DU PhD in Electronics

1) The complex number $\frac{(1+i)(2+i)(4+i)}{(1-i)}$ can be expressed in $a + ib$ form as follows

[Question ID = 5438]

1. $5 + 7i$

   [Option ID = 21746]

2. $-6 + 4i$

   [Option ID = 21747]

3. $-6 + 7i$

   [Option ID = 21748]

4. $-4 + 7i$

   [Option ID = 21749]

Correct Answer :-

- $-6 + 7i$

  [Option ID = 21748]

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2) If $f(x) = (2x + 1)/(2x - 1)$ and $g(x) = (x + 5)/(2x - 3)$ then $g(f(x))$ is

[Question ID = 5439]

1. $\dfrac{5x+3}{x+4}$

   [Option ID = 21750]

2. $\dfrac{3x+7}{4-x}$

   [Option ID = 21751]

3. $\dfrac{2x-5}{2x-3}$

   [Option ID = 21752]

4. $\dfrac{12x-4}{-2x+5}$

   [Option ID = 21753]

Correct Answer :-

- $\dfrac{12x-4}{-2x+5}$

  [Option ID = 21753]

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3) $\lim\limits_{x \to \pi} \dfrac{1 + \cos x}{\tan^2 x} =$

[Question ID = 5440]

1. 1

   [Option ID = 21754]

2. -1

   [Option ID = 21755]

3. $1/2$

   [Option ID = 21756]

4. $-1/2$

   [Option ID = 21757]

Correct Answer :-

- $1/2$

4) For the given differential equation, $\frac{d^2y}{dx^2} + \frac{dy}{dx} - 2y = 0$ The general solution of this equation will be

[Question ID = 5441]

1. $y(x) = Ae^{2x} - Be^{-x}$

[Option ID = 21758]

2. $y(x) = Ae^{-2x} + Be^x$

[Option ID = 21759]

3. $y(x) = Ae^{2x} + Be^x$

[Option ID = 21760]

4. $y(x) = Ae^{-2x} + Be^{-x}$

[Option ID = 21761]

Correct Answer :-

- $y(x) = Ae^{-2x} + Be^x$

[Option ID = 21759]

5) Given $x = \frac{ct}{(1-3t)}, y = \frac{ct^2}{(1-4t)}$, where *t* is a parameter and *c* is a constant, then $\frac{dy}{dx}$ in terms of *t* only is

[Question ID = 5442]

1. $\frac{2t(1-2t)(1-3t)^2}{(1-4t)^2}$

[Option ID = 21762]

2. $\frac{2(1-2t)(1-4t)^2}{(1-3t)^2}$

[Option ID = 21763]

3. $\frac{2t(1-2t)(1+3t)^2}{(1+7t)^2}$

[Option ID = 21764]

4. $\frac{(1-2t)(1-3t)^2}{(1-7t)^2}$

[Option ID = 21765]

Correct Answer :-

- $\frac{2t(1-2t)(1-3t)^2}{(1-4t)^2}$

[Option ID = 21762]

6)

The eigen values of the matrix $\begin{vmatrix} 1 & 1 & 3 \\ 1 & 5 & 1 \\ 3 & 1 & 1 \end{vmatrix}$ are

[Question ID = 5443]

1. 2,-3,6

[Option ID = 21766]

2. -2,-3,-6

[Option ID = 21767]

3. -2,3,6

[Option ID = 21768]

4. 2,-3,-6

[Option ID = 21769]

Correct Answer :-

- -2,3,6

[Option ID = 21768]

7) For which value of ω will the given matrix become singular?

$$\begin{bmatrix} 8 & \omega & 0 \\ 4 & 0 & 2 \\ 12 & 6 & 0 \end{bmatrix}$$

[Question ID = 5444]

1. 1

   [Option ID = 21770]

2. 0

   [Option ID = 21771]

3. 4

   [Option ID = 21772]

4. 2

   [Option ID = 21773]

Correct Answer :-

- 4

  [Option ID = 21772]

8) If A is orthogonal matrix and $A = \begin{vmatrix} 0 & 2b & c \\ a & b & -c \\ a & -b & c \end{vmatrix}$, the values of a and b are

[Question ID = 5445]

1. $a = \pm\dfrac{1}{\sqrt{2}} b = \pm\dfrac{1}{\sqrt{6}}$

   [Option ID = 21774]

2. $a = \pm\dfrac{1}{\sqrt{3}} b = \pm\dfrac{1}{\sqrt{2}}$

   [Option ID = 21775]

3. $a = \pm 0 b = \dfrac{1}{\sqrt{2}}$

   [Option ID = 21776]

4. $a = \pm\dfrac{1}{\sqrt{3}} b = \pm 0$

   [Option ID = 21777]

Correct Answer :-

- $a = \pm\dfrac{1}{\sqrt{2}} b = \pm\dfrac{1}{\sqrt{6}}$

  [Option ID = 21774]

9) The particular solution for $Y''' - Y' = e^x + e^{-x}$ is

[Question ID = 5446]

1. $\dfrac{x(e^x + e^{-x})}{2}$

   [Option ID = 21778]

2. $\dfrac{(e^x + e^{-x})}{2}$

   [Option ID = 21779]

3. $\dfrac{-x(e^x + e^{-x})}{2}$

   [Option ID = 21780]

4. $\dfrac{-(e^x + e^{-x})}{2}$

   [Option ID = 21781]

Correct Answer :-

- $\dfrac{x(e^x + e^{-x})}{2}$

  [Option ID = 21778]

10) The partial differentiation equation $5\frac{\delta^2 y}{\delta x^2} + 6\frac{\delta^2 z}{\delta y^2} = xy$ can be classified as

[Question ID = 5447]

1. parabolic

   [Option ID = 21782]

2. hyperbolic

   [Option ID = 21783]

3. none of these

   [Option ID = 21784]

4. elliptic

   [Option ID = 21785]

Correct Answer :-

- elliptic

   [Option ID = 21785]

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11) Consider an ordinary differential equation $\frac{dx}{dt} = 4t + 4$. if x = x_0 at t=0, the increment in x calculated using Runge-Kutta fourth order multi-step method with a step size of $\Delta t = 0.2$ is

[Question ID = 5448]

1. 0.66 [Option ID = 21786]
2. 0.44 [Option ID = 21787]
3. 0.88 [Option ID = 21788]
4. 0.22 [Option ID = 21789]

Correct Answer :-

- 0.88 [Option ID = 21788]

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12) The velocity v(in kilometre/minute) of a motorbike which starts from rest, is given at fixed intervals of time t(in minutes) as follows:

t	2	4	6	8	10	12	14	16	18	20
v	10	18	25	29	32	20	11	5	2	0

The approximate distance (in kilometres) rounded to two places of decimals covered in 20 minutes using Simpson's 1/3rd rule is

[Question ID = 5449]

1. 200

   [Option ID = 21790]

2. 309

   [Option ID = 21791]

3. 119

   [Option ID = 21792]

4. 234

   [Option ID = 21793]

Correct Answer :-

- 309

   [Option ID = 21791]

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13) Consider $p(s) = s^3 + a_2 s^2 + a_1 s + a_0$ with all real coefficients. It is known that its derivative p'(s) has no real roots. The number of real roots of p(s) is

[Question ID = 5450]

1. 0

   [Option ID = 21794]

2. 1

   [Option ID = 21795]

3. 2

   [Option ID = 21796]

4. 3

   [Option ID = 21797]

14) Gauss Seidel method is used to solve the following equations (as per the given order):

$x_1 + 2x_2 + 3x_3 = 5;$

$2x_1 + 3x_2 + x_3 = 1;$

$3x_1 + 2x_2 + x_3 = 3;$

Assuming initial guess as $x_1 = x_2 = x_3 = 0$, the value of x_3 after the first iteration is

[Question ID = 5451]

1. 1.55

[Option ID = 21798]

2. 2.55

[Option ID = 21799]

3. 1.00

[Option ID = 21800]

4. 3.67

[Option ID = 21801]

15) The function $f(x) = e^x - 1$ is to be solved using Newton-Raphson method, an initial guess of x_0 is taken as 1.0, then the absolute error observed at 2nd iteration is

[Question ID = 5452]

1. 0.50 [Option ID = 21802]

2. 1.25 [Option ID = 21803]

3. 0.25 [Option ID = 21804]

4. 0.33 [Option ID = 21805]

16) IF $F(s)$ is the Fourier transform of $f(x)$ then the Fourier transform of $e^{5x} f(x)$ is

[Question ID = 5453]

1. $F\left(\dfrac{s}{5}\right)$

[Option ID = 21806]

2. $F(5s)$

[Option ID = 21807]

3. $F(s + 5)$

[Option ID = 21808]

4. $F(s - 5)$

[Option ID = 21809]

17) The Fourier cosine transform of $7e^{-x} + e^{-5x}$ is

[Question ID = 5454]

1. $\sqrt{\dfrac{2}{\pi}}\left(\dfrac{7}{(s^2+1)(s^2+25)}\right)$

[Option ID = 21810]

2. $\sqrt{\dfrac{2}{\pi}}\left(\dfrac{7}{s^2+1} + \dfrac{5}{s^2+25}\right)$

[Option ID = 21811]

3. $\sqrt{\dfrac{2}{\pi}}\left(\dfrac{7}{s^2-1}-\dfrac{1}{s^2-25}\right)$

[Option ID = 21812]

4. $\sqrt{\dfrac{2}{\pi}}\left(\dfrac{7}{s^2}+\dfrac{1}{s^2}\right)$

[Option ID = 21813]

Correct Answer :-

- $\sqrt{\dfrac{2}{\pi}}\left(\dfrac{7}{s^2+1}+\dfrac{5}{s^2+25}\right)$

[Option ID = 21811]

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18) Using Laplace transform evaluate the given integral $\int_0^\infty te^{-2t}\sin 3t\, dt$

[Question ID = 5455]

1. $\dfrac{12}{169}$

[Option ID = 21814]

2. 1

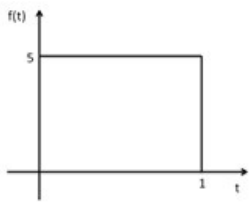[Option ID = 21815]

3. $\dfrac{9}{225}$

[Option ID = 21816]

4. 0

[Option ID = 21817]

Correct Answer :-

- $\dfrac{12}{169}$

[Option ID = 21814]

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19) If Laplace transform of the function f(t) is given by $\int_0^\infty f(t)e^{-st}dt$ then Laplace transform of the function shown in the figure is

[Question ID = 5456]

1. $\left(\dfrac{5-e^{-s}}{s}\right)$

[Option ID = 21818]

2. $5\left(\dfrac{1-e^{-s}}{s}\right)$

[Option ID = 21819]

3. $\left(\dfrac{5+e^{-s}}{s}\right)$

[Option ID = 21820]

4. $\left(\dfrac{5+e^{s}}{s}\right)$

[Option ID = 21821]

Correct Answer :-

- $5\left(\dfrac{1-e^{-s}}{s}\right)$

[Option ID = 21819]

20) The inverse Laplace transform of $\dfrac{1}{\sqrt{2s+5}}$ is

[Question ID = 5457]

1. $\dfrac{1}{\sqrt{2t}} e^{-\frac{5}{2}}$

[Option ID = 21822]

2. $\dfrac{1}{\sqrt{2}} e^{-\frac{5}{2}}$

[Option ID = 21823]

3. $\dfrac{1}{\sqrt{\pi}}$

[Option ID = 21824]

4. $\dfrac{1}{\sqrt{2t\pi}} e^{-\frac{5}{2}}$

[Option ID = 21825]

Correct Answer :-

- $\dfrac{1}{\sqrt{2t\pi}} e^{-\frac{5}{2}}$

[Option ID = 21825]

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21) Which MATLAB command will return the corner elements of a 5-by-5 matrix A?

[Question ID = 5458]

1. A([1,1], [end, end]) [Option ID = 21826]
2. A({[1,1], [1, end], [end,1], [end, end]}) [Option ID = 21827]
3. A(1:end, 1:end) [Option ID = 21828]
4. A([1, end], [1, end]) [Option ID = 21829]

Correct Answer :-

- A([1, end], [1, end]) [Option ID = 21829]

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22) Two vectors created in MATLAB as

`>> X = [7 7 7 7];`

`>> Y=6:9;`

The output of the command X == Y is

[Question ID = 5459]

1. 0 1 0 0

[Option ID = 21830]

2. 6 7 8 9

[Option ID = 21831]

3. 7 7 7 7

[Option ID = 21832]

4. 0 1 0 1

[Option ID = 21833]

Correct Answer :-

- 0 1 0 0

[Option ID = 21830]

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23) Consider the following MATLAB vectors:

x = [1 2];

y = [3 4];

z = [x' [y ; y]]';

What is the value of z after this program executes?

[Question ID = 5460]

1. $\begin{bmatrix} 1 & 2 \\ 3 & 4 \\ 3 & 4 \end{bmatrix}$

[Option ID = 21834]

2. $\begin{bmatrix} 1 & 3 & 4 \\ 2 & 3 & 4 \end{bmatrix}$

[Option ID = 21835]

3. $\begin{bmatrix} 1 & 3 & 3 \\ 2 & 4 & 4 \end{bmatrix}$

[Option ID = 21836]

4. $\begin{bmatrix} 1 & 2 \\ 3 & 3 \\ 4 & 4 \end{bmatrix}$

[Option ID = 21837]

Correct Answer :-

- $\begin{bmatrix} 1 & 2 \\ 3 & 3 \\ 4 & 4 \end{bmatrix}$

[Option ID = 21837]

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24) In C language, what is the output of the following code?

int main()

{

   int j = 4;

printf("%d%d",j,j++);

}

[Question ID = 5461]

1. 44

[Option ID = 21838]

2. 45

[Option ID = 21839]

3. 54

[Option ID = 21840]

4. 55

[Option ID = 21841]

Correct Answer :-

- 54

[Option ID = 21840]

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25) In C language, what is the output of the following code?

int main()

{

int a=52;

printf("%o %x",a,a);

}

[Question ID = 5462]

1. 052 0x52

[Option ID = 21842]

2. 64 34

[Option ID = 21843]

3. 62 43

[Option ID = 21844]

4. error

[Option ID = 21845]

Correct Answer :-

- 64 34

[Option ID = 21843]

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26) The length and cross sectional area of n-type photo conductor are 150 µm and 10^{-7} cm^2 respectively. What is the

electron transit time at an applied voltage of 15 V? (Assume mobility of electron μ_n = 950 cm^2/V.s)

[Question ID = 5463]

1. 15.8 ns

   [Option ID = 21846]
2. 10.5 ns

   [Option ID = 21847]
3. 7.4 ns

   [Option ID = 21848]
4. 3.1 ns

   [Option ID = 21849]

Correct Answer :-

- 15.8 ns

   [Option ID = 21846]

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27) If the number density of a free electron gas changes from 10^{27} to 10^{25} electrons/m^3 then the value of plasma frequency (in Hz) changes from 9.85 × 10^{14} to _____

[Question ID = 5464]

1. 9.85×10^{10} [Option ID = 21850]
2. 9.85×10^{9} [Option ID = 21851]
3. 9.85×10^{13} [Option ID = 21852]
4. 9.85×10^{7} [Option ID = 21853]

Correct Answer :-

- 9.85×10^{13} [Option ID = 21852]

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28) Match List I with List II typical spectroscopic regions type of transitions

List I	List II
A. Infrared region	I. Electron transition involving valance electrons
B. Ultraviolet visible region	II. Nuclear transitions
C. X-ray region	III. Vibrational transitions of molecules
D. γ-ray region	IV. Transitions involving inner shell electrons

Choose the correct answer from the options given below:

[Question ID = 5465]

1. A - III, B - I, C - IV, D - II

   [Option ID = 21854]
2. A - IV, B - II, C - I, D - III

   [Option ID = 21855]
3. A - I, B - II, C - III, D - IV

   [Option ID = 21856]
4. A - III, B - IV, C - I, D - II

   [Option ID = 21857]

Correct Answer :-

- A - III, B - I, C - IV, D - II

   [Option ID = 21854]

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29) The value of θ at which the first order peak in X-ray (λ = 1.53 Å) diffraction corresponding to (1 1 1) plane of a single cubic structure with the lattice constant a = 2.65 Å is proximately

[Question ID = 5466]

1. 15°

   [Option ID = 21858]
2. 45°

   [Option ID = 21859]
3. 30°

   [Option ID = 21860]
4. 90°

Correct Answer :-

- 30°

[Option ID = 21860]

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30) If an IMPATT diode amplifier has negative resistance R_d = -15 Ω and load resistance R_L = 25 Ω the power gain is
[Question ID = 5467]
1. 25 [Option ID = 21862]
2. 0 [Option ID = 21863]
3. ∞

[Option ID = 21864]
4. 16 [Option ID = 21865]

Correct Answer :-

- 16 [Option ID = 21865]

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31) How many AND gates are required for 1 to 16 de-multiplexer?
[Question ID = 5468]
1. 8 [Option ID = 21866]
2. 16 [Option ID = 21867]
3. 14 [Option ID = 21868]
4. 20 [Option ID = 21869]

Correct Answer :-

- 16 [Option ID = 21867]

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32) A 12 bit ADC is used to convert analog voltage of 0 to 10 V into digital. The resolution is

[Question ID = 5469]
1. 24.4 mV

[Option ID = 21870]
2. 2.44 mV

[Option ID = 21871]
3. 1.2 V

[Option ID = 21872]
4. none of these

[Option ID = 21873]

Correct Answer :-

- 2.44 mV

[Option ID = 21871]

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33) The value of x for the given system: $\left(\sqrt{22}\right)_x$ = 6 is

[Question ID = 5470]
1. 17

[Option ID = 21874]
2. 15

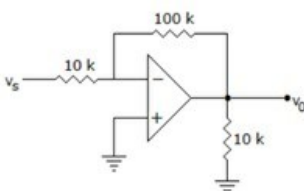[Option ID = 21875]
3. 16

[Option ID = 21876]
4. none of these

[Option ID = 21877]

Correct Answer :-

- 17

[Option ID = 21874]

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34) The input impedance of the following circuit

1. 120 kΩ [Option ID = 21878]
2. 110 kΩ [Option ID = 21879]
3. 10 kΩ [Option ID = 21880]
4. Infinity [Option ID = 21881]

Correct Answer :-

- 10 kΩ [Option ID = 21880]

35) What is the bandwidth of single stage amplifier if its rise time is 0.35 microseconds?
[Question ID = 5472]
1. 2 MHz [Option ID = 21882]
2. 5 KHz [Option ID = 21883]
3. 1 MHz [Option ID = 21884]
4. 2 KHz [Option ID = 21885]

Correct Answer :-

- 1 MHz [Option ID = 21884]

36) If the electric field strength E of an electromagnetic wave in free space is given by E = 2cos w(t-z/n₀) a_y V/m. The magnetic flux density B is calculated as

[Question ID = 5473]

1. $-\frac{2}{v_0} \cos\omega \left(t - \frac{z}{v_0} \right) a_x A/m$

[Option ID = 21886]

2. $-\frac{2}{v_0} \cos\omega \left(t - \frac{z}{v_0} \right) a_y A/m$

[Option ID = 21887]

3. $-\frac{2}{v_0} \sin\omega \left(t - \frac{z}{v_0} \right) a_x A/m$

[Option ID = 21888]

4. $-\frac{2}{v_0} \sin\omega \left(t - \frac{z}{v_0} \right) a_y A/m$

[Option ID = 21889]

Correct Answer :-

- $-\frac{2}{v_0} \cos\omega \left(t - \frac{z}{v_0} \right) a_x A/m$

[Option ID = 21886]

37) The electric field acting on an electron (charge -1.6 x 10⁻¹⁹ C) which is 1 μm away from a perfectly conducting plane

[Question ID = 5474]
1. 181 V/m

[Option ID = 21890]
2. 360 V/m

[Option ID = 21891]
3. 543 V/m

[Option ID = 21892]
4. 271 V/m

[Option ID = 21893]

Correct Answer :-

- 360 V/m

[Option ID = 21891]

38) An electron starts with zero velocity from a cathode which is at a potential of -5 kV and then moves into a region where the potential is zero. The velocity of this electron is
[Question ID = 5475]
1. 32.65×10^6 m/s [Option ID = 21894]
2. 31.55×10^7 m/s [Option ID = 21895]
3. 41.95×10^6 m/s [Option ID = 21896]
4. 52.65×10^7 m/s [Option ID = 21897]

Correct Answer :-

39) A power generator whose source impedance is 50 W is connected to an oscilloscope by 1 m of 75 W polythene (e$_r$=2.5) filled coaxial cable. The VSWR and phase velocity of the waves on the cable, respectively are

[Question ID = 5476]

1. 2.0 and 0.70 × 10^8 m/s [Option ID = 21898]
2. 1.3 and 3.65 × 10^8 m/s [Option ID = 21899]
3. 1.5 and 1.90 × 10^8 m/s [Option ID = 21900]
4. 2.5 and 2.50 × 10^7 m/s [Option ID = 21901]

Correct Answer :-

● 1.5 and 1.90 × 10^8 m/s [Option ID = 21900]

40) A transmission line is terminated by a resistance load which is less than the characteristic impedance and VSWR on the line is 1.5. The ratio of reflected wave to the incident wave in decibels is

[Question ID = 5477]

1. 0 dB [Option ID = 21902]
2. 1.5 Db [Option ID = 21903]
3. -13.98 dB [Option ID = 21904]
4. -1.5 dB [Option ID = 21905]

Correct Answer :-

● -13.98 dB [Option ID = 21904]

41) The power internally generated within a double-hetero junction LED if it has internal quantum efficiency of 54.5 % and drive current of 50 mA with a peak emission wavelength of 0.72 μm is

[Question ID = 5478]

1. 0.09 W [Option ID = 21906]
2. 0.047 W [Option ID = 21907]
3. 0.01 W [Option ID = 21908]
4. 0.6 W [Option ID = 21909]

Correct Answer :-

● 0.047 W [Option ID = 21907]

42) For a phototransistor having gain of 116.5, wavelength of 1.28 μm, optical power 123μW. The collector current is

[Question ID = 5479]

1. 7.46 mA [Option ID = 21910]
2. 1.23 mA [Option ID = 21911]
3. 5.24 mA [Option ID = 21912]
4. 14.76 mA [Option ID = 21913]

Correct Answer :-

● 14.76 mA [Option ID = 21913]

43) In 8086 microprocessor the overflow flag is set when

[Question ID = 5480]

1. the sum is more than 16 bits [Option ID = 21914]
2. carry and sign flags are set. [Option ID = 21915]
3. Subtraction [Option ID = 21916]
4. signed numbers go out of their range after an arithmetic operation [Option ID = 21917]

Correct Answer :-

● signed numbers go out of their range after an arithmetic operation [Option ID = 21917]

44) What is the bit size of the 8051 microcontroller?

[Question ID = 5481]

1. 4 bit [Option ID = 21918]
2. 16 bit [Option ID = 21919]
3. 128 bit [Option ID = 21920]
4. 8 bit [Option ID = 21921]

Correct Answer :-

● 8 bit [Option ID = 21921]

45) A 50 Ω lossless transmission line has a pure reactance of j100 Ω as its load. The VSWR in the line is

[Question ID = 5482]

1. ∞ (infinity)

[Option ID = 21922]

2. $\frac{1}{2}$ (half)

[Option ID = 21923]

3. 4 (four)

[Option ID = 21924]

4. 2 (two)

[Option ID = 21925]

Correct Answer :-

- ∞ (infinity)

[Option ID = 21922]

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46) The bit stream 01001 is differentially encoded using 'Delay and EX-OR' scheme for DPSK transmission. Assuming the reference bit as '1' and assigning phases of '0' and π for 1's and 0's respectively in the encoded sequence, the transmitted phase sequence becomes

[Question ID = 5483]

1. 0ππ0

[Option ID = 21926]

2. π0ππ0

[Option ID = 21927]

3. 0ππ00

[Option ID = 21928]

4. πππ0π

[Option ID = 21929]

Correct Answer :-

- 0ππ0

[Option ID = 21926]

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47) An AM modulator has output $x_c(t)$ = Acos(400πt)+ Bcos(380πt)+ Bcos(420πt). The carrier power is 100W and the efficiency is 40%. The value of A and B are

[Question ID = 5484]

1. 14.14, 8.16

[Option ID = 21930]

2. 50, 10

[Option ID = 21931]

3. 22.36, 13.46

[Option ID = 21932]

4. None of these

[Option ID = 21933]

Correct Answer :-

- 14.14, 8.16

[Option ID = 21930]

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48) To prevent overloading of the last IF amplifier in a receiver, one should use

[Question ID = 5485]

1. Squelch [Option ID = 21934]
2. Variable sensitivity [Option ID = 21935]
3. Variable selectivity [Option ID = 21936]
4. Double conversion [Option ID = 21937]

Correct Answer :-

- Variable sensitivity [Option ID = 21935]

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49) A base band PCM system with a matched filter at receiver is implemented with ±5V bipolar pulse with pulse duration of 72μsec. If the noise power spectral density is 1.0×10^{-4} V^2/Hz, the probability of error for this system is given by

[Question ID = 5486]

1. 1.15×10^{-5} [Option ID = 21938]
2. 1.85×10^{-5} [Option ID = 21939]
3. 2.8×10^{-5} [Option ID = 21940]
4. 2.36×10^{-5} [Option ID = 21941]

Correct Answer :-

- 1.15×10^{-5} [Option ID = 21938]

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50) Eight base band analog signals each of 100 Hz bandwidth are to be transmitted by a signal binary PCM system in such a

way that the quantization error for each signal does not exceed 0.1% of the peak amplitude of the signal. The sampling rate for each signal is to be 50% higher than its Nyquist rate. The bit transmission rate is

[Question ID = 5487]

1. 6 kbps [Option ID = 21942]
2. 26.4 kbps [Option ID = 21943]
3. 18 kbps [Option ID = 21944]
4. 24 kbps [Option ID = 21945]

Correct Answer :-

- 26.4 kbps [Option ID = 21943]