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सत्यमेव जयते
इसरो isro

Section : **Electronics and Communication Engineering ECE**

Q.1 Which component's size is affected by the frequency of operation of the convertor?

A. Transformer

B. Transistor and transformer

C. Capacitor

D. Capacitor and transformer

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936839**

Q.2 Troposphere is medium for

A. surface wave

B. guided wave

C. sky wave

D. space wave

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936789**

Q.3 If the gain of the loop system is doubled, the gain margin of the system is

A. not affected

B. doubled

C. halved

D. one fourth of original value

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936838**

Q.4 The voltage gain of an amplifier without feedback is 3000 and feedback factor is 0.01. The voltage gain of the amplifier with negative feedback is

A. 50
B. 45
C. 97
D. 75

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936818**

Q.5 If the reference sound pressure level is $2x10^{-5}$ N/m^2, then the sound pressure of 90dB will be equal to

A. 0.632 N/m^2

B. 0.707 N/m^2

C. 0.835 N/m^2

D. 0.925 N/m^2

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936813**

Q.6 The energy gap between valence and conduction bands in insulators is about

A. 15 eV
B. Zero
C. 1.5 eV
D. 0.5 eV

Ans ✔ 1. A
✘ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936797**

Q.7 Match List I & II and select correct answer using the code given below:

List I (Types of Antenna)	List II (example)
a. Aperture antenna	1. Helical antenna
b. circularly polarized antenna	2. Point source
c. Frequency independent antenna	3. Log periodic antenna
d. Isotropic antenna	4. Microstrip antenna

Code:	a	b	c	d
A.	3	2	4	1
B.	4	1	3	2
C.	3	1	4	2
D.	4	2	3	1

Ans ✘ 1. A
✔ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936855**

Q.8 A DIAC is nothing else but a

A. TRIAC without the gate terminal
B. GTO with two gates
C. SCR with one gate
D. Transistor with one junction

Ans ✔ 1. A
✘ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936811**

Q.9 By measuring the VSWR values in the main and ancillary waveguide of a directional coupler, we can determine its

A. phase co-relation and efficiency

B. frequency shift and phase variations

C. attenuation and radiation efficiency

D. directivity and coupling factor

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936834**

Q.10 The drain gate capacitance of a junction FET is 2pF. Assuming a common source voltage gain of 20, what is the input capacitance due to Miller effect?

A. 21pF

B. 40pF

C. 42pF

D. 10pF

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936851**

Q.11 For a given op-amp, CMRR = 10^5 and differential gain = 10^5 . What is the common mode gain of the op-amp?

A. 10^{10}

B. 2×10^5

C. 10^5

D. 1

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936848**

Q.12 The actual gain of the parabolic antenna of diameter D=10m can be approximated by $G = 2\pi (D/\lambda)^2$. What is the effective area of the antenna?

A. 100 m^2

B. 75 m^2

C. 50 m^2

D. 25 m^2

Ans ✗ 1. A

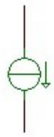
✗ 2. B

✓ 3. C

✗ 4. D

Question ID : **5834936810**

Q.13 The symbol shown in the figure is having very high _____ compared with external load impedance



A. Internal impedance

B. Z_o

C. Output Admittance

D. Capacitance

Ans ✓ 1. A

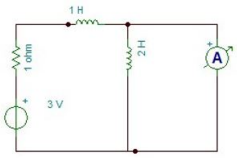
✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936824**

Q.14 The steady state current through the 1H inductor in the circuit shown in the given figure



A. zero

B. 3A

C. 5A

D. 6A

Ans ✗ 1. A

✓ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936809**

Q.15 The precision of an instrument indicates its ability to reproduce a certain reading with a given

A. drift

B. resolution

C. shift

D. consistency

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936857**

Q.16 λ/4 transformer is used for

A. high loads

B. high frequency load

C. reducing distortion in transmission losses

D. connecting high impedance loads to low impedance loads

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936800**

Q.17 Which statement is correct?

Rectangular coaxial line can support

A. only TEM mode of propagation

B. both TEM and TE modes of propagation

C. either TE or TM mode of propagation

D. TEM, TE or TM mode of propagation

Ans
✔ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936840**

Q.18 Signal flow graph is a

A. semilog graph

B. log-log graph

C. topological representation of a set of differential equations

D. a special type of graph for analysis of modern control system

Ans
✗ 1. A
✗ 2. B
✔ 3. C
✗ 4. D

Question ID : **5834936784**

Q.19 A uniformly spaced linear array of identical radiators having uniform amplitude of excitation and linear phase variation with non-zero gradient will produce

A. pencil beam at broadside

B. Fan beam

C. Scanned cosecant beam

D. Scanned pencil beam

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936831**

Q.20 High frequency inductors and capacitors are commonly plated with silver. The main purpose of this is to

A. reduce their dc resistances

B. reduce their ac resistances

C. increase their ac resistances

D. increase their dc resistances

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936782**

Q.21 Which is the most important sub-system for recovering and reconstructing signals in a TDM system?

A. envelop detector followed by a low pass filter

B. synchronization circuit for proper timing

C. band pass filter to segregate channels

D. coherent detector to ensure frequency and phase correction

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936783**

Q.22 Which of the following are the advantages of a fibre optic link over a conventional copper wire link? Select the correct answer using the given below

1. A FO link has greater bandwidth
2. A FO link has lower cost
3. A FO link is immune to cross talk
4. A FO link is easy to split

A. 1 and 2

B. 1 and 3

C. 2 and 3

D. 1 and 4

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936850**

Q.23 Skin depth at 1000MHz in comparison with that at 500MHz is

A. 2

B. $\sqrt{2}$

C. $1/\sqrt{2}$

D. 1/2

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936860**

Q.24 On modulating a carrier of frequency f_c by an audio signal f_s, the following components have resulted: f_c, $f_c + f_s$, $f_c - f_s$. What is this type of modulation likely to be?

A. amplitude modulation

B. single side band modulation

C. frequency modulation only

D. amplitude modulation or frequency modulation

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936786**

Q.25 Quantising noise can be reduced by increasing the

A. Number of standard quantum levels

B. Sampling rate

C. Bandwidth

D. All of the above

Ans ✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936821**

Q.26 A square wave signal was applied to an amplifier with a poor low frequency response. The output waveform had

A. distorted flat-top portion

B. distorted vertical edges

C. not suffered any distortion

D. been converted into a triangular waveform

Ans ✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936841**

Q.27 A CE amplifier has R_L = 10 KΩ. Given h_{ie} = 1 KΩ, h_{fe} = 50, h_{re} = 0 and $1/h_{oe}$ = 40 KΩ. What is voltage gain?

A. -500

B. -400

C. -50

D. -40

Ans ✗ 1. A

✔ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936858**

Q.28 One of the following microwave diodes is suitable for very low power oscillator only.

A. Tunnel

B. Gunn

C. IMPATT

D. LSA

Ans
✔ 1. A
✘ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936832**

Q.29 Match List I & II and select correct answer using the code given below:

List I	List II
a. VSWR meter	1. Antenna measurements
b. T-R tube	2. Microwave power measurements
c. Reciprocity theorem	3. Duplexer
d. Bolometer	4. Reflection coefficient measurement

Code:	a	b	c	d
A.	4	1	3	2
B.	2	3	1	4
C.	4	3	1	2
D.	2	1	3	4

Ans
✘ 1. A
✘ 2. B
✔ 3. C
✘ 4. D

Question ID : **5834936856**

Q.30 Electronic instruments used in aircrafts operate on higher frequencies to

A. increase their life

B. enhance their accuracy and efficiency

C. make them lighter in weight

D. none of these

Ans
✘ 1. A
✘ 2. B
✔ 3. C
✘ 4. D

Question ID : **5834936837**

Q.31 A tuned amplifier has a voltage gain of 100 and a bandwidth of 10KHz at 500KHz. It is required to increase the bandwidth to 20KHz. This can be achieved by which one of the following ways?

A. by doubling the gain

B. by doubling the resonant frequency

C. by halving the Q of the coil

D. by halving the power supply voltage

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936849**

Q.32 Which one of the following quantities has the same dimension in both the electromagnetic and electrostatic systems?

1. Current

2. Electrical energy

3. Electrical power

A. 1, 2 and 3

B. 1and 2

C. 1and 3

D. 2 and 3

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936793**

Q.33 A parallel plate capacitor has an electrode area of $100mm^2$, with a spacing of 0.1 mm between the electrodes. The dielectric between the plates is air with a permittivity of 8.854×10^{-12} F/m. The charge on the capacitor is 100 V. The stored energy in the capacitor is

A. 8.85 pJ
B. 440 μJ
C. 22.1 nJ
D. 44.3 nJ

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936825**

Q.34 With negative feedback in a closed loop control system, the system sensitivity to parameter variations

A. increases

B. decreases

C. becomes zero

D. becomes infinite

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936836**

Q.35 Semiconductor diode used in switching circuits at Microwave range is

A. PIN diode

B. Varactor diode

C. Tunnel diode

D. Gunn diode

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936791**

Q.36 Distortion in the transmission of carrier frequency in an underground cable can be eliminated by using

A. inductive loading

B. capacitive loading

C. resistive loading

D. shielding

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936790**

Q.37 Which one of the following causes phase shift through an op-amp?

A. internal RC circuits

B. external RC circuits

C. negative feedback

D. gain roll-off of the internal transistor

Ans
✔ 1. A
✘ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936796**

Q.38 Operating point shift can occur in an amplifier due to which one of the following?

A. input frequency variation

B. noise at the input

C. parasitic capacitances

D. power supply fluctuation

Ans
✘ 1. A
✘ 2. B
✔ 3. C
✘ 4. D

Question ID : **5834936795**

Q.39 Which one of the following is correct?

A. coding reduces the noise in the signal

B. coding increases the information rate

C. coding increases the channel bandwidth

D. coding deliberately introduces redundancy into messages

Ans
✔ 1. A
✘ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936853**

Q.40

A second condition for the oscillator is

A. A gain of one around the feedback loop

B. No gain around the feedback loop

C. The attenuation of the feedback circuit must be 1/3

D. The feedback must be capacitive

Ans

✔ 1. A

✘ 2. B

✘ 3. C

✘ 4. D

Question ID : **5834936815**

Q.41 In a PCM system, the numbers of quantization level are 16 and the maximum signal frequency is 4 KHz. The bit transmission rate is

A. 64Kbits/sec

B. 16Kbits/sec

C. 32Kbits/sec

D. 8Kbits/sec

Ans

✘ 1. A

✔ 2. B

✘ 3. C

✘ 4. D

Question ID : **5834936802**

Q.42 When the reflection coefficient equals 1, what is the VSWR?

A. zero

B. 1

C. 3

D. infinite

Ans

✘ 1. A

✘ 2. B

✘ 3. C

✔ 4. D

Question ID : **5834936799**

Q.43 The forward path transfer function of a unity feedback system is given by

$$G(S) = \frac{1}{(1+S)^2}$$

What is the phase margin for this system?

A. -π rad

B. 0 rad

C. π/2 rad

D. π rad

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936852**

Q.44 Ultra violet radiation is emitted when electron jump from an outer stationary orbit to

A. first stationary orbit

B. second stationary orbit

C. third stationary orbit

D. fourth stationary orbit

Ans
✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936814**

Q.45 Pulses of definite width can be obtained from irregular shaped pulses

A. when it is given as input to a monostable multivibrator

B. when it is given as triggering signal to a bistable multivibrator

C. when it is used as input to a Schmitt trigger

D. when it is used as input to a pulse transformer

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936846**

Q.46 Superposition theorem is applicable to a linear network in determining

1. the current responses
2. the voltage responses
3. the power responses

which of the statements given above are correct?

A. 1 and 2

B. 1,2 and 3

C. 1 and 3

D. 2 and 3

Ans ✔ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936845**

Q.47 If the carrier modulated by a digital bit stream had one of the possible phases of 0^0, $90^{0,}$ 180^0 and 270^0 then the modulation is called

A. BPSK

B. QPSK

C. QAM

D. MSK

Ans ✗ 1. A
✔ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936801**

Q.48 In a PCM system, if we increase the quantization levels from 2 to 8, how do the relative bandwidth requirements vary?

A. doubled

B. tripled

C. remain same

D. eight times

Ans ✗ 1. A
✔ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936798**

Q.49

The phase velocity of waves propagating in a hollow metal waveguide is

A. Greater than velocity of light in free space

B. Less than velocity of light in free space

C. Equal to velocity of light in free space

D. Equal to group velocity

Ans

✔ 1. A

✘ 2. B

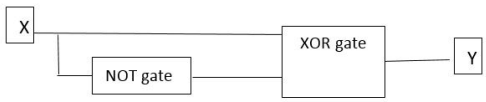
✘ 3. C

✘ 4. D

Question ID : **5834936827**

Q.50

The output Y of the logic circuit given below is



A. 1

B. 0

C. X

D. X'

Ans

✔ 1. A

✘ 2. B

✘ 3. C

✘ 4. D

Question ID : **5834936822**

Q.51

A series RLC circuit has a resonance frequency of 1 KHz and a quality factor Q=100. If each of R, L, C doubled from its original value. The new quality factor Q of the circuit is

A. 25

B. 50

C. 100

D. 200

Ans

✘ 1. A

✔ 2. B

✘ 3. C

✘ 4. D

Question ID : **5834936826**

Q.52 In general, attenuation per unit length in a coaxial cable

A. increases with frequency

B. decreases with frequency

C. remains constant with frequency

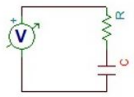
D. depends upon the coaxial cable. It can either increase or decrease.

Ans
✔ 1. A
✘ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936859**

Q.53 The circuit shown in the figure is excited by V δ(t). The peak voltage of the capacitor is

V δ(t)



A. ∞

B. V

C. V/RC

D. none of the above

Ans
✘ 1. A
✘ 2. B
✔ 3. C
✘ 4. D

Question ID : **5834936805**

Q.54 What is the value of directivity of an isotropic antenna?

A. 1 dB

B. 0

C. 4π dB

D. $\pi/2$ dB

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936835**

Q.55 The information capacity (bits/sec) of a channel with bandwidth C and transmission time T is given by

A. $C \alpha \omega T$

B. $C = \omega/T$

C. $C = T/\omega$

D. $C = \omega^2 T$

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936785**

Q.56 In high quality audio amplifiers, maximum acceptable total harmonic distortion is

A. 10%

B. 90%

C. 0.7%

D. 0.1%

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936842**

Q.57 A phase lead compensating network consists of only capacitors and resistors. The locations of its pole and zero in s-plane are at P_C & Z_C respectively. Which of the following conditions must be satisfied?

A. both P_C & Z_C in LHS and $P_C < Z_C$

B. both P_C & Z_C in LHS and $P_C > Z_C$

C. P_C in LHS and Z_C can be in RHS

D. Z_C in LHS and P_C can be in RHS

Ans ✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936847**

Q.58 The full duplex round-trip delay through a synchronous satellite is approximately

A. 300mSec

B. 550mSec

C. 600mSec

D. 800mSec

Ans ✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936792**

Q.59 If the receiving antenna is polarized at 90^0 with respect to transmitting antenna it will receive

A. no signal

B. maximum signal

C. minimum signal

D. none of these

Ans ✓ 1. A
✗ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936806**

Q.60 To serially shift a byte of data into a shift register there must be

A. One clock pulse

B. One load pulse

C. Eight clock pulses

D. One clock pulse for each one in the data

Ans ✗ 1. A

✗ 2. B

✓ 3. C

✗ 4. D

Question ID : **5834936820**

Q.61 The input impedance of short circuited lossless transmission line quarter wavelength is

A. Purely reactive

B. Purely resistive

C. Infinity

D. Dependent on the characteristic impedance of the transmission line

Ans ✗ 1. A

✗ 2. B

✓ 3. C

✗ 4. D

Question ID : **5834936828**

Q.62 Which one of the following blocks is not common in both AM and FM receiver?

A. RF amplifier

B. Mixer

C. IF amplifier

D. slope detector

Ans ✗ 1. A

✗ 2. B

✗ 3. C

✓ 4. D

Question ID : **5834936787**

Q.63 An inductive pick up is used to measure speed of a shaft on which a 120-tooth wheel is attached. The number of pulses produced per second is 3000. What is RPM of the shaft?

A. 1500

B. 1800

C. 3000

D. 3600

Ans ✔ 1. A

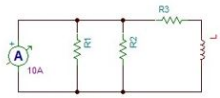
✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936830**

Q.64 The time constant of the network shown in the given figure is given by



A. $\frac{L}{R3+\frac{R1R2}{R1+R2}}$

B. $\frac{L}{R3+R1+R2}$

C. $\frac{L}{\frac{1}{R1}+\frac{1}{R2}+\frac{1}{R3}}$

D. $\frac{L}{\frac{R1R2}{R1+R2}}$

Ans ✔ 1. A

✗ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936804**

Q.65 Match List I & II and select correct answer using the code given below:

List I	List II
a. World wide telegraphy	1. 30 – 300KHz
b. Navigation	2. 3 – 30MHz
c. Broadcasting	3. 3 – 30KHz
d. Beamed communication services	4. 0.3 – 3MHz

Code:	a	b	c	d
A.	3	2	1	4
B.	3	1	4	2
C.	2	1	4	3
D.	1	3	4	2

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936807**

Q.66 Which of the following features are offered by a bipolar junction transistor amplifier in Darlington connection?

1. high voltage gain
2. high input impedance
3. high current gain

A. 1 and 2 only

B. 2 and 3 only

C. 1 and 3 only

D. 1, 2 and 3

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936788**

Q.67 What is the minimum number of NAND gates required to implement $A + A\,B^{-} + A\,B^{-}\,C$?

A. 0

B. 1

C. 4

D. 7

Ans
✔ 1. A
✘ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936844**

Q.68 Ripple factor is expressed as

A. $\sqrt{(V_{rms}^2 - V_{dc}^2)}$

B. $\sqrt{(I_{rms}^2 - I_{dc}^2)}$

C. $\sqrt{((V_{rms}/V_{dc})^2 - 1)}$

D. None of the above

Ans
✘ 1. A
✘ 2. B
✔ 3. C
✘ 4. D

Question ID : **5834936817**

Q.69 If a power supply has no load and full load voltages of 30 V and 25 V respectively, then percentage of voltage regulation is

A. 10%

B. 15%

C. 20%

D. 25%

Ans
✘ 1. A
✘ 2. B
✔ 3. C
✘ 4. D

Question ID : **5834936816**

Q.70 Which of the following statement(s) is/are true?

S1: In the case of an FET, there is no feedback from the output to input whereas in the case of BJT there is a feedback between the output and input circuits through the h_{re} parameter
S2: In case of BJT, there is no feedback from the output to the input, whereas in case of an FET there is a feedback between output and input circuits through the parameter g_m
S3: BJT is more ideal amplifier as compared to FET
S4: FET is more ideal amplifier as compared to BJT

Select the correct option

A. Both S1 and S4
B. Both S1 and S3
C. Both S2 and S3
D. Both S2 and S4

Ans ✔ 1. A
✘ 2. B
✘ 3. C
✘ 4. D

Question ID : **5834936819**

Q.71 Consider the following statements in connection with the biasing of semiconductor diodes

1. LED's are used under forward bias condition
2. Photodiodes are used under forward bias condition
3. Zener diodes are used under reverse bias condition
4. Variable capacitance diodes are used under reverse bias condition

Which of the following are correct

A. 1, 2 and 3
B. 1,2 and 4
C. 2,3 and 4
D. 1,3 and 4

Ans ✘ 1. A
✘ 2. B
✘ 3. C
✔ 4. D

Question ID : **5834936812**

Q.72 Group-1 lists four different semiconductor devices. Match each device in Group-1 with corresponding properties in Group-2

Group-1		Group-2	
P	BJT	1	Population Inversion
Q	MOSFET	2	Pinch-off voltage
R	LASER	3	Early effect
S	JFET	4	Flat band voltage

A. P-3, Q-1, R-4 and S-2
B. P-1, Q-4, R-3 and S-2
C. P-3, Q-4, R-1 and S-2
D. P-3, Q-2, R-1 and S-4

Ans ✘ 1. A
✘ 2. B
✔ 3. C
✘ 4. D

Question ID : **5834936808**

Q.73 If each stage had a gain of 10dB, and Noise Figure of 10dB, then the overall Noise figure of a two-stage cascade amplifier will be

A. 10.0

B. 1.09

C. 1.0

D. 10.9

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936803**

Q.74 For a npn bipolar transistor, what is the main stream of current in the base region?

A. drift of holes

B. diffusion of holes

C. drift of electrons

D. diffusion of electrons

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936794**

Q.75

Given below are three types of converters

1. successive approximation type
2. weighted resistor type
3. R-2R ladder type

Which one of the types are D to A converter?

A. only 1 and 2

B. only 2 and 3

C. only 1 and 3

D. 1, 2 and 3

Ans

✗ 1. A

✓ 2. B

✗ 3. C

✗ 4. D

Question ID : **5834936861**

Q.76

The purpose of a sync control in an oscilloscope is to

A. Set intensity level

B. Control brightness

C. Set the focus

D. Lock the signal

Ans

✗ 1. A

✗ 2. B

✗ 3. C

✓ 4. D

Question ID : **5834936823**

Q.77 Match List I & II and select correct answer using the code given below:

List I (Frequency response)	List II (Time response)
a. Bandwidth	1. Overshoot
b. Phase margin	2. Stability
c. Response peak	3. Speed of time response
d. Gain margin	4. Damping ratio

Code:	a	b	c	d
A.	3	2	1	4
B.	1	4	3	2
C.	3	4	1	2
D.	1	2	3	4

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936854**

Q.78

Correct match between Group-1 and Group-2

Group-1		Group-2	
P	$Ac\,[1+K\,m(t)]\sin(\omega_c t)$	W	Phase modulation
Q	$K\,m(t)\sin(2\pi f_c t)$	X	Frequency modulation
R	$A\sin[\omega_c t+K\,m(t)]$	Y	Amplitude modulation
S	$A\sin[\omega_c t + K\int m(t)dt]$ for t: $-\infty$ to t	Z	DSB-SC modulation

A. P-Z, Q-Y, R-X, S-W
B. P-W, Q-X, R-Y, S-Z
C. P-X, Q-W, R-Z, S-Y
D. P-Y, Q-Z, R-W, S-X

Ans
✗ 1. A
✗ 2. B
✗ 3. C
✓ 4. D

Question ID : **5834936829**

Q.79 Which one of the following is a disadvantage of proportional controller?

A. it destabilizes the system

B. it produces offset

C. it makes response faster

D. it has very simple implementation

Ans
✗ 1. A
✓ 2. B
✗ 3. C
✗ 4. D

Question ID : **5834936833**

Q.80 Match List I & II and select correct answer using the code given below:

List I (Quantity)	List II (Range of values)
a. input impedance	1. -1 to +1
b. reflection co-efficient	2. 1 to ∞
c. VSWR	3. 0 to ∞

Code:	a	b	c
A.	2	3	1
B.	3	2	1
C.	3	1	2
D.	2	1	3

Ans
✗ 1. A
✗ 2. B
✓ 3. C
✗ 4. D

Question ID : **5834936843**