UPMRC AM

Previous Year Paper

Electrical 2 Jan 2023

UP Metro Rail Corporation

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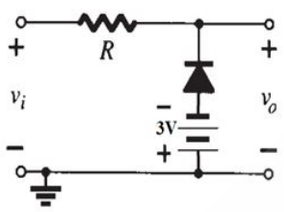
Participant ID	
Participant Name	
Test Center Name	
Test Date	02/01/2023
Test Time	1:30 PM - 3:30 PM
Subject	Assistant Manager Electrical

Section : **Domain Knowledge**

Q.1



What is the maximum positive output voltage for the given circuit, if input voltage Vi = 15 sin100t?

Ans

✗ A. 3 V

✓ B. 15 V

✗ C. 18 V

✗ D. 12 V

Question ID : **486324637**
Status : **Answered**
Chosen Option : **B**

Q.2 **In a Hopkinson's test on two 250 V, 100 kW generators, the circuiting current is equal to the full load current, and in addition, 225 A is taken from the supply. Calculate the efficiency of each machine.**

Ans

✓ A. 80%

✗ B. 90%

✗ C. 64%

✗ D. 72%

Question ID : **486324613**
Status : **Answered**
Chosen Option : **A**

Q.3 **The term frequency response is defined as the magnitude and phase relationship between:**

Ans

✗ A. the ramp input and the steady-state output

✓ B. the sinusoidal input and the steady-state output

✗ C. the step input and the steady-state output

✗ D. the impulse input and the steady-state output

Question ID : **486324595**
Status : **Answered**
Chosen Option : **B**

Q.4 **What is the stability of a system if the gain cross-over frequency is greater than the Phase cross-over frequency?**

Ans

✗ A. Marginally Unstable

✗ B. Stable

✗ C. Marginally Stable

✓ D. Unstable

Question ID : **486324597**
Status : **Answered**
Chosen Option : **D**

Q.5 **Which of the following statements is true regarding Root locus?**

Ans

✗ A. Asymmetrical about imaginary axis

✓ B. Symmetrical about real axis

✗ C. Asymmetrical about real axis

✗ D. Symmetrical about imaginary axis

Question ID : **486324593**
Status : **Answered**
Chosen Option : **B**

Q.6 **The power required for Hopkinson's test is _____ compared to full load powers of the two machines.**

Ans

✗ A. very high

✓ B. small

✗ C. equal

✗ D. higher

Question ID : **486324607**
Status : **Answered**
Chosen Option : **D**

Q.7 **Emitter (E), Base (B) and Collector (C) are three sections of a BJT. Arrange these starting from a section with the smallest area to that with the largest area.**

Ans

✗ A. C < E < B

✗ B. B < C < E

✗ C. E < B < C

✓ D. B < E < C

Question ID : **486324630**
Status : **Answered**
Chosen Option : **D**

Q.8 **When a line to ground fault occurs on phase a, the current in phase a is 250 A. The zero sequence current is:**

Ans

✗ A. 0 A

✗ B. 50.3 A

✗ C. 93.3 A

✓ D. 83.3 A

Question ID : **486324620**
Status : **Answered**
Chosen Option : **D**

Q.9 **If the series field ampere turns in a compound wound generator are such that the rated load voltage is greater than the no-load voltage, then the generator is:**

Ans

✗ A. super-compounded

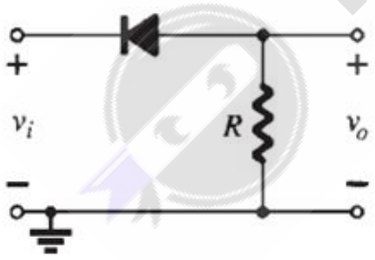
✗ B. under-compounded

✗ C. flat-compounded

✓ D. over-compounded

Question ID : **486324611**
Status : **Answered**
Chosen Option : **D**

Q.10



Which of the following circuits is represented by the given figure?

Ans

✗ A. Negative series clipper

✗ B. Positive shunt clipper

✗ C. Negative shunt clipper

✓ D. Positive series clipper

Question ID : **486324627**
Status : **Answered**
Chosen Option : **D**

Q.11 Let x(t), h(t) and y(t) denote the input, impulse response and the output, respectively, of an LTI system. It is given that, $x(t) = t\,e^{-2t}u(t)$ and $h(t) = e^{-4t}u(t)$. Then $y(t) = x(t)^* h(t)$ will be represented as:

Ans

✗ A. $t\frac{e^{-2t}}{2} - e^{-4t}\left[\frac{e^{2t}+1}{4}\right]$

For $t \geq 0$.

✓ B. $t\frac{e^{-2t}}{2} - e^{-4t}\left[\frac{e^{2t}-1}{4}\right]$

For $t \geq 0$.

✗ C. $t\frac{e^{-2t}}{2} + e^{-4t}\left[\frac{e^{2t}-1}{4}\right]$

For $t \geq 0$.

✗ D. $t\frac{e^{2t}}{2} - e^{-4t}\left[\frac{e^{2t}-1}{4}\right]$

For $t \geq 0$.

Question ID : **486324591**
Status : **Answered**
Chosen Option : **C**

Q.12 **In a high-pass RC filter, the cut-off frequency is halved when the capacitance is:**

Ans

✗ A. halved

✓ B. doubled

✗ C. quadrupled

✗ D. tripled

Question ID : **486324566**
Status : **Answered**
Chosen Option : **B**

Q.13 **Which of the following is correct with respect to statements for three-wattmeter method of power measurement?**

Statement 1: A single wattmeter can also measure the average power in a three-phase system that is balanced, so that $P_1=P_2=P_3$.

Statement 2: The three-wattmeter method is well suited for power measurement in a three-phase system where the power factor is constantly changing.

Ans

✗ A. True, False

✓ B. True, True

✗ C. False, False

✗ D. False, True

Question ID : **486324568**
Status : **Answered**
Chosen Option : **A**

Q.14 **The values of the system matrix A which are the roots of the characteristic equation i.e. the poles of the closed-loop transfer function and whose location determine the stability of the system are known as:**

Ans
- ✗ A. state variables
- ✗ B. diagonal elements
- ✓ C. eigenvalues
- ✗ D. physical variables

Question ID : **486324599**
Status : **Answered**
Chosen Option : **C**

Q.15 **State whether the following points are True or False.**
i) An n-channel depletion-type MOSFET is formed on a p-type silicon substrate with two heavily doped n+ silicon sections for low resistance connections.
ii) A depletion MOSFET remains on at zero gate voltage, whereas an enhancement-type MOSFET remains off at zero gate voltage.

Ans
- ✗ A. True, False
- ✓ B. True, True
- ✗ C. False, True
- ✗ D. False, False

Question ID : **486324650**
Status : **Answered**
Chosen Option : **B**

Q.16 **Which of the following statements is FALSE regarding MOSFET characteristics?**

Ans
- ✗ A. It has a positive temperature coefficient for resistance.
- ✗ B. It has a high on state conduction power loss.
- ✗ C. It has a high input impedance.
- ✓ D. It has a high switching loss.

Question ID : **486324640**
Status : **Answered**
Chosen Option : **D**

Q.17 **The number of butterflies per stage for an 8-point DFT by radix-2 FFT is:**

Ans
- ✗ A. 6
- ✓ B. 4
- ✗ C. 8
- ✗ D. 2

Question ID : **486324587**
Status : **Not Answered**
Chosen Option : **--**

Q.18 **The RMS value of output voltage and RMS value of the fundamental component of output voltage for a single-phase full bridge inverter are 24 V and 21.6 V, respectively. Find the total harmonic distortion (THD) of output voltage.**

Ans
- ✗ A. 66.67%
- ✓ B. 48.34%
- ✗ C. 24.16%
- ✗ D. 33.33%

Question ID : **486324647**
Status : **Answered**
Chosen Option : **B**

Q.19 **If a shunt generator is excited in open circuit condition, its shunt field resistance should be:**

Ans
- ✗ A. equal to the critical resistance
- ✓ B. less than the critical resistance
- ✗ C. slightly more than the critical resistance
- ✗ D. twice the critical resistance

Question ID : **486324610**
Status : **Answered**
Chosen Option : **B**

Q.20 **Determine the angle of asymptotes of the branches of the root locus plot terminating to infinity for a system with 4 poles and 1 zero.**

Ans
- ✗ A. 15°, 135°, 255°
- ✗ B. 30°, 150°, 270°
- ✗ C. 90°, 210°, 330°
- ✓ D. 60°, 180°, 300°

Question ID : **486324601**
Status : **Answered**
Chosen Option : **D**

Q.21 Fourier Transform of $z(t) = \frac{2}{1+t^2}$ will be given by:

Ans
- ✓ A. $2\pi e^{-|2\pi f|}$
- ✗ B. $4\pi e^{-|2\pi f|}$
- ✗ C. $2e^{-|2\pi f|}$
- ✗ D. $2\pi e^{|2\pi f|}$

Question ID : **486324582**
Status : **Answered**
Chosen Option : **B**

Q.22 **Which of the following is NOT a realization structure for FIR filters but is for IIR filters?**

Ans

✗ A. Lattice

✗ B. Cascade

✗ C. Fast convolution

✓ D. Frequency sampling

Question ID : **486324589**
Status : **Not Answered**
Chosen Option : **--**

Q.23 **Which of the following orders is true with respect to the maximum switching frequency of the given power semiconductor devices?**

Ans

✗ A. BJT > IGBT > MOSFET

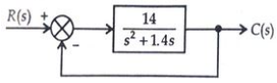
✓ B. MOSFET > IGBT > BJT

✗ C. IGBT > BJT > MOSFET

✗ D. IGBT > MOSFET > BJT

Question ID : **486324642**
Status : **Answered**
Chosen Option : **B**

Q.24 A closed-loop control system with unity feedback is shown in the figure. What is the value of derivative time (Td) by using derivative control to make the damping ratio 0.7?



Ans

✓ A. 0.274 sec

✗ B. 3.74 sec

✗ C. 0.187 sec

✗ D. 2.74 sec

Question ID : **486324600**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.25 **What is the difference between Electrostatics, Magnetostatics and Electromagnetic?**

Ans

✗ A. Electrostatics is charges in steady motion, Magnetostatics is charges at rest and Electromagnetic is charges in time-varying motion.

✓ B. Electrostatics is charges at rest, Magnetostatics is charges in steady motion and Electromagnetic is charges in time-varying motion

✗ C. Electrostatics is charges in time-varying motion, Magnetostatics is charges in steady motion and Electromagnetic is charges at rest.

✗ D. Electrostatics is charges at rest, Magnetostatics is charges in time-varying motion and Electromagnetic is charges in steady motion

Question ID : **486324571**
Status : **Answered**
Chosen Option : **B**

Q.26 **A voltage of 100V is suddenly applied to a circuit with resistance 8 Ω and inductance 0.5H in series. So, the voltage drop across the inductance at the instance of switching on will be:**

Ans

✗ A. 126.4 V

✗ B. 1.264 V

✓ C. 100 V

✗ D. 155 V

Question ID : **486324565**
Status : **Answered**
Chosen Option : **C**

Q.27 Input for a system is x[n] = $\left(\frac{1}{2}\right)^n u[n]$ and the output of the LTI system is of the form y[n] = $\delta[n] + a\left(\frac{1}{4}\right)^n u[n]$.

If the transfer function is $H(z) = \frac{Y(z)}{X(z)}$ then the ROC of H(z) will be:

Ans

✓ A. $|z| > \frac{1}{2}$

✗ B. $|z| < \frac{1}{2}$

✗ C. $|z| < \frac{1}{4}$

✗ D. $|z| > \frac{1}{4}$

Question ID : **486324590**
Status : **Answered**
Chosen Option : **D**

Q.28 **A signal s(t) with bandwidth 50 Hz is amplitude modulated to 100 Hz frequency. What is the Nyquist sampling rate of the modulated signal in Hz?**

Ans

✗ A. 320 Hz

✓ B. 300 Hz

✗ C. 150 Hz

✗ D. 100 Hz

Question ID : **486324586**
Status : **Answered**
Chosen Option : **B**

Q.29 **Which of the following statements is/are true/false?**
A. The condition for stability of discrete time system says that the poles should lie inside the unit circle
B. The condition for stability of discrete time system says that the unit circle should be included in ROC

Ans
✗ A. A is true but B is false
✗ B. Both A and B are false
✗ C. A is false but B is true
✓ D. Both A and B are true

Question ID : **486324583**
Status : **Answered**
Chosen Option : **A**

Q.30 **What would be the power factor of a coil which takes a current of 3 A when connected to a 12 V DC supply? Given that to obtain the same current with a 50-Hz AC supply, the voltage required was 15 V.**

Ans
✓ A. 0.8 lag
✗ B. 0.8 lead
✗ C. Unity
✗ D. 0.5 lead

Question ID : **486324569**
Status : **Answered**
Chosen Option : **A**

Q.31 **Which of the following insulators is used where the conductors are dead ended or at intermediate anchor towers?**

Ans
✓ A. Strain type
✗ B. Pin type
✗ C. Suspension type
✗ D. Pin type and suspension type

Question ID : **486324622**
Status : **Answered**
Chosen Option : **A**

Q.32 **A 6.9 kV, 10 MVA alternator has X_0 = 0.005 pu. Its neutral is grounded through a reactor of 0.397 Ω. Find the base impedance corresponding to the given parameter.**

Ans
✗ A. 3.212 Ω
✗ B. 0 Ω
✓ C. 4.761 Ω
✗ D. 2.759 Ω

Question ID : **486324619**
Status : **Answered**
Chosen Option : **C**

Q.33 Gauss's law states that the total charge emerging from a closed surface S is:

Ans
✗ A. equal to the total charge available at the centre

✗ B. opposite to the total charge enclosed by the surface

✗ C. opposite to the total charge available at the centre

✓ D. equal to the total charge enclosed by the surface

Question ID : **486324572**
Status : **Answered**
Chosen Option : **D**

Q.34 Read the given statements and select the most appropriate option.
Statement 1. Curl of a vector is the maximum value of the circulation of the field per unit area (circulation density).
Statement 2. Curl indicates the direction along which the maximum value occurs.

Ans
✓ A. Both the statements are true

✗ B. Statement 1 is false, but statement 2 is true

✗ C. Statement 1 is true, but statement 2 is false

✗ D. Both the statements are false

Question ID : **486324575**
Status : **Answered**
Chosen Option : **A**

Q.35 An input signal of 20sin100t is applied to a half wave rectifier that uses silicon diode. Which of the following is the value of the average DC voltage?

Ans
✗ A. 4.50

✗ B. 14.44

✓ C. 6.14

✗ D. 3.18

Question ID : **486324634**
Status : **Answered**
Chosen Option : **C**

Q.36 The transfer function of a third-order Butterworth low-pass filter having a cut-off frequency equal to 500 rad/s would be:

Ans
✓ A. $H(s) = \frac{125{,}000{,}000}{(s+500)(s^2+500s+250{,}000)}$

✗ B. $H(s) = \frac{250{,}000}{(s+500)(s^2+s+500)}$

✗ C. $H(s) = \frac{250{,}000}{(s+500)(s^2+500s+250{,}000)}$

✗ D. $H(s) = \frac{125{,}000{,}000}{(s+500)(s^2+s+500)}$

Question ID : **486324570**
Status : **Answered**
Chosen Option : **C**

Q.37 **Find the switching frequency of a boost converter that is used to feed a load at 40 V from a 10 V DC source. The turn-off time of the switch is 5μs. (Assume inductor current is continuous)**

Ans
- ✗ A. 100 kHz
- ✗ B. 30 kHz
- ✓ C. 50 kHz
- ✗ D. 20 kHz

Question ID : **486324648**
Status : **Answered**
Chosen Option : **C**

Q.38 **The phasor sum of the line-to-line voltage in a three phase system:**

Ans
- ✗ A. may not be zero
- ✓ B. is always zero
- ✗ C. may be zero
- ✗ D. is one

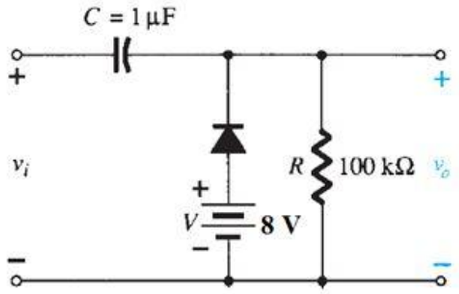
Question ID : **486324614**
Status : **Answered**
Chosen Option : **B**

Q.39 **Which of the following statement is correct if the Gain cross-over frequency is less than the Phase cross-over frequency?**

Ans
- ✗ A. Positive Gain Margin, Negative Phase Margin
- ✗ B. Negative Gain Margin, Negative Phase Margin
- ✗ C. Negative Gain Margin, Positive Phase Margin
- ✓ D. Positive Gain Margin, Positive Phase Margin

Question ID : **486324598**
Status : **Answered**
Chosen Option : **D**

Q.40 What will be the maximum positive value of the output voltage for the given circuit if a square wave of 20 V peak-to-peak is applied at the input of it?



Ans

✗ A. 14 V

✗ B. 36 V

✗ C. 8 V

✓ D. 28 V

Question ID : **486324628**
Status : **Answered**
Chosen Option : **A**

Q.41 **String efficiency can be determined by the ratio of:**

Ans

✓ A. flash-over voltage of string of n units to n times flash-over voltage of 1 unit

✗ B. n times flash-over voltage of 1 unit to flash-over voltage of string of n units

✗ C. n times flash-over voltage of n units to flash-over voltage of string of n units

✗ D. flash-over voltage of string of 1 unit to n times flash-over voltage of 1 unit

Question ID : **486324621**
Status : **Answered**
Chosen Option : **A**

Q.42 **Critical speed of a shunt generator is the speed for which:**

Ans

✗ A. the given armature resistance represents the load resistance

✓ B. the given shunt field resistance represents the critical resistance

✗ C. the given armature resistance represents the critical resistance

✗ D. the given shunt field resistance represents the load resistance

Question ID : **486324609**
Status : **Answered**
Chosen Option : **B**

Q.43 **Let x_p (t) be a periodic signal with period T_0. Which of the following is FALSE?**

Ans

✓ A. x_p (t) has infinite number of maxima and minima over any period T_0.

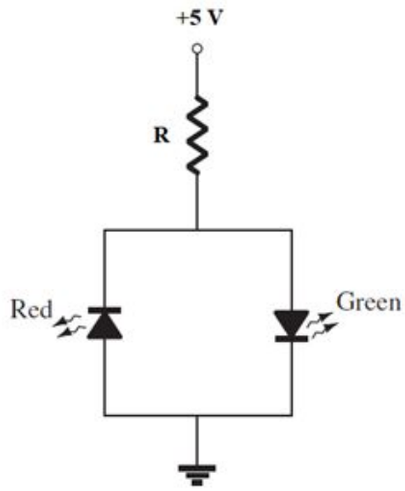
✗ B. The function is absolutely integrable over any period.

✗ C. There are only finite number of finite discontinuities over any period.

✗ D. x_p (t) has only a finite number of maxima and minima over any period T_0.

Question ID : **486324585**
Status : **Answered**
Chosen Option : **A**

Q.44



Which of the following LEDs will glow in the given circuit diagram?

Ans
- ✔ A. Only Green LED
- ✘ B. Both Red and Green LEDs will glow
- ✘ C. Both Red and Green LEDs will not glow
- ✘ D. Only Red LED

Question ID : **486324629**
Status : **Answered**
Chosen Option : **A**

Q.45 **The term breaking capacity of a circuit breaker is used to express:**

Ans
- ✘ A. the normal voltage
- ✔ B. the highest current
- ✘ C. the normal current
- ✘ D. the highest voltage

Question ID : **486324615**
Status : **Answered**
Chosen Option : **B**

Q.46 **Calculate the self-inductance of an air solenoid that is 9 metre long with 5 cm radius and having 3000 turns.**

Ans
- ✘ A. 1.5 mH
- ✘ B. 0.5 mH
- ✔ C. 1 mH
- ✘ D. 2 mH

Question ID : **486324581**
Status : **Answered**
Chosen Option : **A**

Q.47 **The mechanical and electrical efficiencies of a DC machine are 80% and 90%, respectively. What is the overall efficiency of the machine?**

Ans

✗ A. 88.9%

✗ B. 36%

✗ C. 45%

✓ D. 72%

Question ID : **486324605**
Status : **Answered**
Chosen Option : **A**

Q.48 **Which of the following characteristics of DC generators is also known as magnetic characteristic?**

Ans

✓ A. No-load saturation characteristic

✗ B. Full-load saturation characteristic

✗ C. Internal or total characteristic

✗ D. External characteristic

Question ID : **486324604**
Status : **Answered**
Chosen Option : **A**

Q.49 The line current for a balanced Δ load is _____ times the phase current and is displaced _____ in phase.

Ans

✗ A. $3, 30°$

✓ B. $\sqrt{3}, -30°$

✗ C. $\sqrt{3}, 30°$

✗ D. $3, -30°$

Question ID : **486324561**
Status : **Answered**
Chosen Option : **C**

Q.50 **The impedance between bus 1 and 2 is (0.08 + j0.24) Ohm given in the load flow data for a power system. What is the value of admittance for this impedance (in mho)?**

Ans

✗ A. 2.36 + j4.15

✗ B. 3.89 + j8.47

✓ C. 1.25 – j3.75

✗ D. 4.12 – j1.56

Question ID : **486324625**
Status : **Answered**
Chosen Option : **C**

Q.51 **Which of the following methods is used to calculate filter coefficients for FIR filters?**

Ans

✗ A. Bilinear transformation method

✗ B. Impulse invariant method

✓ C. Window method

✗ D. Pole-zero placement method

Question ID : **486324588**
Status : **Not Answered**
Chosen Option : **--**

Q.52 **When the phase difference between the output and input voltages at the cut-off frequency is 45°, the circuit is a:**

Ans

✗ A. low-pass RL filter

✗ B. low-pass RLC filter

✗ C. high-pass RLC filter

✓ D. high-pass RL filter

Question ID : **486324567**
Status : **Not Answered**
Chosen Option : **--**

Q.53 **Which of the following statements is/are true/false for Discrete Fourier Transform (DFT)?**
A: The DFT of even sequence is purely imaginary and DFT of odd sequence is purely real.
B: In sampling $X(e^{j\omega})$, the value of sample of $\omega = 0$ is the same as the value of sample at $\omega = 2\pi$.

Ans

✗ A. Both A and B are true

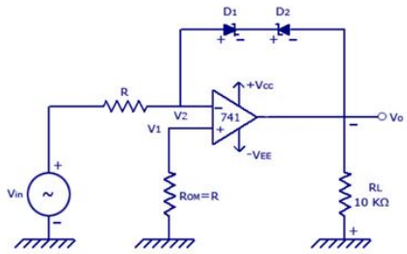
✗ B. A is true but B is false

✗ C. Both A and B are false

✓ D. A is false but B is true

Question ID : **486324584**
Status : **Answered**
Chosen Option : **D**

Q.54 What is the maximum positive output voltage of the given circuit?



Where, V_Z is the Zener voltage and V_{D1}, V_{D2} are the voltage drop across forward biased Zener diode.

Ans

✗ A. $V_Z - V_{D2}$

✗ B. $V_Z - V_{D1}$

✗ C. $V_Z + V_{D1}$

✓ D. $V_Z + V_{D2}$

Question ID : **486324638**
Status : **Answered**
Chosen Option : **A**

Q.55 **Which of the following statements is FALSE with respect to MOSFET output characteristics?**

Ans

✗ A. When forward voltage applied to the MOSFET exceeds the breakdown voltage, the avalanche breakdown takes place.

✗ B. Gate-to-source voltage should be large enough to drive MOSFET into ohmic region.

✓ C. Drain current (I_D) will decrease with increase in Gate to source (V_{GS}).

✗ D. Output current of the MOSFET can be controlled by varying the gate-to-source voltage (V_{GS}).

Question ID : **486324645**
Status : **Not Answered**
Chosen Option : **--**

Q.56 The phase currents in a wye-connected, unbalanced load are $I_a = (44 - j33)$ A, $I_b = (32 + j24)$ A and $I_c = (-40 + j25)$ A. Determine the magnitude of sequence currents.

Ans

✓ A. 16.37 A, 42.93 A and 13.13 A

✗ B. 14.17 A, 41.74 A and 18.37 A

✗ C. 32.10 A, 50.21 A and 12.61 A

✗ D. 21.10 A, 39.82 A and 16.69 A

Question ID : **486324624**
Status : **Answered**
Chosen Option : **B**

Q.57 In a practical power system, the most severe fault is:

Ans
- ✔ A. symmetrical 3-phase fault
- ✘ B. symmetrical 2-phase fault
- ✘ C. unsymmetrical fault
- ✘ D. symmetrical 1-phase fault

Question ID : **486324618**
Status : **Answered**
Chosen Option : **A**

Q.58 IGBT is a _____ terminal device and _____ layer device.

Ans
- ✔ A. 3, 4
- ✘ B. 4, 3
- ✘ C. 4, 4
- ✘ D. 3, 3

Question ID : **486324641**
Status : **Answered**
Chosen Option : **A**

Q.59 Soft magnetic materials are characterised by having:

Ans
- ✘ A. low remanence and large coercive forces
- ✘ B. high remanence and small coercive forces
- ✘ C. high remanence and large coercive forces
- ✔ D. low remanence and small coercive forces

Question ID : **486324574**
Status : **Not Answered**
Chosen Option : **--**

Q.60 The magnetisation M (in amperes/metre) is:

Ans
- ✘ A. the magnetic flux per unit area
- ✔ B. the magnetic dipole moment per unit volume
- ✘ C. the magnetic dipole moment per unit area
- ✘ D. the magnetic flux per unit volume

Question ID : **486324576**
Status : **Answered**
Chosen Option : **B**

Q.61 Swinburne's test or no-load test is applicable to:

Ans
- ✔ A. DC shunt motors and DC compound motors
- ✘ B. DC series motors and DC shunt motors
- ✘ C. only DC series motors
- ✘ D. DC series motors and DC compound motors

Question ID : **486324603**
Status : **Answered**
Chosen Option : **A**

Q.62 If the variables (x, y, z) of the Cartesian coordinate system and those of the cylindrical system (ρ, φ, z) are related, then y is equal to:

Ans

✗ A. $y = z \cos \varphi$

✓ B. $y = \rho \sin \varphi$

✗ C. $y = z \sin \varphi$

✗ D. $y = \rho \cos \varphi$

Question ID : **486324577**
Status : **Answered**
Chosen Option : **D**

Q.63 According to the Ampere's circuital law, the line integral of vector H over the whole contour depends only on the:

Ans

✗ A. algebraic sum of voltage intersecting the surfaces

✗ B. algebraic sum of magnetising force intersecting the surfaces

✓ C. algebraic sum of current intersecting the surfaces

✗ D. algebraic sum of magnetic flux intersecting the surfaces

Question ID : **486324573**
Status : **Answered**
Chosen Option : **C**

Q.64 What is the value of transconductance at quiescent point in a JFET, if Drain to Source Saturation Current is 12 mA, $V_{GS} = -2$ V and $V_p = -3$ V?

Ans

✗ A. 4.66×10^{-3} A/V

✗ B. 10.66×10^{-3} A/V

✓ C. 2.66×10^{-3} A/V

✗ D. 8.66×10^{-3} A/V

Question ID : **486324631**
Status : **Answered**
Chosen Option : **C**

Q.65 A vector field A is said to be solenoidal or divergence-less if $\nabla \cdot A$ is equal to:

Ans

✗ A. 1

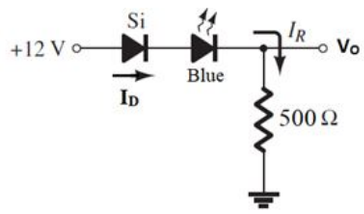
✗ B. Infinity

✓ C. 0

✗ D. −1

Question ID : **486324578**
Status : **Answered**
Chosen Option : **C**

Q.66



Find the voltage across blue LED, if VD and IR are 0.7 volt and 20 mA, respectively?

Ans

✗ A. 2.1 volt

✓ B. 1.3 volt

✗ C. 1.8 volt

✗ D. 2.4 volt

Question ID : **486324633**
Status : **Answered**
Chosen Option : **B**

Q.67 What will be skin depth at 100 Hz in a material having relative permeability $\frac{1}{\pi^2}$ and conductivity is $36 * 10^7$ S/m?

Ans

✗ A. 7.3 mm

✗ B. 3.3 mm

✗ C. 5.3 mm

✓ D. 8.3 mm

Question ID : **486324580**
Status : **Not Answered**
Chosen Option : **--**

Q.68 In which of the following controllers is the rate of change of output proportional to the actuating error signal only?

Ans

✓ A. PI

✗ B. PID

✗ C. PD

✗ D. Proportional

Question ID : **486324592**
Status : **Answered**
Chosen Option : **D**

Q.69 Which of the following is an example of VAR generator?

Ans

✗ A. Inductor

✓ B. Static capacitor bank

✗ C. All generators

✗ D. Battery

Question ID : **486324617**
Status : **Answered**
Chosen Option : **B**

Q.70 **Which of the following factors affect the speed of DC motors?**

Ans

✗ A. Only applied voltage and flux per pole

✓ B. Flux per pole, armature circuit resistance and applied voltage

✗ C. Only armature circuit resistance and applied voltage

✗ D. Only flux per pole and armature circuit resistance

Question ID : **486324602**
Status : **Answered**
Chosen Option : **B**

Q.71 **Which of the following statements is TRUE for a buck-boost converter?**

Ans

✗ A. If duty cycle=1, the output is smaller than the input.

✗ B. If duty cycle<0.5, the output voltage is larger than the input voltage.

✓ C. If duty cycle>0.5, the output voltage is larger than the input voltage.

✗ D. If duty cycle>0.5, the output voltage is smaller than the input voltage.

Question ID : **486324644**
Status : **Answered**
Chosen Option : **D**

Q.72 **A turbine generator set has a regulation constant 5% on the generator rating of 100 MVA, 50 Hz. The generator frequency decreases by 0.02 Hz. The increase in turbine output power for steady state operation is:**

Ans

✗ A. 1.2 MW

✓ B. 0.8 MW

✗ C. 3.6 MW

✗ D. 8 MW

Question ID : **486324623**
Status : **Not Answered**
Chosen Option : **--**

Q.73 **Which of the following values is changed by changing the firing angle, when a thyristor is used to control the speed of a DC series motor?**

Ans

✗ A. Field current

✗ B. Flux per pole

✓ C. Voltage applied across the motor armature

✗ D. Voltage applied across the field coil

Question ID : **486324606**
Status : **Answered**
Chosen Option : **C**

Q.74 In realistic power systems, the sparsity of a Y_{BUS} system may be as high as:

Ans
✗ A. 85%
✗ B. 60%
✗ C. 70%
✓ D. 97%

Question ID : **486324616**
Status : **Answered**
Chosen Option : **D**

Q.75 Which of the following compensators is used for a type 2 or higher system?

Ans
✗ A. Lead-Lag
✗ B. Lag
✗ C. Lag-Lead
✓ D. Lead

Question ID : **486324596**
Status : **Answered**
Chosen Option : **A**

Q.76 In a single-phase full bridge inverter with an input supply voltage of 90 V, the RMS value of output voltage is given by:

Ans
✗ A. 60
✓ B. 90
✗ C. 30
✗ D. 120

Question ID : **486324646**
Status : **Answered**
Chosen Option : **B**

Q.77 In a common base configuration of BJT, what will be the value of collector current if base current(I_B) is zero, α is 0.995 and I_{CBO} is 1μA?

Ans
✓ A. 0.20 mA
✗ B. 0 mA
✗ C. 1 μA
✗ D. 20 mA

Question ID : **486324635**
Status : **Answered**
Chosen Option : **D**

Q.78 Which of the following two tests need two similar mechanically coupled motors?

Ans

✗ A. Field's test and Swinburne's test

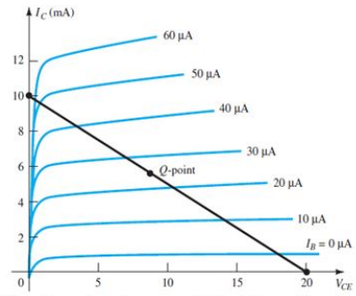
✗ B. Retardation test and Hopkinson's test

✓ C. Hopkinson's test and Field's test

✗ D. Retardation test and Swinburne's test

Question ID : **486324608**
Status : **Answered**
Chosen Option : **C**

Q.79



The given circuit represents load line with a fixed bias configuration. What is the value of the base resistance(R_B)?

Ans

✗ A. 572 kΩ

✗ B. 672 kΩ

✓ C. 772 kΩ

✗ D. 972 kΩ

Question ID : **486324636**
Status : **Not Answered**
Chosen Option : **--**

Q.80 What is the value of Drain current in a JFET, if Drain to Source Saturation Current is 12 mA, V_{GS} = −1 V and V_p = −4 V?

Ans

✗ A. 4.5 mA

✗ B. 9 mA

✓ C. 6.75 mA

✗ D. 12.5 mA

Question ID : **486324632**
Status : **Answered**
Chosen Option : **B**

Q.81 The generation and transmission of electrical power are more efficient in three-phase systems employing three voltages of:

Ans

✗ A. different magnitude and frequency and 60° phase difference from each other

✓ B. the same magnitude and frequency and 120° phase difference from each other

✗ C. the same magnitude and frequency and 60° phase difference from each other

✗ D. different magnitude and frequency and 120° phase difference from each other

Question ID : **486324562**
Status : **Answered**
Chosen Option : **B**

Q.82 **Which of the following properties is NOT true for ferromagnetic materials?**

Ans

✗ A. They lose their ferromagnetic properties and become linear paramagnetic materials when the temperature is raised above curie temperature.

✗ B. They are capable of being magnetised very strongly by a magnetic field.

✓ C. The relation B = μH is applicable to ferromagnetic materials.

✗ D. They retain a considerable amount of their magnetisation when removed from the field.

Question ID : **486324579**
Status : **Answered**
Chosen Option : **C**

Q.83 The phase angle of the current is $0<\varphi<90°$ lagging. The type of impedance is:

Ans

✗ A. inductance only

✓ B. resistance and inductance

✗ C. capacitance only

✗ D. resistance and capacitance

Question ID : **486324564**
Status : **Answered**
Chosen Option : **B**

Q.84 **If a three-phase voltage of V_a = 440sin(ωt), V_b = 440sin(ωt-120) and V_c = 440sin(ωt-240) is applied to a three-phase uncontrolled rectifier with resistive load of 10 Ω, the average and RMS value of the output voltage will be:**

Ans

✗ A. 900.20 V and 880.27 V

✓ B. 727.76 V and 728.376 V

✗ C. 100.20 V and 120.28 V

✗ D. 300.27 V and 320.25 V

Question ID : **486324649**
Status : **Not Answered**
Chosen Option : **--**

Q.85 **The output of an AC filter is said to be down 3 dB or –3 dB at the cutoff frequencies. Actually at this frequency, the output voltage of the circuit is:**

Ans

✗ A. 50% of the minimum input voltage

✗ B. 50% of the maximum input voltage

✗ C. 70.7% of the minimum input voltage

✓ D. 70.7% of the maximum input voltage

Question ID : **486324563**
Status : **Answered**
Chosen Option : **D**

Q.86 **Insulated gate bipolar transistor is combination of _____.**

Ans

✗ A. MOSFET and Diode

✗ B. BJT and Diode

✗ C. MOSFET and IGCT

✓ D. BJT and MOSFET

Question ID : **486324639**
Status : **Answered**
Chosen Option : **D**

Q.87 **Which of the following conditions is correct for a system to be stable?**

Ans

✗ A. No poles in the left half of s-plane

✓ B. No zeros in the right half of s-plane

✗ C. No poles in the right half of s-plane

✗ D. No zeros in the left half of s-plane

Question ID : **486324594**
Status : **Answered**
Chosen Option : **C**

Q.88 **Which of the following statements related to boost converter feeding a pure resistive load is correct?**

Ans

✗ A. An inductor is connected in parallel with the supply voltage.

✗ B. A switch is connected in series with the load.

✓ C. An inductor is connected in series with the supply voltage.

✗ D. A capacitor is connected in series with the supply voltage.

Question ID : **486324643**
Status : **Answered**
Chosen Option : **C**

Q.89 **A 500 V DC shunt motor runs at its normal speed of 240 rpm when the armature current is 200 A. The resistance of the armature is 0.1 ohm. Calculate the speed when the shunt field is reduced to 70% of the normal value and the armature current is reduced to 100 A.**

Ans

✓ A. 350 rpm

✗ B. 280 rpm

✗ C. 200 rpm

✗ D. 420 rpm

Question ID : **486324612**
Status : **Not Answered**
Chosen Option : **--**

Q.90 What will be the VA output of a CT having a ratio of 100 : 5 and secondary resistance of 0.1 Ω? The resistance of the connecting lead is given as 0.1 Ω and the relay burden is given as 5 VA.

Ans
✗ A. 15 VA
✗ B. 5 VA
✗ C. 20 VA
✓ D. 10 VA

Question ID : **486324626**
Status : **Not Answered**
Chosen Option : **--**

Section : **Quantitative Aptitude and Logical Ability**

Q.1 The ratio of the number of boys and girls in a school is 7 : 5. If the percentage increase in the number of boys and girls is 15% and 20%, respectively, what will be the new ratio?

Ans
✗ A. 157 : 117
✗ B. 147 : 113
✓ C. 161 : 120
✗ D. 139 : 109

Question ID : **486324656**
Status : **Not Answered**
Chosen Option : **--**

Q.2 Rishi owned a cloth showroom, where sarees were marked 5% above their cost price. Later, a discount of 3% on the marked price was declared. What is cost price of the saree if the selling price of the saree is ₹1,222.20?

Ans
✗ A. ₹1,202
✓ B. ₹1,200
✗ C. ₹1,112
✗ D. ₹1,222

Question ID : **486324655**
Status : **Not Answered**
Chosen Option : **--**

Q.3 Amar is the grandson of Nancy. The son of Nancy is married to Rozy. Rozy has two sisters. How is the husband of Nancy related to Rozy's son?

Ans
✗ A. Grandson
✗ B. Father
✓ C. Grandfather
✗ D. Brother

Question ID : **486324666**
Status : **Answered**
Chosen Option : **C**

Q.4 **A question is given, followed by two statements labelled I and II. Identify which of the statements is/are sufficient to answer the question.**
Question: Three friends A, B and C are sitting in a row facing east. Who is occupying the central place?
Statement-I: A is to the immediate right of B but to the left of C.
Statement-II: A is to the immediate left of C.

Ans
✗ A. Both Statement-I and Statement-II together are sufficient
✗ B. Either Statement-I or Statement-II is sufficient
✓ C. Statement-I alone is sufficient, while Statement-II alone is not sufficient
✗ D. Statement-II alone is sufficient, while Statement-I alone is not sufficient

Question ID : **486324667**
Status : **Answered**
Chosen Option : **C**

Q.5 **Raghavendra took a loan of ₹13,500 at simple interest for as many years as the rate of interest. If he paid ₹6,615 as interest at the end of the loan period, what was the loan period?**

Ans
✗ A. 8 years
✗ B. 6 years
✓ C. 7 years
✗ D. 9 years

Question ID : **486324657**
Status : **Not Answered**
Chosen Option : **--**

Q.6 **Let *x* be the least number which, when subtracted from 11064, the resulting number is a perfect square. What is the sum of the digits of *x*?**

Ans
✗ A. 10
✗ B. 15
✓ C. 12
✗ D. 9

Question ID : **486324651**
Status : **Not Answered**
Chosen Option : **--**

Q.7 **In what time will a train 150 metres long cross an electrical pole, if its speed is 180 km/h?**

Ans
✗ A. 2 sec
✗ B. 5 sec
✓ C. 3 sec
✗ D. 6 sec

Question ID : **486324658**
Status : **Answered**
Chosen Option : **C**

Q.8 Sam and Pam are studious and hardworking. Pam and Barbara are sincere and silent. Alex and Sam are silent and sincere. Who is silent, sincere, studious and hardworking?

Ans
✗ A. Barbara only
✗ B. Alex and Sam
✗ C. Sam only
✓ D. Sam and Pam

Question ID : **486324663**
Status : **Answered**
Chosen Option : **D**

Q.9 Which day of the week cannot be the second day after the last day of a century?

Ans
✓ A. Monday
✗ B. Wednesday
✗ C. Tuesday
✗ D. Sunday

Question ID : **486324662**
Status : **Not Answered**
Chosen Option : **--**

Q.10 Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the one that is different.

Ans
✗ A. CXWD
✗ B. AZYB
✗ C. BYXC
✓ D. FUTH

Question ID : **486324668**
Status : **Answered**
Chosen Option : **D**

Q.11 Test the validity of the following argument.
Argument:
If an animal is a jellyfish, then it has tentacles. If an animal is an octopus, then it has tentacles. Therefore, if an animal is a jellyfish, then it is an octopus.

Ans
✗ A. Argument is neither valid nor invalid
✓ B. Argument is invalid
✗ C. Argument is valid
✗ D. Argument is either valid or invalid

Question ID : **486324670**
Status : **Answered**
Chosen Option : **B**

Q.12 In a certain code language, if '–' represents '×', '÷' represents '+', '+' represents '÷', and '×' represents '–', then what will be the value of the following expression?

18 × 24 ÷ 10 – 9 + 3 = ?

Ans
✗ A. 28
✗ B. 30
✓ C. 24
✗ D. 26

Question ID : **486324664**
Status : **Answered**
Chosen Option : **C**

Q.13 A, B and C can complete a work in 12 days, 20 days and 30 days, respectively. If B is assisted by A and C on alternate days, in how many days will the work be completed?

Ans
✗ A. 10
✗ B. 6
✓ C. 9
✗ D. 8

Question ID : **486324659**
Status : **Answered**
Chosen Option : **D**

Q.14 Rayan sells a car to Reena making a profit of 10%, Reena sells it to Ren incurring a loss of 10%. If Ren pays ₹1,98,000, what is the cost price of the car paid by Rayan?

Ans
✓ A. ₹2,00,000
✗ B. ₹2,10,000
✗ C. ₹1,92,000
✗ D. ₹1,72,000

Question ID : **486324654**
Status : **Answered**
Chosen Option : **A**

Q.15 Two trains start from opposite stations along a straight highway, 450 km apart. Train A runs for 75 km, takes a right turn and then runs for 45 km. It then turns left, then runs for another 75 km and then takes the direction back to reach the track along the main highway. During this time, Train B had a minor technical fault, and has run only 105 km along the highway. At this point, what would be the distance between the two trains?

Ans
✗ A. 150 km
✓ B. 195 km
✗ C. 180 km
✗ D. 255 km

Question ID : **486324665**
Status : **Not Answered**
Chosen Option : **--**

Q.16 When the price of a commodity increases by 12.5%, then overall expenditure on it increases by 15%. What is the percentage increase in the quantity of the commodity consumed? (correct to one decimal place)

Ans
✔ A. 2.2%
✘ B. 3.5%
✘ C. 3.2%
✘ D. 2.5%

Question ID : **486324653**
Status : **Not Answered**
Chosen Option : **--**

Q.17 Two statements numbered I and II are given. There may be a cause and effect relationship between the two statements. These two statements may be the effect of the same cause or independent causes. These statements may be independent causes without having any relationship. Decide which of the following options correctly depicts the relationship between these two statements.
Statement I:
The teacher's union called off their strike against privatisation of universities.
Statement II:
The teachers went on a strike anticipating loss of jobs.

Ans
✔ A. Both the statements I and II are effects of independent causes.
✘ B. Statement II is the cause and statement I is its effect.
✘ C. Statement I is the cause and statement II is its effect.
✘ D. Both the statements I and II are independent causes.

Question ID : **486324669**
Status : **Answered**
Chosen Option : **C**

Q.18 The average score in Mathematics of 35 students is 40, the average score of 50 students is 55.2, and the average score of x students is 52. If the average score of all the students is 50, then what is the value of x?

Ans
✔ A. 45
✘ B. 48
✘ C. 46
✘ D. 47

Question ID : **486324652**
Status : **Not Answered**
Chosen Option : **--**

Q.19 A, B, C and D are sitting around a square table facing towards the centre. A is facing north, and C is facing east. If D is sitting in front of A, then who is sitting in front of C?

Ans
✘ A. E
✘ B. D
✔ C. B
✘ D. C

Question ID : **486324661**
Status : **Answered**
Chosen Option : **C**

Q.20 A cube of side 12 cm is cut into smaller cubes of side 2 cm each. What is the ratio of the total surface area of the larger cube to the sum of the total surface areas of all the smaller cubes?

Ans
✗ A. 1 : 5
✓ B. 1 : 6
✗ C. 1 : 4
✗ D. 1 : 3

Question ID : **486324660**
Status : **Not Answered**
Chosen Option : **--**

Section : **General English**

Q.1 Select the most appropriate meaning of the given idiom.
Mad as a march hare

Ans
✗ A. Awful rumour
✗ B. Long jump
✗ C. Eating food
✓ D. Strange behaviour

Question ID : **486324673**
Status : **Answered**
Chosen Option : **D**

Q.2 Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.
P) It has been proposed that the dynamic interplay that occurs between the protozoan parasite, host microbiota, and host immune system shapes the clinical outcome of enteric infections.
Q) The infecting parasites reside in the intestinal mucosa and therefore are surrounded by the mucosa-associated microbiota.
R) Mucosal infection with the enteric protozoa Entamoeba, Giardia, Cryptosporidium and Blastocystis can be asymptomatic.
S) Or sometimes it might cause diarrhoea, abdominal pain, and/or weight loss.

Ans
✗ A. RQSP
✓ B. RSQP
✗ C. QSPR
✗ D. SQRP

Question ID : **486324678**
Status : **Answered**
Chosen Option : **B**

Q.3 Select the most appropriate interjection to fill in the blank.
_____! You don't mean to say so?

Ans
✗ A. How
✗ B. When
✓ C. What
✗ D. Why

Question ID : **486324672**
Status : **Answered**
Chosen Option : **A**

Q.4 **Select the most appropriate synonym of the underlined word.**
She languished for her lover.

Ans
✗ A. prayed
✗ B. waited
✓ C. pined
✗ D. raved

Question ID : **486324676**
Status : **Not Answered**
Chosen Option : **--**

Q.5 **Select the most appropriate synonym of the underlined word.**
Suresh is a muddle-headed thinker.

Ans
✗ A. illustrative
✓ B. confused
✗ C. illusory
✗ D. in-depth

Question ID : **486324675**
Status : **Answered**
Chosen Option : **B**

Q.6 **Select the most appropriate option that can substitute the underlined words in the given sentence.**
My mother is the real boss of my home.

Ans
✗ A. is the bright line rule
✗ B. the Queensberry rule
✗ C. is the sparring partner
✓ D. rules the roost

Question ID : **486324674**
Status : **Answered**
Chosen Option : **D**

Q.7 **Select the most appropriate option that can substitute the underlined word in the given sentence.**
He always reminisces about his glorious years.

Ans
✗ A. reply
✗ B. rewrite
✗ C. read
✓ D. recall

Question ID : **486324679**
Status : **Answered**
Chosen Option : **D**

Q.8 **Select the grammatically correct sentence.**

Ans
✗ A. He said that he has played the match two years ago.

✗ B. He said that he had play the match two years ago.

✓ C. He said that he had played the match two years ago.

✗ D. He said that he played the match two years ago.

Question ID : **486324680**
Status : **Answered**
Chosen Option : **D**

Q.9 **Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.**

P) Administered orally or rectally in the treatment of asthma, it facilitates breathing by relaxing the bronchioles in the lungs.
Q) It is also administered by injection for the treatment of congestive heart failure to stimulate the heart and increase the total output of blood by the heart.
R) Along with caffeine, it is an active constituent of tea, but it is commercially produced in pharmaceutical manufacture by chemical synthesis.
S) Theophylline is a xanthine alkaloid, a methylxanthine chemically related to caffeine and theobromine.

Ans
✗ A. RSPQ

✗ B. RQSP

✓ C. SRPQ

✗ D. SPRQ

Question ID : **486324677**
Status : **Answered**
Chosen Option : **C**

Q.10 **Select the most appropriate conjunction to fill in the blank.**
The students knew that the result was not going to be published that day and _____ kept checking the website.

Ans
✓ A. yet

✗ B. so

✗ C. because

✗ D. therefore

Question ID : **486324671**
Status : **Answered**
Chosen Option : **A**

Section : **General Awareness**

Q.1 **The NITI Aayog has projected that the Indian telemedicine market size is set to increase from $830 million to _____ by 2025 growing at a CAGR of 31% by 2025.**

Ans
✗ A. $7.5 billion

✗ B. $4.5 billion

✗ C. $6.5 billion

✓ D. $5.5 billion

Question ID : **486324681**
Status : **Not Answered**
Chosen Option : **--**

Q.2 The 36th Amendment Act, Sikkim has been admitted into the Union of India as a State, by amending the First and fourth Schedules, Article 80-81, and omitting Article 2A and the 10th Schedule, with retrospective effect from _____.

Ans
✗ A. 26 June 1971
✗ B. 26 March 1970
✓ C. 26 April 1975
✗ D. 26 May 1972

Question ID : **486324698**
Status : **Not Answered**
Chosen Option : **--**

Q.3 Which of the following musical instruments is also called an aerophone?

Ans
✗ A. Ghan vadya
✗ B. Tat vadya
✗ C. Avanaddha vadya
✓ D. Sushir vadya

Question ID : **486324689**
Status : **Not Answered**
Chosen Option : **--**

Q.4 Narrow bands of strong wind that generally blow from west to east all across the globe are known as:

Ans
✗ A. Bordoisila
✗ B. La Nino
✗ C. blossom showers
✓ D. jet streams

Question ID : **486324692**
Status : **Not Answered**
Chosen Option : **--**

Q.5 Whose mausoleum is famously known as Data Durbar?

Ans
✗ A. Shaikh Nasiruddin Mahmud
✓ B. Abul Hasan Al Hujwiri
✗ C. Fariduddin Ganj-i Shakar
✗ D. Qutbuddin Bakhtiyar Kaki

Question ID : **486324685**
Status : **Not Answered**
Chosen Option : **--**

Q.6 **Which of the following dances is performed by the boatmen (mallah) of Bihar?**

Ans
✗ A. Jata-Jatin Naach
✓ B. Maharai
✗ C. Brindabani
✗ D. Damph Basuli Naach

Question ID : **486324688**
Status : **Not Answered**
Chosen Option : **--**

Q.7 **According to the National Achievement Survey 2021 report, which state was the best performer in India across all grades and subjects?**

Ans
✗ A. Karnataka
✗ B. Kerala
✓ C. Punjab
✗ D. West Bengal

Question ID : **486324683**
Status : **Answered**
Chosen Option : **B**

Q.8 **India stands at what place as the world producer of jute, as of 2021-22?**

Ans
✗ A. Third
✓ B. First
✗ C. Second
✗ D. Fourth

Question ID : **486324691**
Status : **Answered**
Chosen Option : **B**

Q.9 **As per the 28th edition of the Status Report on India's External Debt 2021-22 released by the External Debt Management Unit (EDMU) in the Department of Economic Affairs, Ministry of Finance, Commercial borrowings, NRIs deposits, short-term trade credit and multilateral loans together accounted for what per cent of the total external debt?**

Ans
✓ A. 90%
✗ B. 70%
✗ C. 60%
✗ D. 80%

Question ID : **486324682**
Status : **Not Answered**
Chosen Option : **--**

Q.10 **Which of the following statements about magnetic property of substances is INCORRECT?**

Ans
- ✗ A. Ferromagnetic substance can be converted into a permanent magnet.
- ✗ B. Diamagnetic substances are weakly repelled by a magnetic field.
- ✓ C. Ferrimagnetic substances are strongly repelled by a magnetic field.
- ✗ D. Paramagnetic substances are weakly attracted by a magnetic field.

Question ID : **486324697**
Status : **Answered**
Chosen Option : **C**

Q.11 **The 73rd Amendment Act 1992 which was brought into force on 24 April 1993 has added 16 articles which provided for the establishment of elections in which of the following?**

Ans
- ✗ A. Municipalities
- ✓ B. Panchayats
- ✗ C. States
- ✗ D. Centre

Question ID : **486324699**
Status : **Answered**
Chosen Option : **A**

Q.12 **Which is the correct decreasing order of abundance of elements in the atmosphere of Earth?**

Ans
- ✗ A. Oxygen, nitrogen, argon, carbon dioxide
- ✗ B. Nitrogen, argon, oxygen, carbon dioxide
- ✓ C. Nitrogen, oxygen, argon, carbon dioxide
- ✗ D. Nitrogen, oxygen, carbon dioxide, argon

Question ID : **486324696**
Status : **Answered**
Chosen Option : **D**

Q.13 **The Mohammedan Literary Society promoted the discussion of religious, social and political questions in the light of modern ideas and encouraged upper and middle-class Muslims to take to Western Education. When was this society founded?**

Ans
- ✓ A. 1863
- ✗ B. 1853
- ✗ C. 1843
- ✗ D. 1873

Question ID : **486324686**
Status : **Not Answered**
Chosen Option : **--**

Q.14 How many projects will be executed by the North Eastern Space Applications Centre (NESAC), Shillong, in eight North-Eastern states by 2024?

Ans

✗ A. 105

✗ B. 115

✓ C. 110

✗ D. 100

Question ID : **486324695**
Status : **Not Answered**
Chosen Option : **--**

Q.15 Which of the following statements is NOT true for Balance of Payments (BOP)?

Ans

✗ A. The BOP records all external visible and non-visible transactions.

✗ B. The 'BOP account is always balanced' as it is maintained by a 'double entry bookkeeping system'.

✓ C. In BOP, all the receipts from the 'rest of the world' are recorded as debit.

✗ D. The BOP records the payments for the country's exports and imports of goods, services and financial capital, and financial transfers.

Question ID : **486324690**
Status : **Not Answered**
Chosen Option : **--**

Q.16 A foreigner, who is NOT an illegal immigrant, can acquire Indian Citizenship on the application for _____ to the government of India.

Ans

✗ A. descent

✗ B. registration

✓ C. naturalisation

✗ D. incorporation

Question ID : **486324700**
Status : **Not Answered**
Chosen Option : **--**

Q.17 In which of the following districts of Punjab, do we find Gurudwara Sri Karir Sahib Litran?

Ans

✗ A. Amritsar

✓ B. Ludhiana

✗ C. Jalandhar

✗ D. Pathankot

Question ID : **486324687**
Status : **Not Answered**
Chosen Option : **--**

Q.18 **Who became the first Indian to win the Diamond Trophy, the prestigious title, in the finale of the Diamond League series in men's javelin held in September 2022?**

Ans

✗ A. Shivpal Singh

✗ B. Sumit Antil

✗ C. Vipin Kasana

✓ D. Neeraj Chopra

Question ID : **486324684**
Status : **Answered**
Chosen Option : **D**

Q.19 **Prime Minister Mr. Narendra Modi laid the foundation stone of _____ projects such as Agriculture and Allied industries worth more than ₹80,000 crores at the ground-breaking ceremony of the UP Investors Summit in Lucknow.**

Ans

✗ A. 1120

✗ B. 1232

✓ C. 1406

✗ D. 1509

Question ID : **486324694**
Status : **Answered**
Chosen Option : **C**

Q.20 **Which of the following tribal groups does NOT belong to the Jharkhand state?**

Ans

✓ A. Garasia

✗ B. Gond

✗ C. Ho

✗ D. Munda

Question ID : **486324693**
Status : **Not Answered**
Chosen Option : **--**