



Uttar Pradesh Metro Rail Corporation Limited

उत्तर प्रदेश मेट्रो रेल कॉर्पोरेशन लिमिटेड

A joint Venture of Govt. of India and Govt. of Uttar Pradesh

Participant ID	
Participant Name	
Test Center Name	
Test Date	11/05/2024
Test Time	12:30 PM - 2:30 PM
Subject	Assistant Manager Operations

Section : Section A

Q.1 The Eigen values of the system indicates the:

- Ans A. poles in the right half of s plane only
 B. zeros in the right half only
 C. poles of the system
 D. zeros of the system

Question ID : 630680110482
 Status : Not Answered
 Chosen Option : --

Q.2 In which body of water is the Barren Island, an active volcano in India, situated?

- Ans A. Indian Ocean
 B. Andaman Sea
 C. Arabian Sea
 D. Bay of Bengal

Question ID : 630680776150
 Status : Not Answered
 Chosen Option : --

Q.3 In line with the Government of India's announcement in 2023, when will 'The Rashtriya Vigyan Puraskar' be declared annually?

- Ans A. 2nd October
 B. 30th January
 C. 15th August
 D. 11th May

Question ID : 630680776138
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.4 Find the divergence of $D = 2r \sin\theta \sin\phi \mathbf{a}_r + r \cos\theta \sin\phi \mathbf{a}_\theta + r \cos\phi \mathbf{a}_\phi$ at point P(3, 45°, -45°).

- Ans A. 4
 B. -2
 C. 2
 D. -4

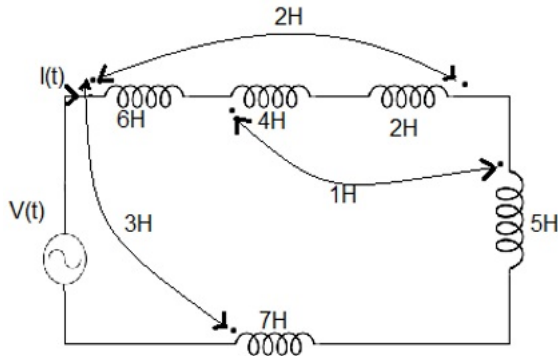
Question ID : 63068075876
 Status : Not Attempted and Marked For Review
 Chosen Option : --

- Q.5 Which of the following statements related to compensators is true?
- For a lead compensator, the pole is away from the origin compared to the zero in the s-plane.
 - For a lag compensator, zero is away from the origin compared to the pole in the s-plane.
 - The Proportional Integrator compensator and the lead compensator can be closely related.
 - The Proportional Derivative compensator and the lag compensator can be closely related.

Ans A. (a), (c) and (d) are true
 B. (b), (c) and (d) are true
 C. (a), (b), (c) and (d) are true
 D. (a) and (b) are true

Question ID : 63068093745
 Status : Answered
 Chosen Option : B

- Q.6 Study the given circuit and find L_{eq} (equivalent inductance).



Ans A. 28 H
 B. 24 H
 C. 16 H
 D. 32 H

Question ID : 630680117116
 Status : Answered
 Chosen Option : C

- Q.7 Below are given two sets of numbers. In each set of numbers, a certain mathematical operation on the first number results in the second number. Similarly, a certain mathematical operation on the second number results in the third number and so on. Which of the given operations follows the same set of operations as in question?

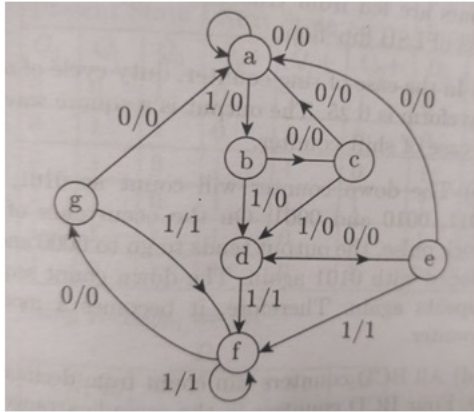
(NOTE – A two/three digit number cannot be broken into individual digits for operations. E.g., if 37 is followed by 10, the operation cannot be $3+7$ as a two digit number cannot be broken into individual digits.)

12 – 15 – 30 – 60; 15 – 18 – 36 – 72

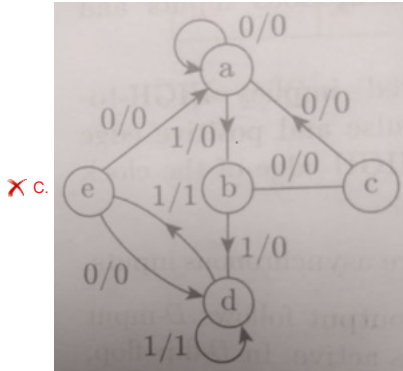
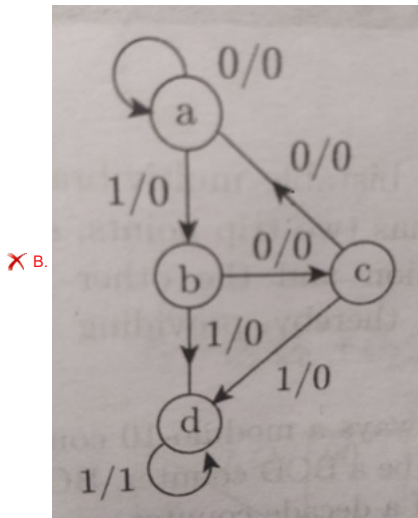
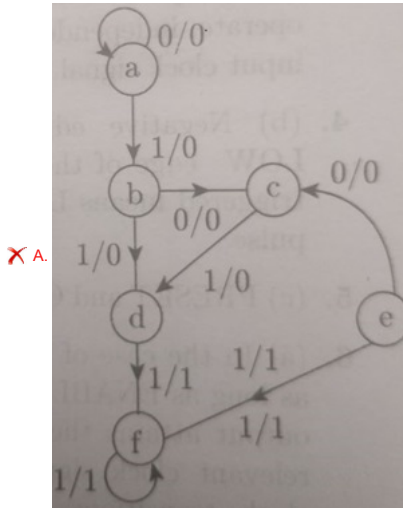
Ans A. 14 – 17 – 34 – 36
 B. 9 – 12 – 24 – 72
 C. 6 – 18 – 36 – 72
 D. 8 – 11 – 22 – 44

Question ID : 630680467207
 Status : Answered
 Chosen Option : D

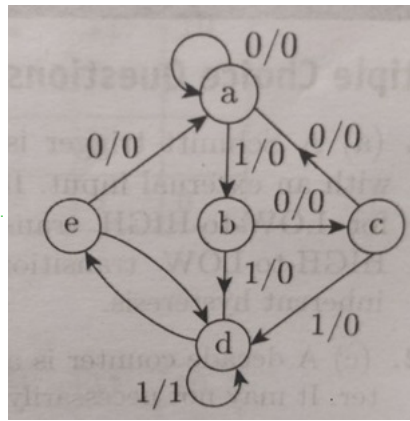
Q.8 What is the reduced state diagram of the below state diagram?



Ans



✓ D.



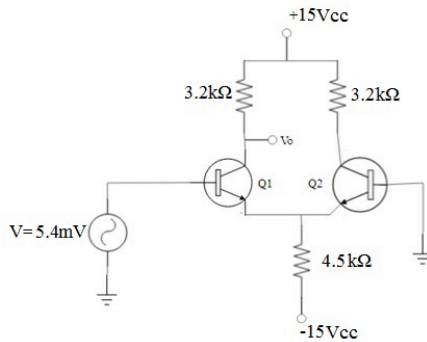
Question ID : 630680182171
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.9 For a minimal phase system:

- Ans
- A. It attains the Minimum gain at certain frequency
 - B. the phase attains a minimum value at a certain frequency
 - C. the phase does not attain a minimum value
 - D. the phase has inverse response initially in its time response to a step input

Question ID : 63068093731
 Status : Marked For Review
 Chosen Option : B

Q.10 With the given are the parameters $\beta = 110$ and $V_{BE} = 0.7$ V. Calculate the output impedance of the given circuit



- Ans
- A. 1.6 kΩ
 - B. 4.5 kΩ
 - C. 3.2 kΩ
 - D. 9 kΩ

Question ID : 630680117001
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.11 Find the cut-off frequency for an RC Low-Pass filter of $R = 8\text{k}\Omega$ and $C = 0.0046 \mu\text{F}$.

- Ans
- A. 2.16 kHz
 - B. 8.64 kHz
 - C. 4.32 kHz
 - D. 17.28 kHz

Question ID : 630680118608
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.12 A MOSFET common source amplifier has:

- Ans A. Voltage gain > 1 and moderate to high output resistance
- B. Voltage gain < 1 and low output resistance
- C. Voltage gain = 1 and low output resistance
- D. Voltage gain = 1 and low input resistance

Question ID : 630680743545
Status : Answered
Chosen Option : A

Q.13 Veer Savarkar was sentenced to 50 years in prison on April 8, 1911, for his role in the _____

- Ans A. Thane Conspiracy Case
- B. Nagpur Conspiracy Case
- C. Nashik Conspiracy Case
- D. Bombay Conspiracy Case

Question ID : 630680776145
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.14 XNOR is also known as _____.

- Ans A. a universal gate
- B. a basic comparator
- C. an adder
- D. a subtractor

Question ID : 630680103576
Status : Answered
Chosen Option : B

Q.15 Manoj has a few coins of 1 rupee, 50 paise and 25 paise in the ratio $\frac{1}{4} : \frac{1}{2} : \frac{1}{2}$. If the number of 25 paise coins is 100, then t

- Ans A. ₹75
- B. ₹120
- C. ₹125
- D. ₹100

Que:

Chosen

Q.16 In which Indian state is the Mahabodhi Temple, designated as a UNESCO World Heritage Site, situated?

- Ans A. Karnataka
- B. Assam
- C. Bihar
- D. Himachal Pradesh

Question ID : 630680776153
Status : Answered
Chosen Option : C

Q.17 In a 2K*4 PROM, how many programmable interconnections are possible?

- Ans A. 4
- B. 2052
- C. 2048
- D. 8192

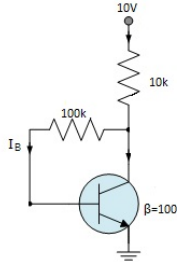
Question ID : 630680182179
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.18 Which of the following can be detected using an Envelope Detector?
(Where ω_m and ω_c are message signal and carrier frequency, respectively.)

- Ans A. $s(t) = 10(2 + \cos(\omega_m t)) \cos(\omega_c t)$
 B. $s(t) = 10\cos(\omega_m t) \cos(\omega_c t)$
 C. $s(t) = 10(1 + 2 \cos(\omega_m t)) \cos(\omega_c t)$
 D. $s(t) = 10 \cos(\omega_c t + 2 \cos(\omega_m t))$

Question ID : 630680146390
 Status : Answered
 Chosen Option : A

Q.19 Determine the DC bias values for the collector-feedback biasing circuit shown in the given figure.



- Ans A. 0.845 A, 0.155 V
 B. 0.845 mA, 1.55 V
 C. 8.45 A, 0.155 V
 D. 8.45 mA, 1.55 V

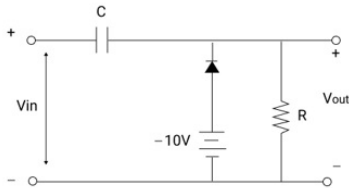
Question ID : 630680118571
 Status : Answered
 Chosen Option : B

Q.20 The equation $\nabla \times \vec{E} = - \frac{\partial \vec{B}}{\partial t}$ is based on _____.

- Ans A. Faraday's law
 B. Ampere's law
 C. Gauss's law
 D. Coulomb's law

Question ID : 630680176100
 Status : Answered
 Chosen Option : A

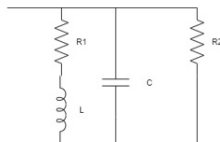
Q.21 In the given circuit, an input of square wave is given with the amplitude ranging between +4V and -16V. What would be the amplitude of the resultant wave?



- Ans A. -20 V and 0 V
 B. +10 V and -10 V
 C. -30 V and -10 V
 D. +30 V and +10 V

Question ID : 630680119947
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.22 In the RLC parallel circuit shown in the following figure, the bandwidth can be increased by:



- Ans
- A. increasing R1 and decreasing R2
 - B. increasing R1 and increasing R2
 - C. decreasing R1 and increasing R2
 - D. decreasing R1 and decreasing R2

Question ID : 630680117318
Status : Answered
Chosen Option : A

Q.23 Three of the following four pairs of letter-clusters are alike in some manner and hence form a group. Which pair does not belong to that group?

- Ans
- A. TW – OR
 - B. RU – MP
 - C. GJ – BE
 - D. JM – DG

Question ID : 630680344158
Status : Answered
Chosen Option : D

Q.24 Select the most appropriate option that can substitute the group of words.
A person who dislikes women

- Ans
- A. Misogynist
 - B. Patriot
 - C. Philistine
 - D. Fugitive

Question ID : 630680776135
Status : Answered
Chosen Option : A

Q.25 Pipe A can fill a tank in 6 hours, pipe B can fill the same tank in 36 hours and pipe C can fill the same tank in 18 hours. The time taken (in hours) by them to fill three-fourth of the same tank if they operate together is:

- Ans
- A. 6
 - B. 7
 - C. 3
 - D. 4

Question ID : 630680748300
Status : Answered
Chosen Option : C

Q.26 Select the most appropriate option to complete the sentence.
How do we know _____ time?

- Ans
- A. a
 - B. much
 - C. an
 - D. the

Question ID : 630680776121
Status : Answered
Chosen Option : D

Q.27 Consider a random process $X(t) = A + Bt$, where A and B are independent Random variables with A being a uniformly distributed between 0 and 5 and B being a Gaussian distributed with zero mean and variance 1. If $X(t)$ is sampled at time instant $t = 2$, then mean of $X(2)$ is:

- Ans
- A. 6.5
 - B. 4.5
 - C. 2.5
 - D. 2

Question ID : 630680146399
Status : Answered
Chosen Option : C

Q.28 In the truth table of 3 input NOR gate, only _____ number of times output will be high.

- Ans A. 1
 B. 8
 C. 2
 D. 7

Question ID : 630680103557
 Status : Answered
 Chosen Option : A

Section : Section B

Q.1 Which of the following statements are INCORRECT regarding the bridge rectifier?

Statements:

- 1) Bridge rectifier has larger PIV.
- 2) Bridge rectifier does not require centre tapped transformer.
- 3) Bridge rectifier has smaller TUF.
- 4) Bridge rectifier can be used as low voltage rectifier.

- Ans A. Statements 1 and 2
 B. Statements 1, 2 and 3
 C. Statements 1, 3 and 4
 D. Statements 2 and 4

Question ID : 630680119929
 Status : Answered
 Chosen Option : C

Q.2 Leaving out implied addressing mode, how many addressing modes are there in an 8085 microprocessor?

- Ans A. 4
 B. 2
 C. 3
 D. 5

Question ID : 630680182159
 Status : Answered
 Chosen Option : A

Q.3 Rakesh gets 6% increase in his sale amount in the first year and 25% in the second year, with that his present sale is ₹169600, what was his sale (in ₹) two years ago?

- Ans A. 160000
 B. 135680
 C. 128000
 D. 108000

Question ID : 630680748279
 Status : Answered
 Chosen Option : C

Q.4 Consider a signal $x(t) = \sin(2\pi ft + 30^\circ)$. The Hilbert transform of $x(t)$ is:

- Ans A. $x(t) = \sin(2\pi ft + 60^\circ)$
 B. $x(t) = \cos(2\pi ft - 30^\circ)$
 C. $x(t) = \sin(2\pi ft - 60^\circ)$
 D. $x(t) = \cos(2\pi ft + 30^\circ)$

Question ID : 630680146375
 Status : Answered
 Chosen Option : C

Q.5 In one second, a current of 20 A charges through a coil. If the induced EMF is 0.2 V, then find the self-inductance.

- Ans A. 10 mH
 B. 1 H
 C. 0.1 H
 D. 1 mH

Question ID : 630680170552
 Status : Answered
 Chosen Option : A

Q.6 How many registered outputs are there in PAL-16R4?

- Ans A. 16
 B. 64
 C. 12
 D. 4

Question ID : 630680132927
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.7 Which one is correct for S R Flip flop ?

- Ans A. $Q(n+1) = S'R + Q(n)R'$
 B. $Q(n+1) = S'R + Q'(n)R$
 C. $Q(n+1) = SR + Q(n)R$
 D. $Q(n+1) = S + Q(n)R'$

Question ID : 630680176336
 Status : Answered
 Chosen Option : D

Q.8 Seven people, F, R, A, N, C, E and S, are sitting around a circular table facing the centre. E sits immediately to the right of S. Only one person sits between E and A. Only F sits between S and R. C is not an immediate neighbour of R. Who are the immediate neighbours of C?

- Ans A. A and E
 B. S and A
 C. A and F
 D. S and N

Question ID : 630680546322
 Status : Answered
 Chosen Option : A

Q.9 Select the most appropriate meaning of the given idiom.
 Drive someone up the wall

- Ans A. Be the first to score against an opponent
 B. To treat someone with extreme care
 C. Drive in a very reckless manner
 D. Make someone very irritated or angry

Question ID : 630680776129
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.10 A parallel RLC circuit has $R = 10 \Omega$, $L = 5 \text{ mH}$ and $C = 5 \text{ mF}$. The resonant frequency ω_0 and Q are:

- Ans A. 1.592 rad/s; 31.84
 B. 200 rad/s; 10
 C. 10 rad/s, 200
 D. 31.84 rad/s; 1.592

Question ID : 630680117199
 Status : Answered
 Chosen Option : B

Q.11 Which river is commonly known as the "Southern Ganga" or "Dakshin Ganga"?

- Ans A. Narmada
 B. Godavari
 C. Kaveri
 D. Yamuna

Question ID : 630680776149
 Status : Not Answered
 Chosen Option : --

Q.12 Consider the following state space equation.

$$\dot{x} = \begin{bmatrix} 0 & k \\ -2k & -3k \end{bmatrix} x.$$

At $t = 1$, the value of $\phi(t)^{-1}$ is _____ and $k = 1$ [where $\phi(t)$ is state transition matrix]

- Ans
- A. $\begin{bmatrix} e^t & e^{-t} \\ e^{-t} & e^t \end{bmatrix}$
 - B. $\begin{bmatrix} 2e^t - e^{-2t} & e^t - e^{2t} \\ 2e^t - 2e^{-2t} & -e^t + 2e^{2t} \end{bmatrix}$
 - C. $\begin{bmatrix} -e^t + 2e^{2t} & e^t - e^{2t} \\ -2e^t + 2e^{2t} & 2e^t - e^{2t} \end{bmatrix}$
 - D. $\begin{bmatrix} 2e^t - e^{2t} & e^t - e^{2t} \\ -2e^t + 2e^{2t} & -e^t + 2e^{2t} \end{bmatrix}$

Question ID : 630680110786
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.13 The band gap of GaAsp is 1.98 eV. The colour of radiation during recombination will be:

- Ans
- A. blue
 - B. orange
 - C. violet
 - D. red

Question ID : 63068063837
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.14 If the transfer function of a filter is given by $T(s) = \frac{K(s-2)}{(s+2)}$, then the characteristic of the filter resembles to:

- Ans
- A. a notch filter
 - B. a band-stop filter
 - C. an all-pass filter
 - D. a band-pass filter

Question ID : 630680117313
Status : Answered
Chosen Option : C

Q.15 The diameter of the base of a right circular cone is 56 cm. If its curved surface area is 3080 cm², then the height of the right circular cone is equal to:

(Take $\pi = \frac{22}{7}$)

- Ans
- A. 21 cm
 - B. 24 cm
 - C. 30 cm
 - D. 27 cm

Question ID : 630680373899
Status : Answered
Chosen Option : A

Q.16 For an electric field in free space, $E = 20 \cos(10^5 t + \beta x) \mathbf{a}_y$ V/m. The direction of wave propagation would be:

- Ans
- A. $-\mathbf{a}_x$
 - B. $-\mathbf{a}_z$
 - C. \mathbf{a}_y
 - D. \mathbf{a}_x

Question ID : 63068075806
Status : Answered
Chosen Option : A

Q.17 What should come in place of the question mark (?) in the given series?

22, 36, 50, 64, 78, ?

- Ans A. 90
 B. 92
 C. 93
 D. 91

Question ID : 630680531731
 Status : Answered
 Chosen Option : B

Q.18 Consider a random variable X having probability density function as:

$$f_X(x) = \begin{cases} \frac{1}{10} & \text{for } 0 \leq x \leq 10 \\ 0 & \text{otherwise} \end{cases}$$

Probability P (X = 5) is:

- Ans A. 0
 B. 0.5
 C. not possible to be determined
 D. 1

Question ID : 63068064055
 Status : Answered
 Chosen Option : A

Q.19 XY + YZ + ZX is a form of _____.

- Ans A. POS
 B. EX-OR
 C. SOP
 D. NOR

Question ID : 630680103540
 Status : Answered
 Chosen Option : C

Q.20 For a unity feedback system with the open-loop minimum-phase system transfer function $G(s) = \frac{K}{s(s+1)(s+2)}$, the root locus intersects the imaginary axis at:

- Ans A. S = 0.44, S = -0.44
 B. S = -1.44, S = +1.44
 C. S = 2, S = -2
 D. S = +1, S = -1

Question ID : 630680402885
 Status : Answered
 Chosen Option : B

Q.21 In a single stage CE amplifier, $R_L=500$ ohms, $h_{fe}=100$, $g_m=100$ mA/V, $C_c=1$ pF and $f_T=400$ MHz. Calculate C_e .

- Ans A. 39.8 pF
 B. 59.8 pF
 C. 29.3 pF
 D. 49.6 pF

Question ID : 630680117157
 Status : Answered
 Chosen Option : D

Q.22 Which Indian cave complex is celebrated for its distinctive rock-cut architecture and is also referred to as the "Verul Leni"?

- Ans A. Udayagiri and Khandagiri Caves
 B. Kanheri Caves
 C. Ellora Caves
 D. Bhimbetka Caves

Question ID : 630680776154
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.23 NAND gate is a combination of the ____ gate followed by the ____ gate.

- Ans A. OR; NOT
 B. AND; NOT
 C. NOT; OR
 D. NOT; AND

Question ID : 630680103552
 Status : Answered
 Chosen Option : B

Q.24 In March 2024, which organization introduced the Signals Technology Evaluation and Adaptation Group (STEAG), a pioneering unit focused on investigating advanced communication technologies?

- Ans A. Airport Authority of India
 B. Indian Army
 C. Indian Railway
 D. Indian Space Research Organisation

Question ID : 630680776139
 Status : Answered
 Chosen Option : D

Q.25 Given $H_1 = -2a_x + 6a_y + 4a_z$ A/m in region $y - x - 2 \leq 0$ where $\mu_1 = 5 \mu_0$.
 Find H_2 in region $y - x - 2 \geq 0$ where $\mu_2 = 2 \mu_0$.

- Ans A. $-2a_x - 8a_y + 4a_z$ A/m
 B. $-4a_x + 6a_y - 4a_z$ A/m
 C. $-2a_x + 6a_y + 4a_z$ A/m
 D. $-8a_x + 12a_y + 4a_z$ A/m

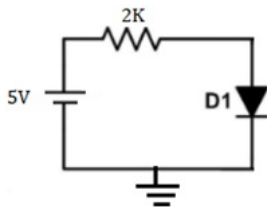
Question ID : 63068075879
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.26 The Abhinav Bharat Society, also recognized as the Young India Society, was an underground organization established in ____

- Ans A. 1906
 B. 1914
 C. 1904
 D. 1902

Question ID : 630680776146
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.27 For the circuit shown below, determine the diode voltage by using a piecewise linear model, assuming the parameters as $V_f = 0.6$ V and $r_f = 10 \Omega$.



- Ans A. 6.22 mV
 B. 0.622 mV
 C. 0.622 V
 D. 6.22 V

Question ID : 630680166515
 Status : Answered
 Chosen Option : C

Q.28 Select the most appropriate option to complete the sentence.
Many cultures were once nomadic, _____ these days numbers are smaller, though there are still 30 to 40 million nomads in the world.

- Ans
- A. because
 - B. that
 - C. else
 - D. but

Question ID : 630680776125
Status : Marked For Review
Chosen Option : D

Section : Section C

Q.1 Consider a binary PAM wave that needs to be transmitted over a baseband channel with an absolute maximum bandwidth of 75 KHz. If the bit duration is 10 μ sec, then the roll-off factor is:

- Ans
- A. 0.25
 - B. 0.75
 - C. 0.5
 - D. 1

Question ID : 63068064084
Status : Answered
Chosen Option : C

Q.2 Excess-3 code of any decimal number is obtained by adding _____ in the binary equivalent of that number.

- Ans
- A. 1001
 - B. 0110
 - C. 0010
 - D. 0011

Question ID : 630680103563
Status : Answered
Chosen Option : D

Q.3 A step index fibre has a core refractive index of 1.62, 80 μ m core diameter and NA (numerical aperture) of 0.21. At a wavelength of 0.8 μ m, determine the number of modes that can propagate through the fibre.

- Ans
- A. 2076 modes
 - B. 2176 modes
 - C. 2100 modes
 - D. 3176 modes

Question ID : 63068075821
Status : Not Attempted and Marked For Review
Chosen Option : --

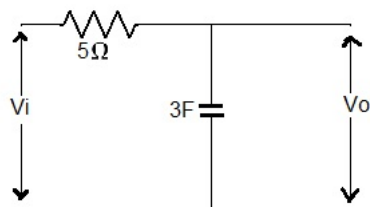
Q.4 Which of the following signals is a power signal?

1. $\cos(15\pi t) u(t) u(30 - t)$
2. $e^{j(6t + \pi/8)}$
3. $\cos(\pi n/2)$

- Ans
- A. Both 2 and 3
 - B. Only 2
 - C. Only 3
 - D. Only 1

Question ID : 63068081295
Status : Answered
Chosen Option : B

Q.5 Calculate transfer function for the given circuit.



- Ans
- A. $\frac{15}{S+15}$
- B. $\frac{1}{15(S+15)}$
- C. $\frac{1}{15(S+1/15)}$
- D. $\frac{1}{(S+15)}$

Question ID : 630680118611
Status : Answered
Chosen Option : C

Q.6 The expressions for difference and borrow for a half subtractor are _____.

- Ans A. Difference = A XOR B; Borrow = A'.B
- B. Difference = A XNOR B; Borrow = A.B
- C. Difference = A XNOR B; Borrow = A'.B
- D. Difference = A XOR B; Borrow = A.B

Question ID : 630680103570
Status : Answered
Chosen Option : A

Q.7 What is the smallest unit of data that can be stored in memory?

- Ans A. Bit
- B. Kilo bit
- C. Kilo byte
- D. Byte

Question ID : 630680182175
Status : Marked For Review
Chosen Option : A

Q.8 Consider the following statements.

- S1: Theoretical bandwidth of an angle modulated signal is infinity.
S2: Message signal is preserved in angle modulated signal if it passes through nonlinear system.
S3: Narrow band FM has bandwidth nearly equal to an AM signal modulated with same message signal.

Which of the given statements is/are correct?

- Ans A. S1, S2 and S3
- B. Only S2 and S3
- C. Only S1 and S3
- D. Only S1 and S2

Question ID : 630680146391
Status : Marked For Review
Chosen Option : C

Q.9 Two coupled inductive coils are connected in parallel. The self-inductances of these coils are L_1 and L_2 and the mutual inductance is M . The equivalent inductance is expressed as:

- Ans A. $(L_1L_2 + M^2) / (L_1 + L_2 \pm 2M)$
- B. $(L_1 + L_2 \pm 2M)$
- C. $(L_1L_2 - M^2) / (L_1 + L_2 \pm 2M)$
- D. $(L_1L_2 - M^2) / (L_1 + L_2)$

Question ID : 630680199407
Status : Marked For Review
Chosen Option : C

Q.10 Select the most appropriate meaning of the given idiom.
In the soup

- Ans A. Well informed
 B. To feel uncomfortable
 C. Just in time
 D. To be in trouble

Question ID : 630680776133
 Status : Not Attempted and
 Marked For Review
 Chosen Option : --

Q.11 The distance (in m) a wave must propagate in a medium having a skin depth of 0.2 m so that the amplitude of the wave attenuates by 20 dB is:

- Ans A. 0.2
 B. 4.6
 C. 0.46
 D. 0.02

Question ID : 630680176101
 Status : Answered
 Chosen Option : C

Q.12 Which entity, established in 2023, endeavors to initiate, nurture, and advance research and development (R&D) while cultivating a culture of research and innovation across India's universities, colleges, research institutions, and R&D laboratories?

- Ans A. Anusandhan National Research Foundation
 B. National Research Foundation
 C. Bharatiya Anusandhan and Vigyan Foundation
 D. Anusandhan and Vigyan Foundation

Question ID : 630680776140
 Status : Not Attempted and
 Marked For Review
 Chosen Option : --

Q.13 If the value of $I_0 = 2 \mu\text{A}$ at 10°C , what is the value of I_0 at 90°C ?

- Ans A. $5.12 \times 10^{-4} \text{ A}$
 B. $2.3 \times 10^{-4} \text{ A}$
 C. $4.62 \times 10^{-4} \text{ A}$
 D. $3.25 \times 10^{-4} \text{ A}$

Question ID : 63068063835
 Status : Answered
 Chosen Option : A

Q.14 Select the most appropriate option to complete the sentence.
Mark your progress _____ each goal.

- Ans A. about
 B. for
 C. into
 D. since

Question ID : 630680776124
 Status : Marked For Review
 Chosen Option : B

Q.15 In a certain code language,
 A % B means 'A is the father of B',
 A @ B means 'A is the brother of B',
 A # B means 'A is the mother of B',
 and A & B means 'A is the wife of B'.

How is P related to T, if 'P # R @ I % N & T'?

- Ans A. Wife's father's father
 B. Wife's father's mother
 C. Wife's father
 D. Wife's father's sister

Question ID : 630680585206
 Status : Answered
 Chosen Option : B

Q.16 Ignoring the time required for latching to input, for 4 MHz clock, if a pipelined processor is preferred over a non-pipelined processor, then what is the speed up ratio if there are 5 stages and 8 input tasks?

- Ans
- A. 0.325
 - B. 0.33
 - C. 3.076
 - D. 3.33

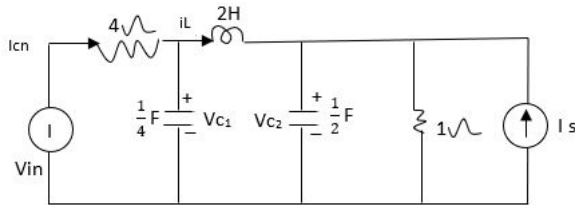
Question ID : 630680132900
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.17 $(110011001)_2 = (\text{_____})_8$

- Ans
- A. 413
 - B. 414
 - C. 134
 - D. 631

Question ID : 630680103533
 Status : Answered
 Chosen Option : D

Q.18 For the given multi-input system, the matrices A, B are:



$$\begin{bmatrix} \frac{dV_{c1}}{dt} \\ \frac{dV_{c2}}{dt} \\ \frac{di_L}{dt} \end{bmatrix} = A \begin{bmatrix} V_{c1} \\ V_{c2} \\ i_L \end{bmatrix} + B \begin{bmatrix} V_{in} \\ I_s \end{bmatrix}$$

- Ans
- A. $\begin{bmatrix} 1 & 0 & 4 \\ 0 & 2 & -2 \\ -0.5 & 0.5 & 0 \end{bmatrix}, \begin{bmatrix} 1 & 0 \\ 0 & 2 \\ 0 & 0 \end{bmatrix}$
 - B. $\begin{bmatrix} -1 & 0 & -4 \\ 0 & -2 & 2 \\ 0.5 & -0.5 & 0 \end{bmatrix}, \begin{bmatrix} 1 & 0 \\ 0 & 2 \\ 0 & 0 \end{bmatrix}$
 - C. $\begin{bmatrix} -1 & 0 & 0.5 \\ 0 & -2 & -0.5 \\ -4 & 2 & 0 \end{bmatrix}, \begin{bmatrix} 1 & 0 \\ 0 & 2 \\ 0 & 0 \end{bmatrix}$
 - D. $\begin{bmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & 1 \end{bmatrix}, \begin{bmatrix} 1 & 0 \\ 0 & 1 \\ 0 & 0 \end{bmatrix}$

Question ID : 630680110781
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.19 Assuming perfect conductors of a transmission line, pure TEM propagation is NOT supported by the:

- Ans
- A. cylindrical waveguide
 - B. parallel twin-wire line in air
 - C. semi-infinite parallel-plate waveguide
 - D. coaxial cable

Question ID : 63068063871
 Status : Marked For Review
 Chosen Option : A

Q.20 A shunt regulator made with a Zener diode with a shunt resistance of $3\ \Omega$ is fed through a resistor of $20\ \Omega$. If the supply voltage changes by $2.5\ \text{V}$, what will be the corresponding change in the regulated output voltage?

- Ans
- A. 3.260 V
 - B. 0.236 V
 - C. 0.326 V
 - D. 2.360 V

Question ID : 630680166517
Status : Answered
Chosen Option : C

Q.21 If the OLTF of a control system is given as $\frac{K}{S(S+2)(S+10)}$, select the correct option relating to transfer function.

- Ans
- A. Nyquist plot encircles $(-1, 0)$ point once in the anticlockwise direction
 - B. Nyquist plot encircles $(-1, 0)$ point in the clockwise direction
 - C. Nyquist plot encircles $(-1, 0)$ point twice in the anticlockwise direction
 - D. Nyquist plot never encircles $(-1, 0)$ point

Question ID : 630680140171
Status : Answered
Chosen Option : A

Q.22 At what rate (in percentage) per annum will a sum of money 5 times itself in 20 years on simple interest?

- Ans
- A. 20
 - B. 25
 - C. 22
 - D. 18

Question ID : 630680748270
Status : Answered
Chosen Option : A

Q.23 The ratio of curved surface area to the total surface area of a solid cylinder with height equal to its radius is _____.

- Ans
- A. 1 : 2
 - B. 3 : 4
 - C. 1 : 4
 - D. 2 : 3

Question ID : 630680373860
Status : Answered
Chosen Option : A

Q.24 Apart from the iconic minaret, the Qutub Minar complex in Delhi encompasses various structures. Which of the following monuments is not among them?

- Ans
- A. Gulzar Houz
 - B. Tomb of Shams al-Din Iltutmish
 - C. Quwwat-ul-Islam Mosque
 - D. Iron pillar

Question ID : 630680776157
Status : Not Answered
Chosen Option : --

Q.25 Which of the following statements is NOT correct about the compensator?

- Ans
- A. Settling time is reduced due to use of the lead compensator
 - B. Steady-state error is reduced by using the lag compensator
 - C. Lag compensator is used to stabilise the system and it always stabilises the unstable system
 - D. Lead compensator is used to increase the order of the system

Question ID : 630680146556
Status : Marked For Review
Chosen Option : C

Q.26 Who led the Chittagong Armoury Raid in 1930?

- Ans A. Matangini Hazra
 B. Jatindranath Mukherjee
 C. Surya Sen
 D. Subhas Chandra Bose

Question ID : 630680776158
Status : Not Attempted and
Marked For Review
Chosen Option : --

Q.27 In which Indian state is the primary habitat of the Great Indian Bustard, an endangered bird species?

- Ans A. Maharashtra
 B. Odisha
 C. Rajasthan
 D. Tamil Nadu

Question ID : 630680776151
Status : Not Attempted and
Marked For Review
Chosen Option : --

Q.28 Seven people, K, L, M, N, A, B and C are sitting in a straight line, facing north. Only three people sit between B and N. C sits to the immediate left of N. No one sits to the right of M. Only two people sit between M and C. A sits to the immediate right of L. How many people sit between K and A?

- Ans A. Two
 B. Four
 C. One
 D. Three

Question ID : 630680408749
Status : Not Answered
Chosen Option : --

Section : Section D

Q.1 Who earned the title "Father of the Indian Renaissance"?

- Ans A. Raja Ram Mohan Roy
 B. Swami Vivekananda
 C. Mahatma Gandhi
 D. Jawaharlal Nehru

Question ID : 630680776147
Status : Answered
Chosen Option : A

Q.2 Amit can prepare one wooden table in 2 days and Gopal can prepare the same table in 4 days. If they work together, in how many days will they prepare 162 tables of the same kind?

- Ans A. 212
 B. 220
 C. 216
 D. 218

Question ID : 630680748302
Status : Not Attempted and
Marked For Review
Chosen Option : --

Q.3 Which of the following is NOT a machine control instruction?

- Ans A. NOP
 B. RAR
 C. DI
 D. RIM

Question ID : 630680132894
Status : Not Attempted and
Marked For Review
Chosen Option : --

Q.4 L is the wife of S. O is the father of S. S has a son and daughter named R and V, respectively. How is O related to V?

- Ans
- A. Father
 - B. Brother
 - C. Mother's father
 - D. Father's father

Question ID : 630680467721
Status : Answered
Chosen Option : D

Q.5 Select the most appropriate meaning of the given idiom.
Dance to someone's tune

- Ans
- A. Interrupt someone while they are speaking
 - B. Create a wrong impression
 - C. To ask for help when you do not need it
 - D. Do what others want you to do

Question ID : 630680776128
Status : Answered
Chosen Option : D

Q.6 For an electric field in free space, $E = 20 \cos(10^5 t + \beta x) \mathbf{a}_y \text{ V/m}$. Find β and the time it takes to travel a distance of $\lambda/4$.

- Ans
- A. $\beta = 0.33 \text{ rad/m}$; $t = 15.7 \text{ s}$
 - B. $\beta = 1.33 \text{ mrad/m}$; $t = 1.57 \mu\text{s}$
 - C. $\beta = 0.33 \text{ mrad/m}$; $t = 15.7 \mu\text{s}$
 - D. $\beta = 3.3 \text{ mrad/m}$; $t = 15.7 \text{ ns}$

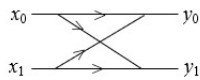
Question ID : 63068075880
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.7 What is the condition for a continuous time signal $X(t)$ to be causal signal?

- Ans
- A. $X(t) = 0$ for $t > 0$
 - B. $X(t) = 0$ for $t < 0$
 - C. $X(t) = 0$ for $t \geq 0$
 - D. $X(t) = 0$ for $t \leq 0$

Question ID : 630680211455
Status : Answered
Chosen Option : B

Q.8 Consider a binary communication channel as shown.



$P(x_0) = P(x_1) = 0.5$, $P\left(\frac{y_1}{x_0}\right) = 0.25$, $P\left(\frac{y_0}{x_1}\right) = 0.2$. The probability of an error for an optimum receiver using ML (Maximum Likelihood) rule is:

- Ans
- A. 0.45
 - B. 0.5
 - C. 0.225
 - D. 0.775

Question ID : 630680146394
Status : Answered
Chosen Option : C

Q.9 Consider a standard second order system given by $\frac{w_n^2}{s^2 + 2\zeta w_n s + w_n^2}$.

The bandwidth is dependent on which of the following?

- Ans
- A. Only the damping ratio
 - B. Gain and damping factor
 - C. Both, the natural frequency and the damping ratio
 - D. Only the natural frequency

Question ID : 63068093748
Status : Answered
Chosen Option : C

Q.10 Consider a control system which has 10 poles and 4 zeros. What is the slope of the asymptotes at a higher frequency in the log magnitude Bode plot?

- Ans
- A. 80 dB/decade
 - B. +120 dB/decade
 - C. -120 dB/decade
 - D. -200 dB/decade

Question ID : 630680146549
Status : Answered
Chosen Option : C

Q.11 In which Indian state is the Kandariya Mahadeva Temple, famous for its intricate carvings and erotic sculptures, situated?

- Ans
- A. Madhya Pradesh
 - B. Gujarat
 - C. Odisha
 - D. Haryana

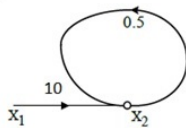
Question ID : 630680776156
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.12 If a two-port network is reciprocal, then which of the following conditions is/are satisfied?

- Ans
- A. $h_{11} = h_{22}$ and $h_{12} = h_{21}$
 - B. $Y_{11} = Y_{22}$ and $Y_{12} \neq Y_{21}$
 - C. $|AD-BC|=1$
 - D. $Z_{11} = Z_{22}$ and $Z_{12} \neq Z_{21}$

Question ID : 630680146531
Status : Answered
Chosen Option : C

Q.13 In the signal flow graph shown in the following figure, $X_2 = TX_1$, where T is equal to:



- Ans
- A. 5
 - B. 10
 - C. 20
 - D. 0.5

Question ID : 630680146555
Status : Answered
Chosen Option : C

Q.14 An energy signal has:

- Ans
- A. infinite energy
 - B. zero average power
 - C. infinite average power
 - D. zero energy

Question ID : 630680734595
Status : Answered
Chosen Option : C

Q.15 In a 3-bit simple resistive divider network for DAC, if the voltages given to each of the resistors are the same at 5 V, then what is the contribution of logic 1 at MSB position to the output analogue voltage?

- Ans
- A. 2.5 V
 - B. 0.625 V
 - C. 2.857 V
 - D. 0.714 V

Question ID : 630680132886
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.16 What is the percentage resolution in a 4-bit BCD input DAC?

- Ans
- A. 6.66%
 - B. 10%
 - C. 6.25%
 - D. 11.11%

Question ID : 630680132891
 Status : Answered
 Chosen Option : A

Q.17 Which of the following is correct with reference to D flip-flop?

- Ans
- A. $Q(t+1) = D'(t)$
 - B. $Q(t) = D(t+1)$
 - C. $Q(t+1) = D(t)$
 - D. $Q(t) = D'(t+1)$

Question ID : 630680103588
 Status : Answered
 Chosen Option : C

Q.18 The relation between the scalar electric potential and the electric field intensity is given by:

- Ans
- A. $E = \int V \cdot dl$
 - B. $V = \int E \cdot dl$
 - C. $E = - \int V \cdot dl$
 - D. $V = - \int E \cdot dl$

Question ID : 63068063874
 Status : Answered
 Chosen Option : D

Q.19 Consider an analog signal which is quantized and transmitted using a PCM system. The maximum quantization error is $\pm 0.5\%$ of the peak-to-peak full-scale value. Considering positive and negative peaks are with the same magnitude, the minimum number of bits with which each sample should be encoded is:

- Ans
- A. 8
 - B. 5
 - C. 7
 - D. 6

Question ID : 63068064082
 Status : Answered
 Chosen Option : C

Q.20 Which monument is celebrated for its distinctive fusion of Indo-Islamic and Rajputana architectural styles, earning it the nickname "Taj Mahal of the Deccan"?

- Ans
- A. Bibi Ka Maqbara
 - B. Charminar
 - C. Mysore Palace
 - D. Gol Gumbaz

Question ID : 630680776155
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.21 In an AC series circuit, the inductive reactance is 20Ω , the capacitive reactance is 80Ω and the resistance is also 80Ω . Find the impedance of the circuit and power factor.

- Ans A. $100 \Omega, 0.8$
 B. $70.70 \Omega, 0.6$
 C. $50 \Omega, 0.6$
 D. $80 \Omega, 0.8$

Question ID : 630680117075
Status : Answered
Chosen Option : A

Q.22 For a double heterojunction LED emitting at a peak wave length 1310 nm has radiated and non-radiated recombination times of 30 and 100ns . The drive current is 40mA . What is the internal efficiency?

- Ans A. 0.38
 B. 0.94
 C. 0.77
 D. 0.82

Question ID : 63068063893
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.23 Select the most appropriate antonym of the underlined word in the given sentence.
Mother tried to assuage her anger.

- Ans A. Quench
 B. Reject
 C. Calm
 D. Provoke

Question ID : 630680776131
Status : Answered
Chosen Option : D

Q.24 For a forward-biased P^+n junction diode, the diffusion capacitance:

- Ans A. varies linearly with current
 B. varies with the square of current
 C. does not vary with current
 D. varies inversely with current

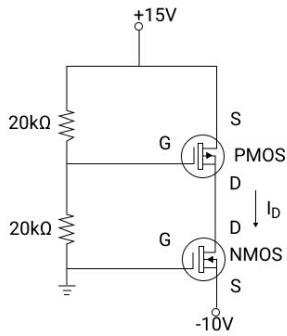
Question ID : 63068063892
Status : Answered
Chosen Option : A

Q.25 The average age of a class of 39 students is 15 years. If the age of the teacher be included, then the average increases by 3 months. Find the age of the teacher.

- Ans A. 28 years
 B. 24 years
 C. 25 years
 D. 26 years

Question ID : 630680751047
Status : Answered
Chosen Option : C

Q.26 In the given circuit, calculate the value of I_D (shown in the given figure as I_D), such that the given value of the threshold voltage is 5V and the value of $K = 0.25\text{mA/V}^2$.



- Ans A. 6.25 mA
 B. 25 mA
 C. 6 mA
 D. 6.50 mA

Question ID : 630680119961
 Status : Answered
 Chosen Option : A

Q.27 Which organization initiated the registration process for the 'Catch Them Young', a Young Scientist Programme aimed at school children, starting on February 2024?

- Ans A. NIPER
 B. ISRO
 C. CSIR
 D. DRDO

Question ID : 630680776144
 Status : Not Attempted and Marked For Review
 Chosen Option : --

Q.28 What should come in place of the question mark (?) in the given series?

21, 36, 51, 66, 81, ?

- Ans A. 96
 B. 95
 C. 97
 D. 94

Question ID : 630680531732
 Status : Answered
 Chosen Option : A

Section : Section E

Q.1 Noise margin of a TTL is:

- Ans A. 1.6 V
 B. 0.4 V
 C. 1.2 V
 D. 2 V

Question ID : 630680132905
 Status : Answered
 Chosen Option : B

Q.2 If $17 \times 3 \times 945 + \sqrt{2025} = y + 877$, then find the value of y.

- Ans A. 196
 B. 194
 C. 187
 D. 200

Question ID : 630680748257
 Status : Answered
 Chosen Option : B

Q.3 Three LTI systems are cascaded together. What would be the total impulse response of the system if the individual responses are as follows: $H_1[n] = \delta[n+6]$, $H_2[n] = \delta[n-14]$ and $H_3[n] = \delta[n+10]$?

- Ans
- A. $\delta[n+6]\delta[n-14]\delta[n+10]$
 - B. $\delta[n-2]$
 - C. $\delta[n+6]+\delta[n-14]+\delta[n+10]$
 - D. $\delta[n+2]$

Question ID : 630680203441
Status : Answered
Chosen Option : D

Q.4 The average conversion time of a 7-bit counter type A to D converter operated by a 2 MHz clock is:

- Ans
- A. 64 micro second
 - B. 3.5 micro second
 - C. 32 micro second
 - D. 128 micro second

Question ID : 630680182157
Status : Answered
Chosen Option : A

Q.5 Which of the following statements is/are INCORRECT about Causality Analysis of Continuous time LTI System?

Statements:

P. A system is said to be causal if its impulse response is equal to one.

Q. Region of convergence for the system function for a causal system is on right-hand side of the plane.

- Ans
- A. Only P
 - B. Both P and Q
 - C. Neither P nor Q
 - D. Only Q

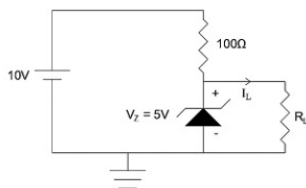
Question ID : 630680203432
Status : Answered
Chosen Option : A

Q.6 Select the most appropriate antonym of the underlined word in the given sentence.
He found the room in chaotic condition.

- Ans
- A. Inept
 - B. Miserable
 - C. Organized
 - D. Turbid

Question ID : 630680776134
Status : Answered
Chosen Option : C

Q.7 In the circuit shown below, the knee current of the ideal Zener diode is 10 mA. To maintain 5 V across R_L , the minimum voltage of R_L should be _____.



- Ans
- A. 75 Ω
 - B. 100 Ω
 - C. 125 Ω
 - D. 150 Ω

Question ID : 630680214300
Status : Answered
Chosen Option : C

Q.8 Seven people, V, E, N, D, O, R and S, are sitting around a circular table facing the centre. Only one person sits between E and D. V sits second to the left of E. S sits immediately to the right of R. O is not an immediate neighbour of V. Who sits immediately to the left of N?

- Ans
- A. E
 - B. O
 - C. V
 - D. S

Question ID : 630680546323
Status : Answered
Chosen Option : C

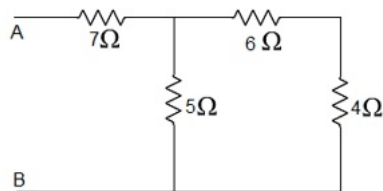
Q.9 For a unity feedback system with the open-loop transfer function

$$G(s) = \frac{K(s-4)}{(s+1)(s+3)}, \text{ the centroid of the root locus is at:}$$

- Ans
- A. +4
 - B. -4
 - C. -8
 - D. +8

Question ID : 630680402887
Status : Answered
Chosen Option : C

Q.10 Study the given circuit and calculate R_{eq} between A and B.



- Ans
- A. $\frac{31}{3} \Omega$
 - B. 9Ω
 - C. $\frac{32}{3} \Omega$
 - D. $\frac{34}{3} \Omega$

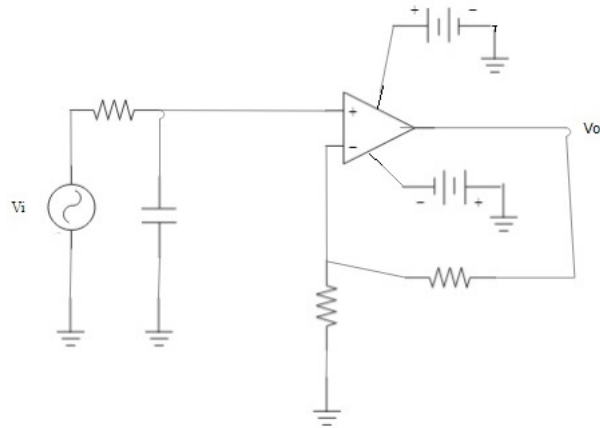
Question ID : 630680117094
Status : Answered
Chosen Option : A

Q.11 Which award under "The Rashtriya Vigyan Puraskar" category acknowledges lifetime accomplishments and contributions in any field of science and technology?

- Ans
- A. Vigyan Gaytan (VG)
 - B. Vigyan Ratna (VR)
 - C. Vigyan Shri (VS)
 - D. Vigyan Yuva-Shanti Swarup Bhatnagar (VY-SSB)

Question ID : 630680776143
Status : Not Attempted and Marked For Review
Chosen Option : -

Q.12 Identify the type of filter that is shown in the circuit diagram



- Ans
- A. Band pass filter
 - B. Low pass active filter
 - C. All pass filter
 - D. High pass active filter

Question ID : 630680117004
Status : Answered
Chosen Option : B

Q.13 The T parameters of a 2-port network are given by $T = \begin{bmatrix} A & B \\ C & D \end{bmatrix}$. If the network is reciprocal, then:

- Ans
- A. $T^{-2} = T$
 - B. Determinant(T) = 0
 - C. Determinant(T) = 1
 - D. $T^{-1} = T$

Question ID : 630680117315
Status : Answered
Chosen Option : C

Q.14 Those prime implicants which always appear in the final answer are called _____.

- Ans
- A. complements
 - B. implicants
 - C. essential prime implicants
 - D. prime complements

Question ID : 630680103549
Status : Answered
Chosen Option : C

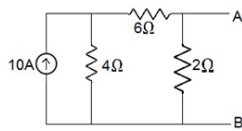
Q.15 The following sentence has been split into four segments. Identify the segment that contains a spelling error.

The sequence is / named after Leonardo Fibonacci, / a thirteenth century / Italian mathematician.

- Ans
- A. Italian mathematician
 - B. named after Leonardo Fibonacci
 - C. The sequence is
 - D. a thirteenth century

Question ID : 630680776132
Status : Answered
Chosen Option : D

Q.16 Study the given circuit and find Thevenin voltage V_{th} and Thevenin resistance R_{th} across AB.



- Ans
- A. 6.67 V, 12 Ω
 - B. 10 V, 8 Ω
 - C. 6.67 V, 1.67 Ω
 - D. 10.6 V, 1.6 Ω

Question ID : 630680118607
Status : Answered
Chosen Option : C

Q.17 With which Indian state is the meteorological phenomenon known as "Nor'westers" associated?

- Ans
- A. Karnataka
 - B. Maharashtra
 - C. West Bengal
 - D. Tamil Nadu

Question ID : 630680776152
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.18 In the Global Innovation Index 2023 published by World Intellectual Property Organization, what was India's position?

- Ans
- A. 45th
 - B. 38th
 - C. 40th
 - D. 31st

Question ID : 630680776142
Status : Answered
Chosen Option : C

Q.19 Which of the following transistor configurations gives more current gain?

- Ans
- A. CB configuration
 - B. CT configuration
 - C. CE configuration
 - D. CC configuration

Question ID : 630680214302
Status : Answered
Chosen Option : D

Q.20 Consider the forward path transfer function of a unity feedback system $G(s) = \frac{e^{-sL}}{1+sT}$ where L, T are constants. The phase contribution is given by:

- Ans
- A. $-\omega L - \tan^{-1}(\omega T / 2)$
 - B. $-\omega L / 2 - \tan^{-1} \omega T$
 - C. $-\omega T - \tan^{-1} \omega T$
 - D. $-\omega L - \tan^{-1} \omega T$

Question ID : 630680139557
Status : Answered
Chosen Option : D

Q.21 For 5 V CMOS logic, if minimum high input voltage is 3.6 V, maximum low output voltage is 0.35 V, minimum high output voltage is 4.7 V and maximum low input voltage is 1.5 V, then find the high level noise margin.

- Ans
- A. 2.1 V
 - B. 4.35 V
 - C. 1.15 V
 - D. 1.1 V

Question ID : 630680132911
Status : Answered
Chosen Option : C

Q.22 Copper behaves like a conductor because of which of the following reasons?

- Ans
- A. $\sigma \gg \omega \epsilon$
 - B. $\sigma = 0$
 - C. $\sigma \ll \omega \epsilon$
 - D. $\sigma = \omega \epsilon$

Question ID : 630680211448
Status : Answered
Chosen Option : A

Q.23 A vendor bought lemons at 46 for a rupee. How many must he sell for a rupee to gain 15%?

- Ans
- A. 42
 - B. 41
 - C. 44
 - D. 40

Question ID : 630680748287
Status : Answered
Chosen Option : D

Q.24 Select the pair that follows the same pattern as the one followed by the two sets of pairs given below. Both pairs follow the same pattern.

SLQ : QNM
PNK : NPG

- Ans
- A. RJO : PMK
 - B. WIO : UKK
 - C. HHK : FJH
 - D. ING : GPD

Question ID : 630680585696
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.25 For an antenna radiating a total power of 40 kW with a directive gain of 8 dB, calculate electric field intensity at a distance of 20 km.

- Ans
- A. 1.94 mV/m
 - B. 0.194 V/m
 - C. 1.94 V/m
 - D. 0.194 mV/m

Question ID : 63068075817
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.26 Consider a discrete binary random sequence $X[n]$ of 1 and -1 , where both 1 and -1 occur independently with equal probability. The autocorrelation function for this random sequence $X[n]$ is:

- Ans
- A. $R_X[k] = \delta[k - 1] + \delta[k + 1]$
 - B. $R_X[k] = 1$ for all k
 - C. $R_X[k] = \delta[k]$
 - D. $R_X[k] = 0.5 \delta[k - 1] + 0.5 \delta[k + 1]$

Question ID : 630680146404
Status : Answered
Chosen Option : D

Q.27 For a deterministic event, the information obtained on its occurrence is:

- Ans
- A. 0 bits
 - B. 1 bit
 - C. infinity
 - D. dependent on the event

Question ID : 63068063909
Status : Not Attempted and Marked For Review
Chosen Option : --

Q.28 With which of the following movements is Sir Syed Ahmed Khan primarily associated?

Ans A. Aligarh Movement

B. Home Rule Movement

C. Quit India Movement

D. Bengal Movement

Question ID : 630680776148

Status : Not Answered

Chosen Option : --