2u$

76439048098. ✔ $\sin 2u$

76439048099. ✖ $\cos 2u$

76439048100. ✖ $\tan 2u$

Question Number : 26 Question Id : 76439012050 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

$\lim_{x\to 0}\left(\frac{\tan x}{x}\right)^{1/x^2} =$

Options :

76439048101. ✖ 1

76439048102. ✖ e

76439048103. ✔ $e^{1/3}$

76439048104. ✖ e^3

Question Number : 27 Question Id : 76439012051 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

$$\int \frac{dx}{e^x+1} =$$

Options :

76439048105. ✖ $\log(1+e^{-x})+C$

76439048106. ✖ $\log(1+e^{x})+C$

76439048107. ✔ $\log(\frac{e^x}{1+e^x})+C$

76439048108. ✖ $-\log(1+e^{x})+C$

Question Number : 28 Question Id : 76439012052 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

$$\int \frac{dx}{9\sin^2 x+4\cos^2 x} =$$

Options :

76439048109. ✔ $\frac{1}{6}\tan^{-1}\left(\frac{3}{2}\tan x\right)+C$

76439048110. ✖ $\frac{1}{9}\tan^{-1}\left(\tan x\right)+C$

76439048111. ✖ $\frac{1}{12}\tan^{-1}\left(\tan\frac{2}{3}x\right)+C$

76439048112. ✖ $\frac{1}{6}\tan^{-1}\left(\tan\frac{3}{2}x\right)+C$

Question Number : 29 Question Id : 76439012053 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

$$\int_0^{\pi/2} \left(\sin^{5/2} x-\cos^{5/2} x\right)dx =$$

Options :

76439048113. ✔ 0

76439048114. ✖ 1

76439048115. ✖ -1

76439048116. ✖ 2

Question Number : 30 Question Id : 76439012054 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

$$\lim_{n\to\infty}\frac{3^k+6^k+9^k+\ldots\ldots\ldots\ldots\ldots+(3n)^k}{n^{k+1}}=$$

Options :

76439048117. ✖ $\frac{3^{k+1}}{k+1}$

76439048118. ✔ $\frac{3^k}{k+1}$

76439048119. ✖ $\frac{3^{k+1}}{k}$

76439048120. ✖ $\frac{3^k}{k!}$

Question Number : 31 Question Id : 76439012055 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 area (in square units) of one of the curvilinear triangles bounded by $y=\sin x, y=\cos x,$

$x=0, x=\frac{\pi}{2}$ and $x-$axis is

Options :

76439048121. ✖ $2\sqrt{2}$

76439048122. ✖ $2+\sqrt{2}$

76439048123. ✔ $2-\sqrt{2}$

76439048124. ✖ $\sqrt{2}$

Question Number : 32 Question Id : 76439012056 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

Let V_1 be the volume of the solid formed by the revolution of the part of the parabola $y^2 = 4ax$ cut off by the latus-rectum about the y-axis. Then V_1 =

Options :

76439048125. ✖ $\frac{2\pi a^3}{5}$

76439048126. ✔ $\frac{4\pi a^3}{5}$

76439048127. ✖ $\frac{8\pi a^3}{5}$

76439048128. ✖ πa^3

Question Number : 33 Question Id : 76439012057 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 root mean square value of the sine function $f(t) = A\sin t$ on $[0, 2\pi]$ is

Options :

76439048129. ✖ $A\sqrt{2}$

76439048130. ✔ $\frac{A}{\sqrt{2}}$

76439048131. ✖ A

76439048132. ✖ $2A$

Question Number : 34 Question Id : 76439012058 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 approximate value of $\int_0^4 f(x)dx$, from the following table as sum of areas of 4 trapeziums is

x	0	1	2	3	4
$f(x)$	1	0.5	0.2	0.1	0.05884

Options :

76439048133. ✖ 1.31212

76439048134. ✔ 1.32942

76439048135. ✖ 1.33212

76439048136. ✖ 1.32121

Question Number : 35 Question Id : 76439012059 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 order of the differential equation corresponding to $y = Ae^x + Be^{3x} + Ce^{5x}$, where A, B, C are parameters is

Options :

76439048137. ✖ 2

76439048138. ✔ 3

76439048139. ✖ 4

76439048140. ✖ 6

Question Number : 36 Question Id : 76439012060 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 the differential equation $\left(xy + x^3y\right)dy - \left(1 + y^2\right)dx = 0$, is

Options :

76439048141. ✖ $(1+x^2)(1+y^2) = Ce^{x^2}$

76439048142. $(1+x^2)/(1+y^2)=Ce^{x^2}$

76439048143. ✔ $(1+x^2)(1+y^2)=Cx^2$

76439048144. $(1+x^2)/(1+y^2)=Cx^2$

Question Number : 37 Question Id : 76439012061 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 solution of the equation $xdy-\left(y-x\cos^2\frac{y}{x}\right)dx=0, x>0, y>0$ which passes through the point $(1,\pi/4)$ is

Options :

76439048145. $\frac{4y}{\pi}=e^{1-\tan\left(y/x\right)}$

76439048146. ✔ $x=e^{1-\tan\left(y/x\right)}$

76439048147. $x=e^{-\tan\left(y/x\right)}$

76439048148. $y=\frac{\pi e}{4}e^{-\tan\left(y/x\right)}$

Question Number : 38 Question Id : 76439012062 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 differential equation of a family of all circles passing through the origin and having centres on the x-axis is

Options :

76439048149. $y'=\frac{x^2+y^2}{2xy}$

76439048150. $y'=\frac{2xy}{x^2-y^2}$

76439048151. ✔ $y' = \frac{y^2 - x^2}{2xy}$

76439048152. ✖ $y' = 2xy(x^2 + y^2)$

Question Number : 39 Question Id : 76439012063 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 integrating factor of the differential equation $\left(e^{-2\sqrt{x}} - y\right)dx - \sqrt{x}dy = 0$ is

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

76439048153. $\frac{e^{-2\sqrt{x}}}{\sqrt{x}}$

76439048154. $e^{-2\sqrt{x}}$

76439048155. $\frac{e^{2\sqrt{x}}}{\sqrt{x}}$

76439048156. $e^{-2\sqrt{x}}$

Question Number : 40 Question Id : 76439012064 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 equations can be made exact by multiplying by x^2?

Options :

76439048157. ✔ $\frac{dy}{dx} + \frac{2}{x}y = 4$

76439048158. ✖ $\frac{dy}{dx} + 3y = x$

76439048159. ✖ $\frac{1}{x}\frac{dy}{dx}-\frac{1}{x^2}y=x$

76439048160. ✖ $\frac{dy}{dx}+y=3x$

Question Number : 41 Question Id : 76439012065 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 particular integral of $(D-2)^2 y=8\left(e^{2x}+\sin 2x\right)$ is

Options :

76439048161. ✔ $4x^2e^{2x}+\cos 2x$

76439048162. ✖ $x^2e^{2x}+\cos 2x$

76439048163. ✖ $4xe^{2x}-\cos 2x$

76439048164. ✖ $4x^2e^{x}+\cos 2x$

Question Number : 42 Question Id : 76439012066 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 Complementary function of $x^2\frac{d^2y}{dx^2}+4x\frac{dy}{dx}+2y=e^x$, is

Options :

76439048165. ✖ $C_1e^{-x}+C_2e^{-2x}$

76439048166. ✔ $C_1x^{-1}+C_2x^{-2}$

76439048167. ✖ $C_1e^{x}+C_2e^{2x}$

76439048168. ✖ $C_1x^{1}+C_2x^{2}$

Question Number : 43 Question Id : 76439012067 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

Let $f(t)=t^2e^{-3t}, t\geq 0$. Then the Laplace transform of f is

Options :

76439048169. ✔ $\frac{2}{(s+3)^3}$

76439048170. ✖ $\frac{2}{(s-3)^3}$

76439048171. ✖ $\frac{3}{(s+3)^3}$

76439048172. ✖ $\frac{-3}{(s+3)^3}$

Question Number : 44 Question Id : 76439012068 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

Let $f(t)=t\sin t,\ t\geq 0$, then the Laplace transform of f is

Options :

76439048173. ✔ $\frac{2s}{(1+s^2)^2}$

76439048174. ✖ $\frac{2s}{(1+s^2)^3}$

76439048175. ✖ $\frac{-2s}{(1+s^2)^2}$

76439048176. ✖ $\frac{-2s}{(1+s^2)^3}$

Question Number : 45 Question Id : 76439012069 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 inverse Laplace transform of $\frac{3}{s^2-9}$ is

Options :

76439048177. ✖ e^{3t}

76439048178. ✖ e^{-3t}

76439048179. ✖ $\cos 3t$

76439048180. ✔ $\sinh 3t$

Question Number : 46 Question Id : 76439012070 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 inverse Laplace transform of $\frac{1}{s^2(s^2+1)}$ is

Options :

76439048181. ✔ $t-\sin t$

76439048182. ✖ $t+\sin t$

76439048183. ✖ $2t-\sin t$

76439048184. ✖ $2t+\sin t$

Question Number : 47 Question Id : 76439012071 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 $\frac{dx}{dt}+3x=0,\ x(0)=1$ and $X(s)$ is Laplace transform of $x(t)$, then $\frac{d}{ds}X(s)=$

Options :

76439048185. ✖ $\frac{1}{(s-3)^2}$

76439048186. ✔ $\frac{-1}{(s+3)^2}$

76439048187. ✖ $\frac{1}{s+3}$

76439048188. ✖ $\frac{-1}{s-3}$

Question Number : 48 Question Id : 76439012072 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 $X(s)$ is Laplace transform of $x(t)$ and $t\frac{dx}{dt}+x(t)=\sin t$, then $\frac{d}{ds}X(s)=$

Options :

76439048189. ✖ $\frac{1}{s^2+1}$

76439048190. ✔ $-\frac{1}{s\left(s^2+1\right)}$

76439048191. ✖ $\frac{s}{s^2+1}$

76439048192. ✖ $-\frac{s}{s^2+1}$

Question Number : 49 Question Id : 76439012073 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 series of $f(x)=x^2$ in $-\pi \le x \le \pi$, is

Options :

76439048193. ✖ $f(x)=\frac{\pi^2}{3}+4\sum_{n=1}^{\infty}\frac{(-1)^n}{n^2}\cos(nx)$

76439048194. ✔ $f(x)=\frac{2\pi^2}{3}+4\sum_{n=1}^{\infty}\frac{(-1)^n}{n^2}\cos(nx)$

76439048195. ✖ $f(x)=\frac{\pi^2}{3}+\sum_{n=1}^{\infty}\frac{(-1)^n}{n^2}\cos(nx)$

76439048196. ✖ $f(x)=\frac{\pi^2}{3}+4\sum_{n=1}^{\infty}\frac{(-1)^n}{n}\cos(nx)$

Question Number : 50 Question Id : 76439012074 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 series of the function $f(x)= 2x+1$, in $-\pi < x < \pi$, is

Options :

76439048197. ✖ $1 + 4 \sum_{n=1}^{\infty} \frac{(-1)^n}{n^2} \sin(nx)$

76439048198. ✖ $1 + 4 \sum_{n=1}^{\infty} \frac{(-1)^n}{n^2} \cos(nx)$

76439048199. ✖ $1 - 4 \sum_{n=1}^{\infty} \frac{(-1)^n}{n} \cos(nx)$

76439048200. ✔ $1 - 4 \sum_{n=1}^{\infty} \frac{(-1)^n}{n} \sin(nx)$

Physics

Section Id :	764390236
Section Number :	2
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Display Number Panel :	Yes
Group All Questions :	Yes
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	764390266
Question Shuffling Allowed :	Yes

Question Number : 51 Question Id : 76439012075 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 dimensional formula for Kinetic energy is

Options :

76439048201. ✖ $M^{\circ} L^{\circ} T^{\circ}$

76439048202. ✔ $M L^2 T^{-2}$

76439048203. ✖ $M L^2 T^{-1}$

76439048204. ✖ $M L T^{-2}$

Question Number : 52 Question Id : 76439012076 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

Match the following quantities with its SI Units

a)	Energy	(i) Watt
b)	Force	(ii) Newton
c)	Power	(iii) Pascal
d)	Pressure	(iv) Joule

Choose the correct option from the following:

Options :

76439048205. ✔ a-iv, b-ii, c-i , d-iii

76439048206. ✖ a-iv, b-i, c-ii, d-iii

76439048207. ✖ a-i, b-ii, c-iii, d-iv

76439048208. ✖ a-iv, b-ii, c-iii, d-i

Question Number : 53 Question Id : 76439012077 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

Choose the correct form of Einstein's photoelectric equation, where the symbols have their usual meaning.

Options :

76439048209. ✔ $h\upsilon = \frac{1}{2} mv^2_{max} + W_o$

76439048210. ✖ $h\upsilon = \frac{1}{2} mv^2_{max} - W_o$

76439048211. ✖ $h\upsilon_o = \frac{1}{2} mv^2_{max} + h\upsilon$

76439048212. ✖ $h\upsilon_o = \frac{1}{2} mv^2_{max} - h\upsilon$

Question Number : 54 Question Id : 76439012078 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 electrical resistance for superconductor is

Options :

76439048213. ✖ Infinity

76439048214. ✔ Zero

76439048215. ✖ Very high

76439048216. ✖ Depends on the material

Question Number : 55 Question Id : 76439012079 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

Convert -15^{0}C into Fahrenheit scale

Options :

76439048217. ✖ 20^0 F

76439048218. ✖ 15^0 F

76439048219. ✖ 10^0 F

76439048220. ✔ 5^0 F

Question Number : 56 Question Id : 76439012080 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 heat is added to the system then, it is utilised to

A. Change in its internal energy

B. the work done by it

Choose the correct option from the following:

Options :

76439048221. ✖ only A is correct

76439048222. ✖ only B is correct

76439048223. ✔ Both A and B are correct

76439048224. ✖ Both A and B are not correct

Question Number : 57 Question Id : 76439012081 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 $|\vec{A}+\vec{B}|=|\vec{A}-\vec{B}|$, then the angle between $\vec{A}$ and $\vec{B}$will be

Options :

76439048225. ✔ $\frac{\pi}{2}$

76439048226. ✖ π

76439048227. ✖ $\frac{\pi}{3}$

76439048228. ✖ $\frac{\pi}{4}$

Question Number : 58 Question Id : 76439012082 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 force vector applied on a mass 'm' is represented as $\vec{F} = 8\hat{\imath} + 10\,\hat{\jmath} + 6\hat{k}$ and accelerates it with 2m/sec^2, the mass of the body is

Options :

76439048229. ✖ 20 kg

76439048230. ✖ $10\sqrt{2}$ kg

76439048231. ✖ 30 kg

76439048232. ✔ $\frac{10}{\sqrt{2}}$ kg

Question Number : 59 Question Id : 76439012083 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 splash of sound is heard 2.05 sec after the stone is dropped into a well of depth 19.6 m. Velocity of the sound is ($g=9.8\ \text{m/sec}^2$).

Options :

76439048233. ✖ 592 m/sec

76439048234. ✖ 692 m/sec

76439048235. ✔ 392 m/sec

76439048236. ✖ 292 m/sec

Question Number : 60 Question Id : 76439012084 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

Four bodies P, Q, R and S are projected with equal velocities having angle of projection 15°,30°,45° and 60° with the horizontal respectively. the body having shortest range is

Options :

76439048237. ✖ $\sqrt{3}\frac{u^2}{2g}$

76439048238. ✖ $\frac{u^2}{g}$

76439048239. ✔ $\frac{u^2}{2g}$

76439048240. ✖ $\frac{\sqrt{3u^2}}{2g}$

Question Number : 61 Question Id : 76439012085 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 stone is thrown vertically upwards from the ground. It reaches a maximum height of 50 m in 10 sec. After what time will it reach the ground from the maximum height. (if the air resistance is not considered)

Options :

76439048241. ✖ 20 sec

76439048242. ✔ 10 sec

76439048243. ✖ 30 sec

76439048244. ✖ 5 sec

Question Number : 62 Question Id : 76439012086 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 μ_s , μ_k, and μ_r are the co-efficient of static, kinetic and rolling friction respectively then

Options :

76439048245. ✖ $\mu_s > \mu_k < \mu_r$

76439048246. ✖ $\mu_s < \mu_k > \mu_r$

76439048247. ✖ $\mu_s = \mu_k = \mu_r$

76439048248. ✔ $\mu_s > \mu_k > \mu_r$

Question Number : 63 Question Id : 76439012087 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 wooden block of 100 kg is about to be pushed on a floor of coefficient of friction 0.4. What is the magnitude of the force of friction on the wooden block when it is just pushed.

Options :

76439048249. ✖ 196N

76439048250. ✖ 490N

76439048251. ✔ 392N

76439048252. ✖ 294N

Question Number : 64 Question Id : 76439012088 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 area under a ' force - displacement' curve gives.

Options :

76439048253. ✖ Time

76439048254. ✔ Work

76439048255. ✖ Impulse

76439048256. ✖ Power

Question Number : 65 Question Id : 76439012089 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 body is released from a certain height, during its fall.

Options :

76439048257. ✖ Its potential energy increases and kinetic energy decreases

76439048258. ✔ Its kinetic energy increases and potential energy decreases

76439048259. ✖ Both potential energy and kinetic energy of that body increases

76439048260. ✖ Both potential energy and kinetic energy decreases

Question Number : 66 Question Id : 76439012090 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

Find the power of an electric motor, if it lifts 200 kg of water in 5 minutes from a well of 120 m depth.

Options :

76439048261. ✖ 790W

76439048262. ✔ 784W

76439048263. ✖ 768W

76439048264. ✖ 755W

Question Number : 67 Question Id : 76439012091 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

What is the length of the seconds pendulum on a planet having 'g' value $1/6^{th}$ of the value of the earth

Options :

76439048265. ✖ 0.15 meters

76439048266. ✖ 1.5 meters

76439048267. ✖ 2 meters

76439048268. ✔ 0.165 meters

Question Number : 68 Question Id : 76439012092 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 particle is executing SHM on a line of length 0.1 m. If the velocity of the particle while passing the mean position is 0.2 m/s. time period of the particle is

Options :

76439048269. ✔ 1.57 sec

76439048270. ✖ 2.57 sec

76439048271. ✖ 2 sec

76439048272. ✖ 3 sec

Question Number : 69 Question Id : 76439012093 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 the audible sounds is

Options :

76439048273. ✖ 20KHz to 20MHz

76439048274. ✔ 20Hz to 20,000 Hz

76439048275. ✖ Less than 20 Hz

76439048276. ✖ Greater than 20,000 Hz

Question Number : 70 Question Id : 76439012094 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

Accordingly to Doppler effect. If source is in motion towards listener with velocity V_s and listener is at rest then equation of apparent frequency is (n_o = Actual frequency, v= velocity of sound, n= Apparent frequency)

Options :

76439048277. ✔ $n = \frac{n_o V}{V - V_s}$

76439048278. ✖ $n = \frac{n_o (V - V_s)}{V}$

76439048279. ✖ $n = \frac{nV}{V_o}$

76439048280. ✖ $n = \frac{nV_o}{V}$

Question Number : 71 Question Id : 76439012095 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 soap bubble is blown to a radius of 3cm. if it to be further blown to a radius of 4 cm. Then what is the work done :(T= 3.06 x 10^2 N/m)

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

76439048281. 450 x 10^{-6} J

76439048282. 330 x 10^{-4} J

76439048283. 5 x 10^{-6} J

76439048284. 539.6 x 10^{-6} J

Question Number : 72 Question Id : 76439012096 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 steel wire of 2mm diameter is stretched by applying a force of 72N, then the stress in the wire

Options :

76439048285. ✖ 16.6×10^6 N/m^2

76439048286. ✖ 20×10^6 N/m^2

76439048287. ✔ 2.292×10^7 N/m^2

76439048288. ✖ 32×10^7 N/m^2

Question Number : 73 Question Id : 76439012097 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 bar magnet of magnetic moment $\overline{M}$ is placed in a magnetic field of induction $\overline{B}$, the torque exerted on it is

Options :

76439048289. ✔ $\overline{M} \times \overline{B}$

76439048290. ✖ $\overline{B} \times \overline{M}$

76439048291. ✖ $\overline{M} \cdot \overline{B}$

76439048292. ✖ $-\overline{M} \cdot \overline{B}$

Question Number : 74 Question Id : 76439012098 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 magnetism of magnet is due to

Options :

76439048293. ✖ Earth

76439048294. ✖ Cosmic rays

76439048295. ✔ Spin motion of electron

76439048296. ✖ Pressure of big magnet inside the earth

Question Number : 75 Question Id : 76439012099 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 meter bridge experiment the ratio of the left gap resistance to right gap resistance is 3:2, the balance point from left is

Options :

76439048297. ✖ 50 centimetres

76439048298. ✔ 60 centimetres

76439048299. ✖ 30 centimetres

76439048300. ✖ 40 centimetres

Chemistry

Section Id :	764390237
Section Number :	3
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	25
Number of Questions to be attempted :	25
Section Marks :	25
Display Number Panel :	Yes
Group All Questions :	Yes
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	764390267
Question Shuffling Allowed :	Yes

Question Number : 76 Question Id : 76439012100 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

Match the following

A. Principle quantum number	1. The electron spin may be either in clock wise or anticlockwise direction
B. Azimuthal quantum number	2. Gives the number of orbitals in each sublevel
C. Magnetic quantum number	3. Determines shape of the electrons orbital
D. Spin quantum number	4. Indicates the size of the orbit

Choose the correct option from the following:

Options :

76439048301. ✖ A-2, B-1, C-4, D-3

76439048302. ✔ A-4, B-3, C-2, D-1

76439048303. ✖ A-4, B-3, C-1, D-2

76439048304. ✖ A-3, B-2, C-4, D-1

Question Number : 77 Question Id : 76439012101 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

Select the incorrect statement from the following options.

Options :

76439048305. ✖ Atomic number is equal to no of electrons

76439048306. ✔ Mass number is equal to number of protons plus number of electrons

76439048307. ✖ Number of neutrons is the difference between mass number and atomic number

76439048308. ✖ Nucleus of an atom consist protons and neutrons

Question Number : 78 Question Id : 76439012102 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 one of the following statements is false?

Options :

76439048309. ✖ The oxidation number of oxygen in peroxide is '-1'

76439048310. ✖ The oxidation number of hydrogen in hydrides is negative

76439048311. ✔ The oxidation number of F, Cl, Br, I is always +1

76439048312. ✖ The oxidation number of a free element is zero

Question Number : 79 Question Id : 76439012103 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

What is the required volume of water to prepare 1.8 M H_2SO_4 solution from 250 ml of 9M H_2SO_4 solution?

Options :

76439048313. ✖ 750ml

76439048314. ✖ 500 ml

76439048315. ✖ 250 ml

76439048316. ✔ 1000 ml

Question Number : 80 Question Id : 76439012104 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

What is the gram equivalent weight (G.E.W) of oxalic acid?

Options :

76439048317. ✖ 90gm

76439048318. ✖ 85 gm

76439048319. ✔ 45 gm

76439048320. ✖ 55 gm

Question Number : 81 Question Id : 76439012105 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 compounds are Lewis acids

Options :

76439048321. ✖ H_2, NH_3, NaOH

76439048322. ✖ CH_3COOH, Cl^-, OH^-

76439048323. ✖ C_6H_6, N_2, CH_3OH

76439048324. ✔ $FeCl_3$, BCl_3, H+

Question Number : 82 Question Id : 76439012106 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

pH value of 0.01 M HCl solution is

Options :

76439048325. ✔ 2

76439048326. ✖ 1

76439048327. ✖ 4

76439048328. ✖ 3

Question Number : 83 Question Id : 76439012107 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

Match the following

(i) Ionic product of water	(a) $NH_4Cl + NH_4OH$
(ii) Basic buffer	(b) $CH_3COOH + CH_3COONa$
(iii) Bronsted Base	(c) $[H^+]\ [OH^-]$
(iv) Acidic buffer	(d) NH_3

Choose the correct option from the following:

Options :

76439048329. ✖ i-a, ii-b, iii-c, iv-d

76439048330. ✖ i-d, ii-c, iii-b, iv-a

76439048331. ✔ i-c, ii-a, iii-d, iv-b

76439048332. ✖ i-b, ii-d, iii-a, iv-c

Question Number : 84 Question Id : 76439012108 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

Match the following

(i) Froth floatation process	(a) Regular supply of air
(ii) Roasting	(b) Pyro chemical process
(iii) Calcination	(c) Sulphide ores
(iv) Smelting	(d) Absence of air

Choose the correct option from the following:

Options :

76439048333. ✔ i-c, ii-a, iii-d, iv-b

76439048334. ✖ i-c, ii-d, iii-b, iv-a

76439048335. ✖ i-b, ii-a, iii-c, iv-d

76439048336. ✖ i-a, ii-d, iii-c, iv-b

Question Number : 85 Question Id : 76439012109 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

German silver consists of

Options :

76439048337. ✖ Zn, Ni, Mn

76439048338. ✖ Cu, Al, Ni

76439048339. ✔ Cu, Zn, Ni

76439048340. ✖ Fe, Cu, Ni

Question Number : 86 Question Id : 76439012110 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

Electrolyte that is present in salt bridge of Galvanic cell is

Options :

76439048341. ✖ NaCl aqueous

76439048342. ✖ Fused Nacl

76439048343. ✔ KCl

76439048344. ✖ HCl

Question Number : 87 Question Id : 76439012111 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 electrode has highest oxidation potential value in electro chemical series?

Options :

76439048345. ✖ Hydrogen

76439048346. ✔ Lithium

76439048347. ✖ Copper

76439048348. ✖ Gold

Question Number : 88 Question Id : 76439012112 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

Statement a: Pure metal resists corrosion

Statement b: Electro chemical theory of corrosion of metal is done in dry environment

Choose the correct option from the following:

Options :

76439048349. ✖ Both the statements are correct

76439048350. ✖ Both the statements are incorrect

76439048351. ✖ Statement 'a' is incorrect, 'b' is correct

76439048352. ✔ Statement 'a' is correct, 'b' is incorrect

Question Number : 89 Question Id : 76439012113 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 sacrificial anodic protection method the metal that saves steel pipes from corrosion is

Options :

76439048353. ✖ Copper

76439048354. ✔ Magnesium

76439048355. ✖ Gold

76439048356. ✖ Cadmium

Question Number : 90 Question Id : 76439012114 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

Match the following

(i) CO_2, SO_2 gases with humidity	(a) pH = 11
(ii) Zn Corrodes maximum	(b) pH = 5.5
(iii) Al corrodes minimum	(c) Galvanic corrosion
(iv) Zn corrodes minimum	(d) pH > 11

Choose the correct option from the following:

Options :

76439048357. ✖ i-c, ii-b, iii-d, iv-a

76439048358. ✖ i-c, ii-a, iii-d, iv-b

76439048359. ✔ i-c, ii-d, iii-b, iv-a

76439048360. ✖ i-c, ii-b, iii-a, iv-d

Question Number : 91 Question Id : 76439012115 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

Permanent Hardness of water is due to

Options :

76439048361. ✖ Hydroxides

76439048362. ✖ Bicarbonates

76439048363. ✔ Chlorides

76439048364. ✖ Carbonates

Question Number : 92 Question Id : 76439012116 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 Unit of hardness of water

Options :

76439048365. ✖ mg

76439048366. ✔ ppm

76439048367. ✖ cm

76439048368. ✖ Siemens

Question Number : 93 Question Id : 76439012117 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 solvent moves from low concentration to higher concentration through a semi permeable membrane, the process in known as

Options :

76439048369. ✔ Osmosis

76439048370. ✖ Reverse Osmosis

76439048371. ✖ Electrodialysis

76439048372. ✖ Flash distillation

Question Number : 94 Question Id : 76439012118 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 monomers in the preparation of Nylon 6:6 are

Options :

76439048373. ✖ Vinyl chloride and Hexamethylene diamine

76439048374. ✖ Styrene and Adipic acid

76439048375. ✖ Phenol and Formaldehyde

76439048376. ✔ Adipic acid and Hexamethylene diamine

Question Number : 95 Question Id : 76439012119 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

Natural rubber is composed of _____ monomer units

Options :

76439048377. ✖ Isobutylene

76439048378. ✖ Isopropylene

76439048379. ✔ Isoprene

76439048380. ✖ Butadiene

Question Number : 96 Question Id : 76439012120 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

Polychloroprene is also known as

Options :

76439048381. ✔ Neoprene

76439048382. ✖ Butyl rubber

76439048383. ✖ Buna-S

76439048384. ✖ PVC

Question Number : 97 Question Id : 76439012121 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

Match the following

1. Water gas	A. Consist N_2 52 to 55 %
2. Producer gas	B. Consist of 5% non-combustible gases
3. Coal gas	C. used in industrial and domestic purposes
4. Natural gas	D. A mixture of CO 41% and Hydrogen 51%

Choose the correct option from the following:

Options :

76439048385. ✔ 1-D, 2-A, 3-B, 4-C

76439048386. ✖ 1-D, 2-A, 3-C, 4-B

76439048387. ✖ 1-B, 2-A, 3-D, 4-C

76439048388. ✖ 1-C, 2-A, 3-D, 4-B

Question Number : 98 Question Id : 76439012122 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 air pollution caused during the Bhopal gas tragedy was by the release of _____

Options :

76439048389. ✖ Methyl cyanide

76439048390. ✖ Ethyl Isocyanate

76439048391. ✖ Hydrogen Cyanide

76439048392. ✔ Methyl Isocyanate

Question Number : 99 Question Id : 76439012123 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 gases is not a green house gas?

Options :

76439048393. ✔ Carbon monoxide

76439048394. ✖ Ozone

76439048395. ✖ Methane

76439048396. ✖ Water vapour

Question Number : 100 Question Id : 76439012124 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

Match the following

i.	Aerosols	A. Vinyl Chloride
ii.	Pesticides	B. Consist of fine particles of organic and inorganic compounds
iii.	Carcinogens	C. Causes chronic cellular damage in man and animals
iv.	Radio active pollutants	D. Absorbed by plants through Soil and effects on living organisms

Choose the correct option from the following:

Options :

76439048397. ✔ i-B, ii-D, iii-A, iv-C

76439048398. i-D, ii-B, iii-A, iv -C

76439048399. i-D, ii-A, iii-B, iv-C

76439048400. i-B, ii-C, iii-D, iv-A

Electronics and Communication Engineering

Section Id :	764390238
Section Number :	4
Section type :	Online
Mandatory or Optional :	Mandatory
Number of Questions :	100
Number of Questions to be attempted :	100
Section Marks :	100
Display Number Panel :	Yes
Group All Questions :	Yes
Mark As Answered Required? :	Yes
Sub-Section Number :	1
Sub-Section Id :	764390268
Question Shuffling Allowed :	Yes

Question Number : 101 Question Id : 76439012125 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 elements act as donor impurities?

a. Phosphorus

b. Gold

c. Arsenic

d. Boron

e. Antimony

f. Indium

Select the appropriate option

Options :

76439048401. a, b, d

76439048402. b, c, f

76439048403. ✖ c, e, f

76439048404. ✔ a, c, e

Question Number : 102 Question Id : 76439012126 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

Clamper circuit is also known as

Options :

76439048405. ✔ DC restorer

76439048406. ✖ AC restorer

76439048407. ✖ Voltage to frequency converter

76439048408. ✖ Sweep circuit

Question Number : 103 Question Id : 76439012127 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 FET

Options :

76439048409. ✔ The channel is lightly doped and gate is heavily doped.

76439048410. ✖ The channel is lightly doped and gate is lightly doped.

76439048411. ✖ The channel is heavily doped and gate is lightly doped

76439048412. ✖ The channel is heavily doped and gate is heavily doped

Question Number : 104 Question Id : 76439012128 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

Theoretical maximum efficiency and ripple factor of a bridge rectifier respectively are

Note: For this question, discrepancy is found in question/answer. Full Marks is being awarded to all candidates.

Options :

76439048413. 81.2% and 1.11

76439048414. 40.6% and 1.21

76439048415. 40.6% and 1.11

76439048416. 81.2% and 1.21

Question Number : 105 Question Id : 76439012129 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 following statement

Bias stabilization in a BJT circuit is very important because it

a. Provides high voltage and current gain

b. Ensures large Bandwidth of amplifier

c. Keeps the operating point unchanged with change of temperature

Which of the statements given above are correct?

Options :

76439048417. ✖ a and b

76439048418. ✖ b and c

76439048419. ✔ c only

76439048420. ✖ a and c

Question Number : 106 Question Id : 76439012130 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

Assertion (A): In a typical RC coupled amplifier, the gain falls at high frequencies

Reasoning (R): The amplifier has to use coupling capacitors in the input and output side for isolating dc biasing circuit and ac signal

Choose the correct option from the following:

Options :

76439048421. ✔ Both (A) and (R) are true but (R) is not the correct explanation of (A)

76439048422. ✖ Both (A) and (R) are true and (R) is the correct explanation of A

76439048423. ✖ (A) is true but (R) is false

76439048424. ✖ (A) is false but (R) is true

Question Number : 107 Question Id : 76439012131 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 is conventionally an ideal

Options :

76439048425. ✔ Direct coupled high gain amplifier

76439048426. ✖ Direct coupled low gain amplifier

76439048427. ✖ AC coupled high gain amplifier

76439048428. ✖ AC coupled low gain amplifier

Question Number : 108 Question Id : 76439012132 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

RC phase shift oscillators contain a minimum of _____ Phase shift network.

Options :

76439048429. ✖ Zero

76439048430. ✖ One

76439048431. ✖ Two

76439048432. ✔ Three

Question Number : 109 Question Id : 76439012133 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 circuits acts as a periodic free running square wave generator?

Options :

76439048433. ✖ Monostable Multivibrator

76439048434. ✔ Astable Multivibrator

76439048435. ✖ Bistable Multivibrator

76439048436. ✖ Schmitt trigger

Question Number : 110 Question Id : 76439012134 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 amplifier used in bootstrap voltage sweep generator should have a gain of

Options :

76439048437. ✔ +1

76439048438. ✖ – 1

76439048439. ✖ 0

76439048440. ✖ ∞

Question Number : 111 Question Id : 76439012135 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

Two resistors of 5 Ω and 10 Ω are connected in parallel across a voltage source of 30 V. The voltage present across each resistor will be

Options :

76439048441. ✖ 10 V, 20 V

76439048442. ✔ 30 V, 30 V

76439048443. ✖ 20 V, 10 V

76439048444. ✖ 5 V, 10 V

Question Number : 112 Question Id : 76439012136 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 laws is the basis for mesh analysis?

Options :

76439048445. ✖ Ohm's Law

76439048446. ✖ Kirchhoff's Current Law

76439048447. ✔ Kirchhoff's Voltage Law

76439048448. ✖ Biot Savart's Law

Question Number : 113 Question Id : 76439012137 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 network with "b" branches, "n" nodes the number of twigs of a tree and number of links of this tree will be respectively

Options :

76439048449. ✖ n + 1, b – n + 1

76439048450. ✔ n – 1, b – n + 1

76439048451. ✖ n + 1, b + n – 1

76439048452. ✖ n – 1, b + n – 1

Question Number : 114 Question Id : 76439012138 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

Norton's equivalent circuit consists of

Options :

76439048453. ✖ Voltage source in series with resistance

76439048454. ✖ Current source in series with resistance

76439048455. ✖ Voltage source in parallel with resistance

76439048456. ✔ Current source in parallel with resistance

Question Number : 115 Question Id : 76439012139 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

Three equal resistances of 10 Ω are connected in delta. The star equivalent will have a

resistance of _____ Ω each.

Options :

76439048457. ✔ 10 / 3

76439048458. ✖ 10 X 3

76439048459. ✖ 10 + 3

76439048460. ✖ 10 – 3

Question Number : 116 Question Id : 76439012140 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 any series RLC circuit if Q is quality factor, BW is the bandwidth and f_r is resonant frequency then the relationship between them is given as

Options :

76439048461. $BW = Q * f_r$

76439048462. ✔ $f_r = Q * BW$

76439048463. $Q = f_r * BW$

76439048464. $Q = f_r + BW$

Question Number : 117 Question Id : 76439012141 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 DC excited RL circuit is given as

Options :

76439048465. RL

76439048466. R / L

76439048467. ✔ L / R

76439048468. R^2 / L

Question Number : 118 Question Id : 76439012142 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 band pass filter is one which

Options :

76439048469.

Attenuates frequencies between two designated cut off frequencies and passes all other frequencies

76439048470. ✔

Passes frequencies between two designated cut off frequencies and attenuates all other frequencies.

Passes all frequencies

76439048471. ✖

76439048472. ✖

Attenuates all frequencies below a designated cut off frequency and passes all frequencies above cut off frequency.

Question Number : 119 Question Id : 76439012143 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

Reflection Coefficient (K) of a transmission line is give as

Options :

$$K = \frac{\text{Reflected voltage at load}}{\text{Incident voltage at Source}}$$

76439048473. ✖

$$K = \frac{\text{Reflected voltage at source}}{\text{Incident voltage at load}}$$

76439048474. ✖

$$K = \frac{\text{Reflected voltage at source}}{\text{Incident voltage at source}}$$

76439048475. ✖

$$K = \frac{\text{Reflected voltage at load}}{\text{Incident voltage at load}}$$

76439048476. ✔

Question Number : 120 Question Id : 76439012144 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 techniques is used for impedance matching in a transmission line?

Options :

76439048477. ✔ Quarter wave transformer

76439048478. ✖ Half wave transformer

76439048479. ✖ Three quarter wave transformer

76439048480. ✖ Full wave transformer

Question Number : 121 Question Id : 76439012145 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 extension of range of Ammeter, if R_m and R_s are movement internal resistance and multiplier series resistance respectively, the multiplying factor "m" is given by

Options :

76439048481. ✔ $m = 1 + \frac{R_m}{R_s}$

76439048482. ✖ $m = 1 - \frac{R_m}{R_s}$

76439048483. ✖ $m = 1 + \frac{R_s}{R_m}$

76439048484. ✖ $m = 1 - \frac{R_s}{R_m}$

Question Number : 122 Question Id : 76439012146 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

Assertion (A): An electronic voltmeter measures the voltage across the high resistance more accurately as compared to an ordinary multimeter.

Reasoning (R): The electronic voltmeter consists of a voltage amplifier which is not present in an ordinary multimeter.

Choose the correct option from the following:

Options :

76439048485. ✖ Both (A) and (R) are true and (R) is correct explanation of (A)

76439048486. ✔ Both (A) and (R) are true but (R) is not correct explanation of (A)

76439048487. ✖ (A) is true but (R) is false

76439048488. ✖ (A) is false but (R) is true

Question Number : 123 Question Id : 76439012147 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

_____ bridge is very useful for measurement of a unknown Inductance at power and audio frequencies

Options :

76439048489. ✖ Kelvin's double Bridge

76439048490. ✖ Schering Bridge

76439048491. ✔ Maxwell's Inductance-Capacitance bridge

76439048492. ✖ Wheatstone bridge

Question Number : 124 Question Id : 76439012148 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 digital frequency meter the output pulses from the Schmitt trigger are fed to _____

Options :

76439048493. ✖ Start Gate

76439048494. ✖ Stop Gate

76439048495. ✖ Any one of the two Gates

76439048496. ✔ Start-Stop Gate

Question Number : 125 Question Id : 76439012149 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 measurements can be made using Lissajous figures

a. Frequency

b. Phase difference

c. Time interval between pulses

d. Pulse width

e. Fundamental and harmonic components

Select the correct answer

Options :

76439048497. ✔ a and b

76439048498. ✖ b and c

76439048499. ✖ c and d

76439048500. ✖ d and e

Question Number : 126 Question Id : 76439012150 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 triggered sweep, the spot is swept _____ across the screen in response to a trigger signal

Options :

76439048501. ✖ Four times

76439048502. ✖ Thrice

76439048503. ✖ Twice

76439048504. ✔ Once

Question Number : 127 Question Id : 76439012151 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 fixed frequency AF oscillator uses _____Hz signal for audio testing

Options :

76439048505. ✖ 200

76439048506. ✖ 300

76439048507. ✔ 400

76439048508. ✖ 500

Question Number : 128 Question Id : 76439012152 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 spectrum analyzer the height represents the absolute _____and the horizontal location represents the _____

Options :

Magnitude, frequency

76439048509. ✔

Frequency, voltage

76439048510. ✖

Magnitude, current

76439048511. ✖

Frequency, time

76439048512. ✖

Question Number : 129 Question Id : 76439012153 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 format identifier '%c' is used for _____

Options :

Printing Character values

76439048513. ✔

Clearing the screen

76439048514. ✖

Clearing the memory

76439048515. ✖

Printing case studies

76439048516. ✖

Question Number : 130 Question Id : 76439012154 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 break statement is used to exit from

Options :

An if statement

76439048517. ✖

A for loop

76439048518. ✔

A program

76439048519. ✖

76439048520. ✖ The main( ) function

Question Number : 131 Question Id : 76439012155 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 _____ is used to transfer the control back to the calling function

Options :

76439048521. ✖ Goto

76439048522. ✖ Switch

76439048523. ✔ Return

76439048524. ✖ Goback

Question Number : 132 Question Id : 76439012156 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 function calls itself from within its body it is known as _____ function.

Options :

76439048525. ✔ Recursive

76439048526. ✖ Recalling

76439048527. ✖ Calling

76439048528. ✖ Reverse

Question Number : 133 Question Id : 76439012157 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 will execute at least once

Options :

While

76439048529. ✖

For

76439048530. ✖

Do while

76439048531. ✔

If-else

76439048532. ✖

Question Number : 134 Question Id : 76439012158 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 pointer is defined as

Options :

Keyword used to create other variable

76439048533. ✖

Variable that stores address of an instruction

76439048534. ✖

Keyword used to create own variable

76439048535. ✖

Variable that stores address of other variable

76439048536. ✔

Question Number : 135 Question Id : 76439012159 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

. What will happen if too few elements are put in an array when it is initialized?

Options :

Nothing

76439048537. ✖

Possible system malfunction

76439048538. ✖

Error message from the compiler

76439048539. ✖

Unused elements will be filled with 0's or garbage

76439048540. ✔

Question Number : 136 Question Id : 76439012160 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 device which can block voltage of both positive and negative polarities and also conduct in both directions is

Options :

76439048541. ✖ SCR

76439048542. ✔ TRIAC

76439048543. ✖ SCS

76439048544. ✖ Power BJT

Question Number : 137 Question Id : 76439012161 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

Aspect in which offline UPS is better than online UPS is

Options :

76439048545. ✖ Superior performance but costlier

76439048546. ✖ Performance under normal supply conditions

76439048547. ✔ performance under power failure conditions

76439048548. ✖ No dependency on battery

Question Number : 138 Question Id : 76439012162 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 of LDR when no light falls on it is

Options :

76439048549. ✔ Very large

76439048550. ✖ Smaller than when full light falls on it

76439048551. ✖ Very small

76439048552. ✖ Zero ohms

Question Number : 139 Question Id : 76439012163 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 frequencies used for inspection of steel, aluminium and brass articles by pulsed echo ultrasonic flaw detector are

Options :

76439048553. ✖ 20 Hz to 20 kHz

76439048554. ✖ 40 MHz to 100 MHz

76439048555. ✖ Greater than 200 MHz

76439048556. ✔ 80 kHz to 2.5 MHz

Question Number : 140 Question Id : 76439012164 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

Short annealing times for brass items of about one minute are achieved through

Options :

76439048557. ✖ Dielectric heating

76439048558. ✔ Inductive heating

76439048559. ✖ High temperature heating in a furnace

76439048560. ✖ High frequency heating in an oven

Question Number : 141 Question Id : 76439012165 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

Thermal and electrical conductivities of a metal used as electrode for welding are

respectively

Options :

76439048561. ✖ Low and High

76439048562. ✖ High and Low

76439048563. ✔ High and High

76439048564. ✖ Low and Low

Question Number : 142 Question Id : 76439012166 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 PLC, the scan time refers to the amount of time in which

Options :

76439048565. ✖ timers and counters are indexed by

76439048566. ✖ the technician enters the program

76439048567. ✖ one “rung” of ladder logic takes to complete

76439048568. ✔ the entire program takes to execute

Question Number : 143 Question Id : 76439012167 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

One of the merits of open loop system over a closed loop system is

Options :

76439048569. ✔ Faster response

76439048570. ✖ Linear response with high stability

76439048571. ✖ Easy calibration

76439048572. ✖ Controlled process

Question Number : 144 Question Id : 76439012168 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

Frequency modulation is defined as the process in which

Options :

76439048573. ✖ Amplitude of the carrier signal is varied as per the instantaneous amplitude of the modulating signal

76439048574. ✖ Frequency of carrier signal is varied as per the instantaneous frequency of the modulating signal

76439048575. ✖ Amplitude of the carrier signal is varied as per the instantaneous frequency of the modulating signal

76439048576. ✔ Frequency of the carrier signal is varied as per the instantaneous amplitude of the modulating signal

Question Number : 145 Question Id : 76439012169 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

Power carried by sidebands of 50% modulated AM signal is ____% of total power

Options :

76439048577. ✖ 33.3 %

76439048578. ✔ 11.11 %

76439048579. ✖ 22.22 %

76439048580. ✖ 66.66 %

Question Number : 146 Question Id : 76439012170 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

Class of the RF amplifier in High level AM transmitters is

Options :

76439048581. ✖ Class A series fed

76439048582. ✖ Transformer coupled class A

76439048583. ✖ Push pull configured class B

76439048584. ✔ Class C

Question Number : 147 Question Id : 76439012171 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

Main difference between TRF receiver and super heterodyne receiver is

Options :

76439048585. ✖ RF amplifier does not exist in super heterodyne receiver

76439048586. ✔ IF amplifier does not exist in TRF receiver

76439048587. ✖ Image frequency rejection is not necessary in super heterodyne receiver

76439048588. ✖ Both RF and IF amplifiers exist in both the types of receivers

Question Number : 148 Question Id : 76439012172 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

De-emphasis term is related to

Options :

76439048589. ✖ Automatic voltage control

76439048590. ✖ AM receivers

76439048591. ✔ FM receivers

76439048592. ✖ PM receivers

Question Number : 149 Question Id : 76439012173 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

Direct space wave propagation

Options :

76439048593. ✖ is also referred to as sky wave propagation

76439048594. ✖ . is not possible in free space

76439048595. ✖ is due to reflections from ionosphere

76439048596. ✔ has distance limitation due to curvature of earth

Question Number : 150 Question Id : 76439012174 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

Slope overload distortion is eliminated in

Options :

76439048597. ✔ Adaptive delta modulation

76439048598. ✖ Differential pulse code modulation

76439048599. ✖ Pulse code modulation

76439048600. ✖ Delta Modulation

Question Number : 151 Question Id : 76439012175 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

Coding techniques for error detection and correction fall under

Options :

76439048601. ✖ source coding

76439048602. ✖ waveform coding

76439048603. ✔ channel coding

76439048604. ✖ Line coding

Question Number : 152 Question Id : 76439012176 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

_____ dimensions are used by QAM

Options :

76439048605. ✖ in phase

76439048606. ✖ quadrature

76439048607. ✔ in phase & quadrature

76439048608. ✖ out of phase

Question Number : 153 Question Id : 76439012177 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

Redundant bits are necessary for synchronisation between transmitter and receiver in ____

system

Options :

76439048609. ✔ TDM

76439048610. ✖ WDM

76439048611. ✖ FDM

76439048612. ✖ DWDM

Question Number : 154 Question Id : 76439012178 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 incorrect statement for an antenna

Options :

76439048613. ✖ Antenna gain is inversely proportional to its beam width

76439048614. ✔ An isotropic antenna radiates with a very narrow beam width

76439048615. ✖ Polarisation of antenna is the direction of its radiated electric field.

76439048616. ✖ Directivity of an antenna is the maximum directive gain of the antenna

Question Number : 155 Question Id : 76439012179 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

Radiation resistance of an antenna which radiates 2 kW of power when driven by 8A current is

Options :

76439048617. ✖ 22.75 ohms

76439048618. ✖ 27.75 ohms

76439048619. ✔ 31.25 ohms

76439048620. ✖ 37.25 ohms

Question Number : 156 Question Id : 76439012180 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

With a broadside array

Options :

76439048621. ✖ Adjacent element radiate at right angles

76439048622. ✔

Highly directed bidirectional beam perpendicular to the plane of the array is produced

76439048623. ✖ Highly directed unidirectional beam along the plane of the array is produced

76439048624. ✖ Directivity of the beam decreases with increase in the number of array elements

Question Number : 157 Question Id : 76439012181 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

Antenna which produces circularly polarised EM waves is

Options :

76439048625. ✖ Horn antenna

76439048626. ✔ Helical antenna

76439048627. ✖ Loop antenna

76439048628. ✖ Turnstile antenna

Question Number : 158 Question Id : 76439012182 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 parabolic reflector antenna of 2 metre diameter is operated at 6 GHz frequency with a transmitted power of 10 Watts, the antenna beam width is

Options :

76439048629. ✖ 2°

76439048630. ✖ 5.6°

76439048631. ✔ 1.75°

76439048632. ✖ 3.50°

Question Number : 159 Question Id : 76439012183 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

Cutoff frequency of the dominant TE_{10} mode in a rectangular waveguide of 5cm x 2 cm

dimension is

Options :

76439048633. ✔ 3 GHz

76439048634. ✖ 5GHz

76439048635. ✖ 2 GHz

76439048636. ✖ 8 GHz

Question Number : 160 Question Id : 76439012184 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 magnetron oscillation are produced due to the bunching of electrons under

Options :

76439048637. ✖ Axial Electric field and Radial magnetic fiend

76439048638. ✖ only Radial Electric field without any magnetic field

76439048639. ✖ Axial Electric field without the need for magnetic field

76439048640. ✔ radial Electric field and Axial magnetic field

Question Number : 161 Question Id : 76439012185 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 Reflex Klystron is a microwave

Options :

76439048641. ✖ Solid State device

76439048642. ✖ Amplifier tube

Oscillator tube

76439048643. ✔

Detector device

76439048644. ✖

Question Number : 162 Question Id : 76439012186 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

Limitation of moving target Indicator when compared to a simple continuous wave radar is

Options :

Delay line effects

76439048645. ✖

Complex circuitry

76439048646. ✖

Blind speeds

76439048647. ✔

Detectable target area

76439048648. ✖

Question Number : 163 Question Id : 76439012187 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

EIRP in satellite link budget stands for

Options :

Effective Integrated Receive pattern

76439048649. ✖

Effective Isotropically Radiated Power

76439048650. ✔

Effectively interference Radiated Power

76439048651. ✖

Efficiency of Integrated Radiation Pattern

76439048652. ✖

Question Number : 164 Question Id : 76439012188 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

Binary equivalent of octal number 25 is

Options :

76439048653. ✖ 10111

76439048654. ✖ 10001

76439048655. ✖ 11001

76439048656. ✔ 10101

Question Number : 165 Question Id : 76439012189 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

Logic gates minimization is done by

Options :

76439048657. ✖ s-map

76439048658. ✔ k-map

76439048659. ✖ microprocessor

76439048660. ✖ d-map

Question Number : 166 Question Id : 76439012190 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 simplified form of the Boolean expression $X = ABCD+A\bar{B}CD+\bar{A}BCD+\bar{A}C\bar{B}D$ is

Options :

76439048661. ✖ $\bar{C}+\bar{D}$

76439048662. ✖ BC

76439048663. ✔ CD

76439048664. ✖ $\bar{B}C$

Question Number : 167 Question Id : 76439012191 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 equivalent name of multiplexer is

Options :

76439048665. ✖ multi

76439048666. ✖ data encoder

76439048667. ✔ data selector

76439048668. ✖ demultiplexer

Question Number : 168 Question Id : 76439012192 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

Encoder converts

Options :

76439048669. ✔ 2^N input lines into N output lines

76439048670. ✖ N input line into 2^N output lines

76439048671. ✖ N^2 input lines to N output lines

76439048672. ✖ N input line into N^2 output lines

Question Number : 169 Question Id : 76439012193 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 JK flip can be made from SR flip by using two additional

Options :

76439048673. ✔ NAND gates

76439048674. ✖ OR gates

76439048675. ✖ NOT gates

76439048676. ✖ NOR gates

Question Number : 170 Question Id : 76439012194 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 maximum number of possible states in a ripple counter with 5 flip flops are

Options :

76439048677. ✖ 31

76439048678. ✔ 32

76439048679. ✖ 33

76439048680. ✖ 25

Question Number : 171 Question Id : 76439012195 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 following statements

A) The output of the computer communicates the response of the computer to users

B) Read / Write memory is volatile

C) The flip flop in a register is connected in parallel

Which one of the following above statement/s is /are correct?

Options :

76439048681. ✖ A only

76439048682. ✔ A& B

76439048683. ✖ B & C

76439048684. ✖ C only

Question Number : 172 Question Id : 76439012196 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

Assertion (A): R-2R ladder type D/A converter has a high speed of conversion than weighted resistance D/A converter.

Reasoning (R): R-2R ladder type D/A converter uses smaller number of components than weighted resistance D/A converter.

Choose the correct option:

Options :

76439048685. ✖ Both (A) and (R) are true but (R) is not the correct explanation of (A)

76439048686. ✖ Both (A) and (R) are true and (R) is the correct explanation of A

76439048687. ✔ (A) is true but (R) is false

76439048688. ✖ (A) is false but (R) is true

Question Number : 173 Question Id : 76439012197 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

Match the List – I with List – II and select the correct answer using the code given below the list

List – I(Type of DVM)		List – II(List of components in ADC)	
A	Ramp type	1	DAC
B	Dual slope	2	Voltage to time converter
C	Servo type	3	Pulse generator
D	Successive approximation	4	Potentiometer
		5	Capacitor

Choose the correct option from the following:

Options :

76439048689. ✖ A – 2, B – 3, C – 5, D – 1

A – 1, B – 3, C – 4, D – 2

76439048690. ✖

A – 1, B – 4, C – 3, D – 2

76439048691. ✖

A – 2, B – 5, C – 4, D – 1

76439048692. ✔

Question Number : 174 Question Id : 76439012198 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 the number of maskable interrupts are

Options :

76439048693. ✖ 2

76439048694. ✖ 3

76439048695. ✔ 4

76439048696. ✖ 5

Question Number : 175 Question Id : 76439012199 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 register of 8085 microprocessor is not a part of programming model?

Options :

76439048697. ✖ instruction register

76439048698. ✔ status register

76439048699. ✖ memory address register

76439048700. ✖ temporary data register

Question Number : 176 Question Id : 76439012200 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 8255 chip is selected when A_2 to A_7 pins are 1, then what is the address of port C?

Options :

76439048701. ✖ F C

76439048702. ✔ F D

76439048703. ✖ F B

76439048704. ✖ F E

Question Number : 177 Question Id : 76439012201 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 send data to an LCD _____ pin of the LCD should be set.

Options :

76439048705. ✔ RS

76439048706. ✖ R/W

76439048707. ✖ E

76439048708. ✖ R

Question Number : 178 Question Id : 76439012202 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

Hardware handshaking can be achieved by _____

Options :

76439048709. ✖ Counter

76439048710. ✖ Parallel port

76439048711. ✖ Timer

76439048712. ✔ RS232

Question Number : 179 Question Id : 76439012203 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 file extension is used to load in a microcontroller to execute an instruction

Options :

76439048713. .doc ✖

76439048714. .hex ✔

76439048715. .c ✖

76439048716. .exe ✖

Question Number : 180 Question Id : 76439012204 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 PWM control the speed of the motor is _____

Options :

76439048717. directly proportional to duty cycle of the PWM signal ✔

76439048718. inversely proportional to duty cycle of the PWM signal ✖

76439048719. directly proportional to square of the duty cycle of the PWM signal ✖

76439048720. inversely proportional to square of the duty cycle of the PWM signal ✖

Question Number : 181 Question Id : 76439012205 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 water level indicator works by converting water level into ____ signals

Options :

76439048721. Mechanical ✖

76439048722. ✖ Optical

76439048723. ✔ Electrical

76439048724. ✖ Electro-mechanical

Question Number : 182 Question Id : 76439012206 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

CPU of the PIC microcontroller is connected to the ADC by ___

Options :

76439048725. ✔ 3 control and 2 data registers

76439048726. ✖ 2 control and 3 data registers

76439048727. ✖ 1 control and 1 data register

76439048728. ✖ 2 control and 2 data register

Question Number : 183 Question Id : 76439012207 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 main importance of ARM micro-processors is providing operation with _____

Options :

76439048729. ✖ Lower error or glitches

76439048730. ✖ Higher degree of multi-tasking

76439048731. ✔ Low power consumption

76439048732. ✖ Efficient memory management

Question Number : 184 Question Id : 76439012208 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

Optical Disc uses _____technology

Options :

76439048733. ✖ Diffraction

76439048734. ✖ Reflective

76439048735. ✖ Refractive

76439048736. ✔ Laser Beam

Question Number : 185 Question Id : 76439012209 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 used in oven?

Options :

76439048737. ✖ X-rays

76439048738. ✖ UV rays

76439048739. ✖ Radio waves

76439048740. ✔ Microwaves

Question Number : 186 Question Id : 76439012210 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

Critical flicker frequency is defined as

Options :

76439048741. ✔ the repetition rate of flashes at and above which the flicker effect disappears.

76439048742. ✖ the repetition rate of flashes below which the flicker effect disappears.

76439048743. ✖ the repetition rate of flashes at and above which the flicker effect appears.

the repetition rate of flashes below which the flicker effect appears.

76439048744. ✖

Question Number : 187 Question Id : 76439012211 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

CCIR stands for

Options :

Consultative Committee for Indian Radio

76439048745. ✖

Consultative Committee for International Radio

76439048746. ✔

Central Committee for India Radio

76439048747. ✖

Central Committee for International Radio

76439048748. ✖

Question Number : 188 Question Id : 76439012212 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 NTSC system, the two color difference signals are

Options :

transmitted together

76439048749. ✖

transmitted in anti phase

76439048750. ✖

transmitted in quadrature

76439048751. ✔

transmitted with 30^0 phase shift

76439048752. ✖

Question Number : 189 Question Id : 76439012213 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

High Definition Television is digitally broadcast using _____

Options :

Video expansion

76439048753. ✔

Video Compression

76439048754. ✖

Video expansion & Video Compression

76439048755. ✖

Audio Compression

76439048756. ✖

Question Number : 190 Question Id : 76439012214 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 camcorder CCD device converts

Options :

Light into electrical signal

76439048757. ✔

electrical signal to light

76439048758. ✖

Light into electrical signal & electrical signal to light

76439048759. ✖

Light to pressure signal

76439048760. ✖

Question Number : 191 Question Id : 76439012215 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 cable/s is/are used for voice and data communication?

Options :

Co-axial

76439048761. ✖

Twisted pair

76439048762. ✔

Fiber Optic

76439048763. ✖

Co-axial and Fiber Optic

76439048764. ✖

Question Number : 192 Question Id : 76439012216 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

_____ topology is used for large networks

Options :

Star

76439048765. ✔

Ring

76439048766. ✖

Bus

76439048767. ✖

Radial

76439048768. ✖

Question Number : 193 Question Id : 76439012217 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

Packet switching uses _____ transmission path.

Options :

SVC

76439048769. ✔

SCVC

76439048770. ✖

PVC

76439048771. ✔

UPVC

76439048772. ✖

Note: For this question, ambiguity is found in question/answer. Candidate will get full marks for this question if any of the correct options are chosen.

Question Number : 194 Question Id : 76439012218 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 OSI model ---------- layer provides service to the user

Options :

Session layer

76439048773. ✖

Physical layer

76439048774. ✖

Application layer

76439048775. ✔

76439048776. ✖ Presentation layer

Question Number : 195 Question Id : 76439012219 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

------- modulation scheme issued by blue tooth

Options :

76439048777. ✔ Gaussian Frequency Shift Keying

76439048778. ✖ Minimum shift keying

76439048779. ✖ Binary Phase shift keying

76439048780. ✖ Quadrature phase shift keying

Question Number : 196 Question Id : 76439012220 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 packet transmission the Transmission delay is

Options :

76439048781. ✖ transmission rate/ packet length

76439048782. ✖ packet length *transmission rate.

76439048783. ✔ packet length / transmission rate.

76439048784. ✖ packet length

Question Number : 197 Question Id : 76439012221 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

TCP/IP is related to _____

Options :

76439048785. ✖ ALOHA

76439048786. ✖ OSI

DECNET

76439048787. ✖

76439048788. ✔ ARPANET

Question Number : 198 Question Id : 76439012222 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 file transfer Protocol a user needs an account and a pass word on

Options :

same server

76439048789. ✖

remote server

76439048790. ✔

Central server

76439048791. ✖

Data host

76439048792. ✖

Question Number : 199 Question Id : 76439012223 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 _____ message digest is used as an MDC.

Options :

76439048793. ✔ keyless

76439048794. ✖ keyed

76439048795. ✖ either keyless or keyed

76439048796. ✖ neither keyless nor keyed

Question Number : 200 Question Id : 76439012224 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

At _____ layer a proxy firewall filters incoming traffic.

Options :

Presentation layer

76439048797. ✖

Data link layer

76439048798. ✖

Application Layer

76439048799. ✔

Network Layer

76439048800. ✖