



Participant ID	
Participant Name	
Test Center Name	
Test Date	29/09/2024
Test Time	1:30 PM - 3:30 PM
Subject	ENGINEERING ASSISTANT ELECTRICAL

Section : Technical

Q.1 The optimising fan speed contributes to energy conservation by _____.

- Ans
- A. improving ventilation efficiency
 - B. reducing fan lifespan
 - C. increasing wind-age loss
 - D. increasing energy consumption

Question ID : 630680403609
 Option 1 ID : 6306801573926
 Option 2 ID : 6306801573928
 Option 3 ID : 6306801573929
 Option 4 ID : 6306801573927
 Status : Answered
 Chosen Option : A

Q.2 What is the advantage of operating Type-D Wind Power Plants (WPPs) with Wound Rotor Synchronous Generators (WRSg)?

- Ans
- A. Greater power output
 - B. Smoother grid connection
 - C. Reduced mechanical stresses
 - D. Lower energy losses

Question ID : 630680392251
 Option 1 ID : 6306801529350
 Option 2 ID : 6306801529351
 Option 3 ID : 6306801529352
 Option 4 ID : 6306801529353
 Status : Answered
 Chosen Option : B

Q.3 Select the INCORRECT statements from among the following with respect to High Voltage Schering bridge.

- 1) Earthed screens are used to avoid the effect of earth capacitance between high and low impedance arms.
- 2) Wagner ground connection is used to eliminate the errors due to inter-capacitance between high and low impedance arms.
- 3) Earthed screens are used to avoid the errors due to inter-capacitance between high and low impedance arms.
- 4) Wagner ground connection is used to eliminate the effect of earth capacitance on the galvanometer and contact leads.

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

Question ID : 630680424748
 Option 1 ID : 6306801657304
 Option 2 ID : 6306801657305
 Option 3 ID : 6306801657306
 Option 4 ID : 6306801657303
 Status : Answered
 Chosen Option : C

Q.4 What current type transformer is it when its primary winding is having more than one full turn wound on core?

- Ans A. Bar
 B. Wound
 C. Ring
 D. Bush

Question ID : 630680396138
 Option 1 ID : 6306801544664
 Option 2 ID : 6306801544665
 Option 3 ID : 6306801544667
 Option 4 ID : 6306801544666
 Status : Answered
 Chosen Option : B

Q.5 What does a higher efficiency value indicate for a transmission line?

- Ans A. Equal power delivery at the receiving end and the sending end
 B. Higher line losses and lower power delivery at the receiving end
 C. Lower line losses and higher power delivery at the receiving end
 D. Unstable operation of the transmission line

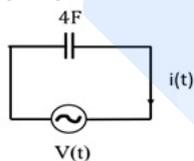
Question ID : 630680368270
 Option 1 ID : 6306801434523
 Option 2 ID : 6306801434521
 Option 3 ID : 6306801434522
 Option 4 ID : 6306801434524
 Status : Answered
 Chosen Option : C

Q.6 What is the consequence of operating a single-phase transformer at a frequency significantly higher than its design frequency?

- Ans A. Reduced core losses
 B. Increased core losses
 C. Improved efficiency
 D. Decreased voltage regulation

Question ID : 630680426275
 Option 1 ID : 6306801663204
 Option 2 ID : 6306801663206
 Option 3 ID : 6306801663203
 Option 4 ID : 6306801663205
 Status : Answered
 Chosen Option : B

Q.7 If $v(t) = 100\sin(50t - 50^\circ)$ V, then which of the following statements is/are correct regarding the circuit shown in the given diagram?



- (a) The current $i(t)$ in the circuit equals to $20000 \sin(50t + 40^\circ)$ A.
 (b) The current $i(t)$ in the circuit leads the voltage $v(t)$ by 40° .
 (c) Admittance = $-j200 \Omega$.

- Ans A. Only (a)
 B. Both (a) and (c)
 C. (a), (b) and (c)
 D. Both (a) and (b)

Question ID : 630680328978
 Option 1 ID : 6306801279868
 Option 2 ID : 6306801279865
 Option 3 ID : 6306801279866
 Option 4 ID : 6306801279867
 Status : Answered
 Chosen Option : A

Q.8 Which pin(s) is/are used to select the step size in the ADC0808/0809 IC?

- Ans A. Vref/2 and Vin
 B. Vin/Vout
 C. Vref
 D. Vin

Question ID : 630680358745
Option 1 ID : 6306801396948
Option 2 ID : 6306801396947
Option 3 ID : 6306801396946
Option 4 ID : 6306801396945
Status : Answered
Chosen Option : A

Q.9 In IGBT semiconductor to form PNP layer the _____ electrode connected to P layer.

- Ans A. collector
 B. gate
 C. emitter
 D. drain

Question ID : 630680374792
Option 1 ID : 6306801460335
Option 2 ID : 6306801460338
Option 3 ID : 6306801460336
Option 4 ID : 6306801460337
Status : Answered
Chosen Option : B

Q.10 What types of serial communication does the 8051 microcontroller support?

- Ans A. Half duplex and full duplex
 B. Synchronous and half-duplex
 C. asynchronous and synchronous.
 D. asynchronous and full-duplex

Question ID : 630680339859
Option 1 ID : 6306801321960
Option 2 ID : 6306801321957
Option 3 ID : 6306801321959
Option 4 ID : 6306801321958
Status : Answered
Chosen Option : D

Q.11 How does one move the entire display to the right on an LCD?

- Ans A. 0 x 18
 B. 0 x 1C
 C. 0 x 01
 D. 0 x 0F

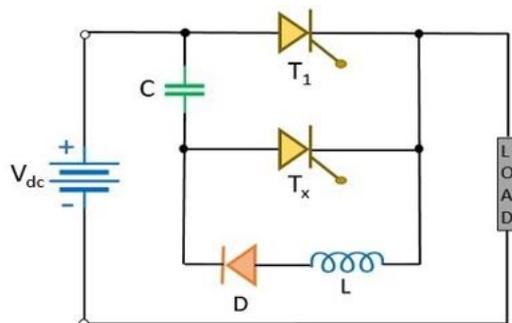
Question ID : 630680339855
Option 1 ID : 6306801321942
Option 2 ID : 6306801321941
Option 3 ID : 6306801321943
Option 4 ID : 6306801321944
Status : Answered
Chosen Option : B

Q.12 Which of the following are NOT suitable as a solid biomass resource?

- Ans A. Alcohol Breweries
 B. Metallic and plastic waste
 C. Paper and cardboard
 D. Husks

Question ID : 630680971399
Option 1 ID : 6306803809648
Option 2 ID : 6306803809650
Option 3 ID : 6306803809649
Option 4 ID : 6306803809647
Status : Answered
Chosen Option : A

Q.13 The given circuit represents _____.



Ans A. complementary commutation

B. auxiliary commutation

C. external pulse commutation

D. load commutation

Question ID : 630680352185
 Option 1 ID : 6306801370838
 Option 2 ID : 6306801370840
 Option 3 ID : 6306801370839
 Option 4 ID : 6306801370837
 Status : Answered
 Chosen Option : B

Q.14 The most economical transmission voltage is _____ per km of transmission line.

Ans A. 440 volts

B. 650 volts

C. 750 volts

D. 850 volts

Question ID : 630680401928
 Option 1 ID : 6306801567458
 Option 2 ID : 6306801567459
 Option 3 ID : 6306801567460
 Option 4 ID : 6306801567461
 Status : Answered
 Chosen Option : B

Q.15 The calibration of DC potentiometers is carried out by instruments that are _____.

Ans A. both AC and DC

B. AC only

C. DC only

D. either AC or DC

Question ID : 630680396189
 Option 1 ID : 6306801544870
 Option 2 ID : 6306801544869
 Option 3 ID : 6306801544868
 Option 4 ID : 6306801544871
 Status : Answered
 Chosen Option : C

Q.16 Which method of stringing overhead transmission conductors involves dragging the conductor along the ground by a vehicle or pulling device?

Ans A. Helicopter stringing

B. Full-tension stringing

C. Semi-tension stringing

D. Slack stringing

Question ID : 630680396765
 Option 1 ID : 6306801547147
 Option 2 ID : 6306801547146
 Option 3 ID : 6306801547145
 Option 4 ID : 6306801547144
 Status : Answered
 Chosen Option : D

Q.17 To adjust the power factor of the synchronous motor, we have to adjust the _____.

- Ans
- A. supply frequency
 - B. speed
 - C. supply voltage
 - D. excitation

Question ID : 630680618154
 Option 1 ID : 6306802418959
 Option 2 ID : 6306802418957
 Option 3 ID : 6306802418960
 Option 4 ID : 6306802418958
 Status : Answered
 Chosen Option : D

Q.18 Three resistances, each of $39\ \Omega$, are connected in star connection. What will be the value of each resistance in equivalent delta connection?

- Ans
- A. Zero
 - B. $11\ \Omega$
 - C. $117\ \Omega$
 - D. $13\ \Omega$

Question ID : 630680328966
 Option 1 ID : 6306801279820
 Option 2 ID : 6306801279819
 Option 3 ID : 6306801279817
 Option 4 ID : 6306801279818
 Status : Answered
 Chosen Option : C

Q.19 Which of the following is the right is the condition for maximum power developed by the motor if I_a = Armature current, R_a = Armature resistance and V = Terminal voltage and E_b = Back EMF?

- Ans
- A. $\frac{I_a}{R_a} = \frac{V}{2} = E_b$
 - B. $I_a R_a = 2V = \frac{E_b}{2}$
 - C. $\frac{I_a}{R_a} = 0$
 - D. $I_a R_a = \frac{V}{2} = E_b$

Question ID : 630680503357
 Option 1 ID : 6306801967011
 Option 2 ID : 6306801967010
 Option 3 ID : 6306801967012
 Option 4 ID : 6306801967009
 Status : Answered
 Chosen Option : D

Q.20 A 6-pole 3-phase induction motor is coupled with a 2-pole single-phase induction motor, and both the motors run on 50 Hz supply voltage. The frequency of the emfs at the rotor terminals when the single-phase motor is driven in the direction of the induction motor stator rotating field is _____, and the rotor frequency when the same motor is driven in the direction opposite to the induction motor stator rotating field is _____.

- Ans
- A. 200 Hz; 66.5 Hz
 - B. 66.5 Hz; 200 Hz
 - C. 201 Hz; 65.6 Hz
 - D. 210 Hz; 65.5 Hz

Question ID : 630680337205
 Option 1 ID : 6306801311543
 Option 2 ID : 6306801311541
 Option 3 ID : 6306801311542
 Option 4 ID : 6306801311544
 Status : Answered
 Chosen Option : B

Q.21 The voltage determined by the DC potentiometer is independent of _____.

- Ans
- A. load power
 - B. energy consumption
 - C. source resistance
 - D. load current

Question ID : 630680396193
 Option 1 ID : 6306801544886
 Option 2 ID : 6306801544887
 Option 3 ID : 6306801544885
 Option 4 ID : 6306801544884
 Status : Answered
 Chosen Option : B

Q.22 The correct expression for the capacitance of a single 3-phase unsymmetrical line with transposed conductors, with r = radius of the conductor and x , y and z as spacing between conductors, is:

- Ans
- A. $C = \frac{2 \pi \epsilon_0}{\log_e \frac{\sqrt[3]{xyz}}{r}} \text{ F/m}$
 - B. $C = \frac{2 \pi \epsilon_0}{\log_e r} \text{ F/m}$
 - C. $C = \frac{2 \pi \epsilon_0}{\log_e \sqrt[3]{xyz}} \text{ F/m}$
 - D. $C = \frac{\pi \epsilon_0}{\log_e \frac{\sqrt[3]{xyz}}{r}} \text{ F/m}$

Question ID : 630680407215
 Option 1 ID : 6306801587805
 Option 2 ID : 6306801587804
 Option 3 ID : 6306801587802
 Option 4 ID : 6306801587803
 Status : Answered
 Chosen Option : A

Q.23 The value of internal flux linkage at a distance of x along a straight cylindrical conductor carrying a current I of radius r metres and surrounded by a magnetic field is:

- Ans
- A. $\Psi_{\text{int}} = \frac{1}{4} \times 10^{-7} \text{ Wb} - \text{turns/m}$
 - B. $\Psi_{\text{int}} = 2 I \times 10^{-7} \text{ Wb} - \text{turns/m}$
 - C. $\Psi_{\text{int}} = \frac{1}{2} I \times 10^{-8} \text{ Wb} - \text{turns/m}$
 - D. $\Psi_{\text{int}} = \frac{1}{2} I \times 10^{-7} \text{ Wb} - \text{turns/m}$

Question ID : 630680396784
 Option 1 ID : 6306801547221
 Option 2 ID : 6306801547220
 Option 3 ID : 6306801547223
 Option 4 ID : 6306801547222
 Status : Answered
 Chosen Option : D

Q.24 Which of the following options is NOT true regarding active power in an AC series circuit?

- Ans
- A. Active power is the useful power in an AC circuit
 - B. Active power is independent of power factor of circuit
 - C. Active power is directly proportional to circuit power factor
 - D. Active power is dissipated on resistive component of impedance

Question ID : 630680334710
 Option 1 ID : 6306801302097
 Option 2 ID : 6306801302099
 Option 3 ID : 6306801302098
 Option 4 ID : 6306801302100
 Status : Answered
 Chosen Option : B

Q.25 How does the Intelligent Power Factor Controller (IPFC) contribute to optimising power factor correction?

- Ans
- A. By adding more capacitors to the system
 - B. By increasing power factor correction without considering load conditions
 - C. By decreasing power factor correction under all circumstances
 - D. By dynamically adjusting power factor correction to minimise losses and improve efficiency

Question ID : 630680373444
 Option 1 ID : 6306801455050
 Option 2 ID : 6306801455047
 Option 3 ID : 6306801455049
 Option 4 ID : 6306801455048
 Status : Answered
 Chosen Option : D

Q.26 In a battery charger system, SCR act as a:

- Ans
- A. rectifier
 - B. switch
 - C. chopper
 - D. inverter

Question ID : 630680352119
 Option 1 ID : 6306801370575
 Option 2 ID : 6306801370576
 Option 3 ID : 6306801370574
 Option 4 ID : 6306801370573
 Status : Answered
 Chosen Option : A

Q.27 Which of the following steps should be followed while reading data from an LCD?

- Ans
- A. The R/W pin is raised.
 - B. E pin has a high to low pulse, while R/W pin is set to low.
 - C. low to high pulse at E pin
 - D. The R/W pin is set high, and the E pin has a low to high pulse.

Question ID : 630680366335
 Option 1 ID : 6306801426858
 Option 2 ID : 6306801426860
 Option 3 ID : 6306801426857
 Option 4 ID : 6306801426859
 Status : Answered
 Chosen Option : D

Q.28 The net area under the load duration curve denotes:

- Ans
- A. generated energy during the duration
 - B. system's base load
 - C. system's peak load
 - D. system's average load

Question ID : 630680333463
 Option 1 ID : 6306801297127
 Option 2 ID : 6306801297128
 Option 3 ID : 6306801297125
 Option 4 ID : 6306801297126
 Status : Answered
 Chosen Option : A

Q.29 _____ distribution system is more reliable than other distribution systems.

- Ans
- A. Radial
 - B. Ring main
 - C. Circular
 - D. Tree

Question ID : 630680401917
 Option 1 ID : 6306801567416
 Option 2 ID : 6306801567414
 Option 3 ID : 6306801567417
 Option 4 ID : 6306801567415
 Status : Answered
 Chosen Option : B

Q.30 Which of the following statements is/are correct regarding reciprocity theorem?

- a) It is applicable to a multisource network.
 b) It is applicable to a circuit containing both independent and dependent sources.
 c) It is applicable to a network having only one independent source.

Ans A. Only (c)

B. Only (a)

C. Only (a) and (b)

D. Only (b) and (c)

Question ID : 630680328968
 Option 1 ID : 6306801279828
 Option 2 ID : 6306801279827
 Option 3 ID : 6306801279825
 Option 4 ID : 6306801279826
 Status : Answered
 Chosen Option : A

Q.31 In brushless DC motor, the electronic drive is an inverter which consists of a transistor connected to stator windings. These transistors are controlled by the pulses generated by _____.

Ans A. rotor position sensor

B. optical sensor

C. phototransistor sensor

D. stator position sensor

Question ID : 630680379049
 Option 1 ID : 6306801477244
 Option 2 ID : 6306801477245
 Option 3 ID : 6306801477246
 Option 4 ID : 6306801477243
 Status : Answered
 Chosen Option : A

Q.32 Why is a charge controller necessary for a PV system with batteries?

Ans A. To prevent overcharging of the batteries

B. To track the movement of the sun

C. To generate electricity from solar energy

D. To increase the voltage output of the solar cells

Question ID : 630680374472
 Option 1 ID : 6306801459070
 Option 2 ID : 6306801459068
 Option 3 ID : 6306801459067
 Option 4 ID : 6306801459069
 Status : Answered
 Chosen Option : A

Q.33 How is the transposition of line conductors carried out?

Ans A. Increasing the number of conductors in each phase

B. Changing the positions of the three phases on the line supports

C. Adjusting the voltage levels in each phase

D. Balancing the power transfer between the phases

Question ID : 630680368271
 Option 1 ID : 6306801434526
 Option 2 ID : 6306801434525
 Option 3 ID : 6306801434528
 Option 4 ID : 6306801434527
 Status : Answered
 Chosen Option : B

Q.34 In a shaded pole motor, the stator is made of _____.

Ans A. laminated salient poles with a number of slots cut in each pole

B. smooth cylindrical structure with the shading ring around the cylindrical periphery

C. smooth cylindrical structure with slots all along the periphery housing the shading coil

D. laminated salient poles with a slot at one-third distance from one edge on each pole

Question ID : 630680694992
 Option 1 ID : 6306802722208
 Option 2 ID : 6306802722209
 Option 3 ID : 6306802722210
 Option 4 ID : 6306802722207
 Status : Answered
 Chosen Option : D

Q.35 If there is any mechanical displacement at the point balance, then the value of the quantity is measured. This type of instrument is called _____.

- Ans
- A. Secondary instrument
 - B. Absolute instrument
 - C. Null type instrument
 - D. Deflection type instrument

Question ID : 630680396175
Option 1 ID : 6306801544815
Option 2 ID : 6306801544814
Option 3 ID : 6306801544813
Option 4 ID : 6306801544812
Status : Answered
Chosen Option : D

Q.36 Calculate the output DC voltage for a single-phase semi converter for $v_s=400 \sin \omega t$ and whose firing angle α is 90 degrees.

- Ans
- A. 198.14
 - B. 200
 - C. 270
 - D. 168.4

Question ID : 630680374791
Option 1 ID : 6306801460332
Option 2 ID : 6306801460334
Option 3 ID : 6306801460331
Option 4 ID : 6306801460333
Status : Answered
Chosen Option : C

Q.37 A DC shunt motor with a voltage of 200 volts and a speed of 1000 revolutions per minute requires an armature current of 20 amps. It is necessary to slow down to 500 revolutions per minute. If the initial resistance of the armature is 0.5Ω , what must the value of the resistance that is injected into the armature circuit be? Consider that the current through the armature will remain the same during this process.

- Ans
- A. 4.75Ω
 - B. 0Ω
 - C. 5.5Ω
 - D. 8.5Ω

Question ID : 630680503351
Option 1 ID : 6306801966987
Option 2 ID : 6306801966985
Option 3 ID : 6306801966986
Option 4 ID : 6306801966988
Status : Answered
Chosen Option : A

Q.38 What is the definition of 'connected load' in an electrical system?

- Ans
- A. The load connected to the system with the highest power rating
 - B. The load connected to the system that requires the highest voltage
 - C. The sum of all loads connected to the system, regardless of their ratings
 - D. The sum of the continuous ratings of all loads connected to the system

Question ID : 630680374437
Option 1 ID : 6306801458929
Option 2 ID : 6306801458930
Option 3 ID : 6306801458927
Option 4 ID : 6306801458928
Status : Answered
Chosen Option : D

Q.39 Three $50\ \Omega$ resistances are connected in star across an 800 V, 50 Hz, 3-phase supply. If one of the three resistances is open circuited, the value of total power taken from the mains is _____.

- Ans
- A. $9600\sqrt{3}\ \text{W}$
 - B. 6400 W
 - C. 1000 W
 - D. 9600 W

Question ID : 630680210766
 Option 1 ID : 630680817225
 Option 2 ID : 630680817223
 Option 3 ID : 630680817226
 Option 4 ID : 630680817224
 Status : Answered
 Chosen Option : B

Q.40 Which of the following statements is/are FALSE in regard to three-phase induction motors?

- A) The EMFs induced in every rotor bar will have the same magnitude and frequency and they will be in phase.
- B) Induced EMF is directly proportional to the slip.
- C) There is no induced EMF when the rotor is stationary and the induced EMF is maximum when the rotor runs at a synchronous speed.
- D) The frequency of the rotor EMF (the slip frequency) is also directly proportional to slip.

- Ans
- A. Only A
 - B. A and B
 - C. B and D
 - D. Only C

Question ID : 630680339349
 Option 1 ID : 6306801319967
 Option 2 ID : 6306801319965
 Option 3 ID : 6306801319968
 Option 4 ID : 6306801319966
 Status : Answered
 Chosen Option : D

Q.41 The fastest rise time a sine wave can have to be accurately reproduced by the instrument is 350 ns. What is the value of bandwidth of the oscilloscope?

- Ans
- A. 0.1 MHz
 - B. 0.01 MHz
 - C. 10 MHz
 - D. 1 MHz

Question ID : 630680405719
 Option 1 ID : 6306801582022
 Option 2 ID : 6306801582023
 Option 3 ID : 6306801582020
 Option 4 ID : 6306801582021
 Status : Answered
 Chosen Option : D

Q.42 In the short circuit test on a star connected three phase alternator, a field current of 5 A gives an armature current of 40 A. In the open circuit test, the same field current produces an open circuit voltage of 240 V per phase. What is the synchronous impedance per phase?

- Ans
- A. $8\ \Omega$
 - B. $48\ \Omega$
 - C. $12\ \Omega$
 - D. $6\ \Omega$

Question ID : 630680618278
 Option 1 ID : 6306802419442
 Option 2 ID : 6306802419441
 Option 3 ID : 6306802419444
 Option 4 ID : 6306802419443
 Status : Answered
 Chosen Option : D

Q.43 A voltage $V = 200\sin(t)$ is applied to a circuit consisting of a $4\ \Omega$ resistor and a $0.25\ \text{F}$ capacitor that are connected in series. The maximum value of the current through the circuit is _____.

- Ans
- A. 50 A
 - B. $25\sqrt{2}$ A
 - C. $50\sqrt{2}$ A
 - D. 25 A

Question ID : 630680338929
 Option 1 ID : 6306801318305
 Option 2 ID : 6306801318307
 Option 3 ID : 6306801318308
 Option 4 ID : 6306801318306
 Status : Answered
 Chosen Option : B

Q.44 Which of the following steps describes how a microprocessor operate?

- Ans
- A. Opcode fetch, memory read, memory write, I/O read, I/O write
 - B. Opcode fetch, memory write, memory read, I/O read, I/O write
 - C. I/O write, opcode fetch, memory write, memory read, I/O read
 - D. I/O read, opcode fetch, memory read, memory write, I/O write

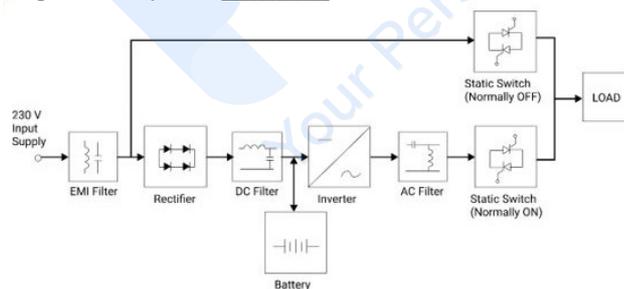
Question ID : 630680339829
 Option 1 ID : 6306801321837
 Option 2 ID : 6306801321838
 Option 3 ID : 6306801321839
 Option 4 ID : 6306801321840
 Status : Answered
 Chosen Option : A

Q.45 Which of the following devices is used for static reactive power compensation in an industrial system?

- Ans
- A. Battery
 - B. Transformer
 - C. Induction motor
 - D. Synchronous motor

Question ID : 630680373439
 Option 1 ID : 6306801455027
 Option 2 ID : 6306801455028
 Option 3 ID : 6306801455029
 Option 4 ID : 6306801455030
 Status : Answered
 Chosen Option : D

Q.46 The given circuit represents _____.



- Ans
- A. no line UPS
 - B. on-line UPS
 - C. line interactive UPS
 - D. off-line UPS

Question ID : 630680387311
 Option 1 ID : 6306801509930
 Option 2 ID : 6306801509931
 Option 3 ID : 6306801509932
 Option 4 ID : 6306801509933
 Status : Answered
 Chosen Option : B

Q.47 If the bandwidth of an oscilloscope is given as direct current to 35 MHz, what is the fastest rise time a sine wave can have to be produced accurately by the oscilloscope?

- Ans
- A. 10 s
 - B. 0.01 ns
 - C. 0.1 s
 - D. 10 ns

Question ID : 630680405720
 Option 1 ID : 6306801582024
 Option 2 ID : 6306801582027
 Option 3 ID : 6306801582026
 Option 4 ID : 6306801582025
 Status : Answered
 Chosen Option : D

Q.48 What can be said about the value of the diversity factor?

- Ans
- A. It is always less than one.
 - B. It is always equal to one.
 - C. It varies depending on the size of the power station.
 - D. It is always greater than one.

Question ID : 630680374429
 Option 1 ID : 6306801458895
 Option 2 ID : 6306801458896
 Option 3 ID : 6306801458898
 Option 4 ID : 6306801458897
 Status : Answered
 Chosen Option : D

Q.49 The maximum demand on a power station is 200 MW. Calculate the energy generated in 10 days if the load factor is 50%.

- Ans
- A. 24×10^3 kWh
 - B. 240×10^3 kWh
 - C. 24 kWh
 - D. 24×10^6 kWh

Question ID : 630680509642
 Option 1 ID : 6306801991773
 Option 2 ID : 6306801991776
 Option 3 ID : 6306801991775
 Option 4 ID : 6306801991774
 Status : Answered
 Chosen Option : D

Q.50 A material with one dimension in nano range and the other two dimensions in large range is called _____.

- Ans
- A. quantum wire
 - B. quantum dot
 - C. quantum well
 - D. micro-material

Question ID : 630680352156
 Option 1 ID : 6306801370722
 Option 2 ID : 6306801370724
 Option 3 ID : 6306801370723
 Option 4 ID : 6306801370721
 Status : Answered
 Chosen Option : C

Q.51 In the voltage equation of the DC shunt motor, which of the following is NOT a parameter of voltage equation?

- Ans
- A. Back EMF
 - B. Voltage drop at load
 - C. Brush voltage
 - D. Voltage drop at armature

Question ID : 630680379051
 Option 1 ID : 6306801477251
 Option 2 ID : 6306801477253
 Option 3 ID : 6306801477252
 Option 4 ID : 6306801477254
 Status : Answered
 Chosen Option : B

Q.52 A resistance of $12\ \Omega$, an inductance of $(\frac{1}{10\pi})\ \text{H}$, and a capacitance of $(\frac{1}{100\pi})\ \text{F}$ are connected in series. The impedance of the circuit when connected across a supply of $230\ \text{V}$, $50\ \text{Hz}$ is:

- Ans**
- A. $15\ \Omega$
 - B. $25\ \Omega$
 - C. $23\ \Omega$
 - D. $21\ \Omega$

Question ID : 630680334718
 Option 1 ID : 6306801302129
 Option 2 ID : 6306801302130
 Option 3 ID : 6306801302131
 Option 4 ID : 6306801302132
 Status : Answered
 Chosen Option : A

Q.53 Which of the following is NOT a type of power factor tariff?

- Ans**
- A. Two-part tariff
 - B. kVA maximum demand tariff
 - C. kW and kVAR tariff
 - D. Sliding scale tariff

Question ID : 630680509638
 Option 1 ID : 6306801991760
 Option 2 ID : 6306801991757
 Option 3 ID : 6306801991759
 Option 4 ID : 6306801991758
 Status : Answered
 Chosen Option : A

Q.54 Which of the following should a tariff include?

- (a) Recovery of cost of producing electrical energy at the power station.
- (b) A suitable profit on the capital investment.
- (c) Recovery of cost of operation and maintenance of supply of electrical energy.

- Ans**
- A. (a), (b) and (c)
 - B. (a) and (b) only
 - C. (a) and (c) only
 - D. (b) and (c) only

Question ID : 630680509632
 Option 1 ID : 6306801991736
 Option 2 ID : 6306801991733
 Option 3 ID : 6306801991735
 Option 4 ID : 6306801991734
 Status : Answered
 Chosen Option : A

Q.55 What is the function of the magnetising component of the primary current in an actual transformer working at no load?

- Ans**
- A. To counteract the secondary MMF
 - B. To supply iron losses in the core
 - C. To sustain the alternating flux in the core
 - D. To supply copper losses in the windings

Question ID : 630680503332
 Option 1 ID : 6306801966912
 Option 2 ID : 6306801966909
 Option 3 ID : 6306801966911
 Option 4 ID : 6306801966910
 Status : Answered
 Chosen Option : C

Q.56 What function does the Power Electronic Converter (PEC) serve in type-D geared Wind Power Plants (WPPs) with Permanent Magnet Synchronous Generators (PMSGs)?

- Ans**
- A. It decouples the generator from the grid
 - B. It generates electrical power from wind
 - C. It connects the generator to the mechanical drive train
 - D. It adjusts the rotor speed of the generator

Question ID : 630680426251
 Option 1 ID : 6306801663110
 Option 2 ID : 6306801663107
 Option 3 ID : 6306801663109
 Option 4 ID : 6306801663108
 Status : Answered
 Chosen Option : D

Q.57 A physical quantity of energy that is converted from one form to another by an electronic device is referred to as _____.

- Ans
- A. Transistor
 - B. Rectifier
 - C. Transducer
 - D. Sensor

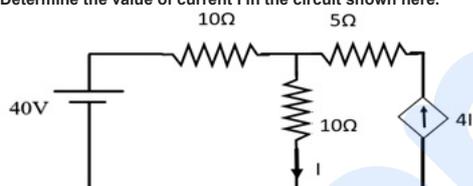
Question ID : 630680339821
 Option 1 ID : 6306801321805
 Option 2 ID : 6306801321807
 Option 3 ID : 6306801321808
 Option 4 ID : 6306801321806
 Status : Answered
 Chosen Option : C

Q.58 Squirrel cage induction motor requires only periodic maintenance as there are _____.

- Ans
- A. no commutator
 - B. semi-closed slots
 - C. no brushes and slip rings
 - D. open slots

Question ID : 630680337195
 Option 1 ID : 6306801311502
 Option 2 ID : 6306801311504
 Option 3 ID : 6306801311501
 Option 4 ID : 6306801311503
 Status : Answered
 Chosen Option : C

Q.59 Determine the value of current I in the circuit shown here.



- Ans
- A. -8 A
 - B. +2 A
 - C. +8 A
 - D. -2 A

Question ID : 630680209175
 Option 1 ID : 630680810917
 Option 2 ID : 630680810916
 Option 3 ID : 630680810918
 Option 4 ID : 630680810915
 Status : Answered
 Chosen Option : D

Q.60 Three-phase induction machines find applications in the area where constant speed is required. This constant speed of induction motors is due to _____.

- Ans
- A. compound characteristics
 - B. series characteristics
 - C. shunt characteristics
 - D. cumulative characteristics

Question ID : 630680337191
 Option 1 ID : 6306801311485
 Option 2 ID : 6306801311488
 Option 3 ID : 6306801311487
 Option 4 ID : 6306801311486
 Status : Answered
 Chosen Option : C

Q.61 How is the starting resistance used in a shunt motor connected to the armature and the field winding?

- Ans
- A. The starting resistance is connected in series with the field winding.
 - B. The starting resistance is connected in parallel with the armature.
 - C. The starting resistance is connected in series with both the field winding and armature winding.
 - D. The starting resistance is connected in series with the armature.

Question ID : 630680503344
 Option 1 ID : 6306801966958
 Option 2 ID : 6306801966959
 Option 3 ID : 6306801966957
 Option 4 ID : 6306801966960
 Status : Answered
 Chosen Option : C

Q.62 The ____ instruction set enables the user to substitute a single instruction for numerous simple ones.

- Ans
- A. RISC
 - B. CISC
 - C. EPM
 - D. MISC

Question ID : 630680358751
 Option 1 ID : 6306801396970
 Option 2 ID : 6306801396969
 Option 3 ID : 6306801396972
 Option 4 ID : 6306801396971
 Status : Answered
 Chosen Option : B

Q.63 In terms of overall cost, Gas Insulated Substation(GIS) is more advantageous in which type of areas?

- Ans
- A. Industrial areas with complex power requirements
 - B. Remote areas with limited access to resources
 - C. Rural areas with ample space for substations
 - D. Urban areas with high site availability and low cost

Question ID : 630680396751
 Option 1 ID : 6306801547090
 Option 2 ID : 6306801547091
 Option 3 ID : 6306801547089
 Option 4 ID : 6306801547088
 Status : Answered
 Chosen Option : B

Q.64 In a three-phase star connected load, the phase voltage and phase current of a phase is given by $V_{ph} = 2 + j4$ V and $I_{ph} = 3 - j2$ A. The complex power will be _____.

- Ans
- A. $(-6 + j48)$ VA
 - B. $(-2 + j16)$ VA
 - C. $(42 + j24)$ VA
 - D. $(14 + j8)$ VA

Question ID : 630680328982
 Option 1 ID : 6306801279882
 Option 2 ID : 6306801279883
 Option 3 ID : 6306801279881
 Option 4 ID : 6306801279884
 Status : Answered
 Chosen Option : B

Q.65 What is the voltage equation of a DC motor commonly referred to as?

- Ans
- A. Motor equation
 - B. Ohm's law
 - C. Lenz's law
 - D. Faraday's law

Question ID : 630680426274
 Option 1 ID : 6306801663202
 Option 2 ID : 6306801663199
 Option 3 ID : 6306801663201
 Option 4 ID : 6306801663200
 Status : Answered
 Chosen Option : B

Q.66 The amorphous transformer is known for their improved _____.

- Ans A. voltage regulation
 B. energy efficiency
 C. mechanical strength
 D. resistance to extreme temperatures

Question ID : 630680373454
Option 1 ID : 6306801455088
Option 2 ID : 6306801455087
Option 3 ID : 6306801455090
Option 4 ID : 6306801455089
Status : Answered
Chosen Option : D

Q.67 In order to relieve the line of excessive tension, _____ insulators are used.

- Ans A. pin
 B. strain
 C. shackle
 D. disc

Question ID : 630680401948
Option 1 ID : 6306801567538
Option 2 ID : 6306801567540
Option 3 ID : 6306801567541
Option 4 ID : 6306801567539
Status : Answered
Chosen Option : B

Q.68 Full bridge converter has three stages, of which the first stage is _____.

- Ans A. transformer network
 B. energy transformer network
 C. square wave generator
 D. rectifier network

Question ID : 630680387309
Option 1 ID : 6306801509923
Option 2 ID : 6306801509925
Option 3 ID : 6306801509924
Option 4 ID : 6306801509922
Status : Answered
Chosen Option : B

Q.69 The strength of the sawtooth voltage produced by the time base generator is amplified by using _____.

- Ans A. Time Base Generators
 B. Vertical Amplifiers
 C. Trigger Circuits
 D. Horizontal Amplifiers

Question ID : 630680396147
Option 1 ID : 6306801544702
Option 2 ID : 6306801544700
Option 3 ID : 6306801544703
Option 4 ID : 6306801544701
Status : Answered
Chosen Option : D

Q.70 Which of the following registers does NOT fall under the umbrella of special function registers in 8051?

- Ans A. SP and PC
 B. TCON and TMOD
 C. P0 and P1
 D. TH0 and TL0

Question ID : 630680358752
Option 1 ID : 6306801396973
Option 2 ID : 6306801396974
Option 3 ID : 6306801396976
Option 4 ID : 6306801396975
Status : Answered
Chosen Option : A

Q.71 In a half bridge converter, the flyback converter is used to provide _____ to higher or lower level of input voltage.

- Ans A. output voltage
 B. output current
 C. input voltage
 D. input current

Question ID : 630680352127
 Option 1 ID : 6306801370606
 Option 2 ID : 6306801370607
 Option 3 ID : 6306801370605
 Option 4 ID : 6306801370608
 Status : Answered
 Chosen Option : A

Q.72 Which of the following processes takes place in Biomass energy conversion?

- Ans A. Thermal conversion, chemical conversion and electrochemical conversion
 B. Electrochemical conversion, biochemical conversion and chemical conversion
 C. Chemical conversion and biochemical conversion
 D. Thermal conversion, chemical conversion, biochemical conversion and electrochemical conversion

Question ID : 630680971367
 Option 1 ID : 6306803809567
 Option 2 ID : 6306803809568
 Option 3 ID : 6306803809570
 Option 4 ID : 6306803809569
 Status : Answered
 Chosen Option : D

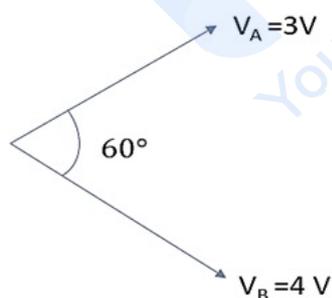
Q.73 Which of the following points is true about slip ring induction motors?

- A) Low power factor at light loads
 B) Sensitivity to fluctuations in the supply voltage
 C) Low starting torque
 D) Poor speed regulation

- Ans A, B and D
 B, A, B and C
 C, A, C and D
 D, B, C and D

Question ID : 630680339366
 Option 1 ID : 6306801320033
 Option 2 ID : 6306801320034
 Option 3 ID : 6306801320036
 Option 4 ID : 6306801320035
 Status : Answered
 Chosen Option : A

Q.74 The phasor of the voltages V_A and V_B is given in the diagram. Find the voltage V_{AB} .



- Ans A. 7 V
 B. 5 V
 C. $\sqrt{13}$ V
 D. $\sqrt{37}$ V

Question ID : 630680328974
 Option 1 ID : 6306801279849
 Option 2 ID : 6306801279852
 Option 3 ID : 6306801279851
 Option 4 ID : 6306801279850
 Status : Answered
 Chosen Option : D

Q.75 How are Aggregated Technical and Commercial (ATC) losses usually expressed when analysing distribution systems on a regional level?

- Ans A. In terms of power factor
 B. In kilowatt-hours
 C. In terms of harmonics
 D. As a percentage of power generation

Question ID : 630680396116
Option 1 ID : 6306801544579
Option 2 ID : 6306801544576
Option 3 ID : 6306801544577
Option 4 ID : 6306801544578
Status : Answered
Chosen Option : B

Section : Numerical Ability

Q.76 In what duration (in years) will ₹1800 fetch a simple interest of ₹1080 at 3% per annum rate of interest?

- Ans A. 19
 B. 21
 C. 20
 D. 40

Question ID : 630680612221
Option 1 ID : 6306802395619
Option 2 ID : 6306802395618
Option 3 ID : 6306802395616
Option 4 ID : 6306802395617
Status : Answered
Chosen Option : C

Q.77 6 परिणामों का औसत 49 है और पहले 5 परिणामों का औसत 48 है। छठा परिणाम है:

- Ans A. 48
 B. 53
 C. 49
 D. 54

Question ID : 630680573316
Option 1 ID : 6306802242134
Option 2 ID : 6306802242135
Option 3 ID : 6306802242133
Option 4 ID : 6306802242132
Status : Answered
Chosen Option : D

Q.78 The sum of 6 numbers is 744. Find their average.

- Ans A. 122
 B. 125
 C. 123
 D. 124

Question ID : 630680551913
Option 1 ID : 6306802157880
Option 2 ID : 6306802157879
Option 3 ID : 6306802157878
Option 4 ID : 6306802157877
Status : Answered
Chosen Option : D

Q.79 What is the mean proportional between 90 and 10?

- Ans A. 50
 B. 33
 C. 30
 D. 25

Question ID : 6306801063116
Option 1 ID : 6306804174826
Option 2 ID : 6306804174824
Option 3 ID : 6306804174823
Option 4 ID : 6306804174825
Status : Answered
Chosen Option : A

Q.80 The marked price of an article is ₹216 and successive discounts of 38% and 30% are offered on its sale. The selling price (rounded off to 2 decimal places) of the article is:

- Ans A. ₹97.62
 B. ₹93.74
 C. ₹93.61
 D. ₹91.07

Question ID : 630680796434
Option 1 ID : 6306803120725
Option 2 ID : 6306803120724
Option 3 ID : 6306803120726
Option 4 ID : 6306803120727
Status : Answered
Chosen Option : B

Q.81 ₹8699 is divided among P, Q, and R in such a way that if ₹57, ₹12, and ₹28 be deducted from their respective shares, they have money in the ratio 2:4:5. Find the difference between the Q's and R's share.

- Ans A. ₹782
 B. ₹682
 C. ₹832
 D. ₹882

Question ID : 6306801063101
Option 1 ID : 6306804174763
Option 2 ID : 6306804174764
Option 3 ID : 6306804174765
Option 4 ID : 6306804174766
Status : Answered
Chosen Option : A

Q.82 A typist takes 40 minutes to type 4 pages. How long (in minutes) will he take to type 110 pages?

- Ans A. 1110
 B. 1105
 C. 1090
 D. 1100

Question ID : 630680915309
Option 1 ID : 6306803586283
Option 2 ID : 6306803586282
Option 3 ID : 6306803586281
Option 4 ID : 6306803586280
Status : Answered
Chosen Option : D

Q.83 The population of a village was 250000. It increased by 10% in the first year and increased by 20% in the second year. Its population after two years is _____.

- Ans A. 325000
 B. 275000
 C. 330000
 D. 300000

Question ID : 630680667318
Option 1 ID : 6306802612835
Option 2 ID : 6306802612833
Option 3 ID : 6306802612832
Option 4 ID : 6306802612834
Status : Answered
Chosen Option : C

Q.84 Find the value of '?' in the given equation.
 $5.5 \times 7.8 \times 12.5 - 242.27 = ?$

- Ans A. 294.98
 B. 293.98
 C. 298.93
 D. 283.98

Question ID : 630680107267
Option 1 ID : 630680416455
Option 2 ID : 630680416454
Option 3 ID : 630680416453
Option 4 ID : 630680416452
Status : Answered
Chosen Option : B

Q.85 What is the value of $(x^2 + y^2 + z^2)$ if x , y , and z satisfy the following linear equations?

$$\begin{aligned} 6x - y + 4z &= 3 \\ x + 4y + 2z &= -2 \\ 5x + 4z &= 0 \end{aligned}$$

- Ans A. 42
 B. -8
 C. 0
 D. -42

Question ID : 6306801001559
 Option 1 ID : 6306803930341
 Option 2 ID : 6306803930342
 Option 3 ID : 6306803930343
 Option 4 ID : 6306803930344
 Status : Answered
 Chosen Option : A

Q.86 राकेश ने एक कार से एक निश्चित दूरी की यात्रा पूरी की। यदि उसने 15% दूरी 45 km/h की चाल से, 35% दूरी 105 km/h की चाल से और शेष दूरी 150 km/h की चाल से तय की, तो पूरी यात्रा के लिए औसत चाल (km/h में) ज्ञात कीजिए।

- Ans A. 90
 B. 80
 C. 100
 D. 70

Question ID : 630680493037
 Option 1 ID : 6306801925921
 Option 2 ID : 6306801925920
 Option 3 ID : 6306801925922
 Option 4 ID : 6306801925919
 Status : Answered
 Chosen Option : C

Q.87 The number of prime numbers lying between 457 and 469 is:

- Ans A. 4
 B. 6
 C. 5
 D. 1

Question ID : 630680740961
 Option 1 ID : 6306802904432
 Option 2 ID : 6306802904435
 Option 3 ID : 6306802904433
 Option 4 ID : 6306802904434
 Status : Answered
 Chosen Option : D

Q.88 If $x - \frac{1}{x} = 7$, then the value of $x^3 - \frac{1}{x^3}$ is:

- Ans A. 389
 B. 364
 C. 322
 D. 343

Question ID : 630680422125
 Option 1 ID : 6306801646938
 Option 2 ID : 6306801646936
 Option 3 ID : 6306801646935
 Option 4 ID : 6306801646937
 Status : Answered
 Chosen Option : A

Q.89 Arun and Aman work in a packaging company and have been assigned a work. Arun can finish the work in 8 days, while Aman can finish the work in 11 days. The manager asks them to work together, so that it can be completed faster. How many days they will take to complete the work together?

- Ans A. 3 days
 B. 5.8 days
 C. 3.5 days
 D. 4.6 days

Question ID : 63068070753
 Option 1 ID : 630680273634
 Option 2 ID : 630680273637
 Option 3 ID : 630680273635
 Option 4 ID : 630680273636
 Status : Answered
 Chosen Option : D

Q.90 एक रुपये में 3 पिन बेचने पर, एक व्यक्ति को 20% की हानि होती है। 20% का लाभ अर्जित करने के लिए उसे एक रुपये में कितनी पिन बेचनी चाहिए?

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

Question ID : 630680907154
 Option 1 ID : 6306803553717
 Option 2 ID : 6306803553716
 Option 3 ID : 6306803553714
 Option 4 ID : 6306803553715
 Status : Answered
 Chosen Option : C

Section : General Awareness

Q.91 Who among the following became the first female Indian cabinet minister?

- Ans A. Aruna Asaf Ali
 B. Sucheta Kriplani
 C. Sarojini Naidu
 D. Vijaya Lakshmi Pandit

Question ID : 630680958378
 Option 1 ID : 6306803757519
 Option 2 ID : 6306803757518
 Option 3 ID : 6306803757520
 Option 4 ID : 6306803757521
 Status : Answered
 Chosen Option : A

Q.92 Complete the following statement from the Preamble of the Indian Constitution.

IN OUR CONSTITUENT ASSEMBLY this _____ day of November, 1949, do HEREBY ADOPT, ENACT AND GIVE TO OURSELVES THIS CONSTITUTION.

- Ans A. twenty sixth
 B. fifteenth
 C. twenty eighth
 D. thirtieth

Question ID : 630680945000
 Option 1 ID : 6306803704768
 Option 2 ID : 6306803704769
 Option 3 ID : 6306803704767
 Option 4 ID : 6306803704766
 Status : Answered
 Chosen Option : A

Q.93 Chandrayaan-3 was launched by which of the following organisations?

- Ans A. Space Agency
 B. ISRO
 C. NASA
 D. Roscosmos

Question ID : 630680965514
 Option 1 ID : 6306803786557
 Option 2 ID : 6306803786559
 Option 3 ID : 6306803786556
 Option 4 ID : 6306803786558
 Status : Answered
 Chosen Option : B

Q.94 As per the composition of the State legislative Council 1/12 are elected by the graduates of _____ years standing and residing within the state.

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

Question ID : 630680945829
Option 1 ID : 6306803708070
Option 2 ID : 6306803708072
Option 3 ID : 6306803708071
Option 4 ID : 6306803708073
Status : Answered
Chosen Option : D

Q.95 How many amino nucleotide bases of DNA does each gene's code use?

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

Question ID : 630680996631
Option 1 ID : 6306803910258
Option 2 ID : 6306803910259
Option 3 ID : 6306803910257
Option 4 ID : 6306803910256
Status : Answered
Chosen Option : A

Q.96 Which river originates from the northern slopes of the Himalayas in the Tibetan Plateau?

- Ans A. Jhelum
 B. Krishna
 C. Ghaghara
 D. Tapi

Question ID : 630680996655
Option 1 ID : 6306803910355
Option 2 ID : 6306803910353
Option 3 ID : 6306803910352
Option 4 ID : 6306803910354
Status : Answered
Chosen Option : A

Q.97 The Merit-Cum Means Scholarship for Professional and Technical Courses CS (Minorities) is an initiative by which of the following ministries?

- Ans A. Ministry of Social Welfare
 B. Ministry of Women and Child Development
 C. Ministry of Minority Affairs
 D. Ministry of Social Justice and Empowerment

Question ID : 630680965726
Option 1 ID : 6306803787405
Option 2 ID : 6306803787403
Option 3 ID : 6306803787404
Option 4 ID : 6306803787406
Status : Answered
Chosen Option : A

Q.98 In the year 2024, the 22nd National Para Athletics Championships of India was hosted by which of the following states?

- Ans A. Madhya Pradesh
 B. Maharashtra
 C. Karnataka
 D. Goa

Question ID : 630680965458
Option 1 ID : 6306803786333
Option 2 ID : 6306803786335
Option 3 ID : 6306803786332
Option 4 ID : 6306803786334
Status : Answered
Chosen Option : B

Q.99 According to the Census of India 2011, which of the following states has the lowest literacy rate?

- Ans A. Himachal Pradesh
 B. Bihar
 C. Rajasthan
 D. Tripura

Question ID : 630680172224
Option 1 ID : 630680667335
Option 2 ID : 630680667332
Option 3 ID : 630680667333
Option 4 ID : 630680667334
Status : Answered
Chosen Option : B

Q.100 The development of Sanskrit grammar began with Panini in 400 BC with his book _____.

- Ans A. Kumara sambhavam
 B. Amruta pani
 C. Ashtadhyayi
 D. Purusha Suktam

Question ID : 630680944649
Option 1 ID : 6306803703393
Option 2 ID : 6306803703394
Option 3 ID : 6306803703391
Option 4 ID : 6306803703392
Status : Answered
Chosen Option : C