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# **IRCON AE**

**Previous Year Paper  
Electrical 2018 Paper**



प्रगति की ओर अग्रसर  
Urge to stay Ahead



इरकॉन इन्टरनेशनल लिमिटेड  
सिविल, मेकैनिक्कल, इलैक्ट्रिकल, कम्यूनिकेशन्स और टर्नकी कान्ट्रैक्टर्स  
(भारत सरकार का उपक्रम)



## IRCON INTERNATIONAL LIMITED

Civil, Mechanical, Electrical, Communications and Turnkey Contractors  
(A Govt. of India Undertaking)

### OFFICE OF THE CENTRAL PUBLIC INFORMATION OFFICER

Dated: 11.01.2019

Online / By Post

**Sub: Information sought under Right to Information Act, 2005**

**I. Date wise Events:**

Date of Online Application	:	03.01.2019
Date of receipt of Online application in Ircon	:	04.01.2019

**II. Juxta position of the information sought by the applicant and the reply of deemed PIO is as under:**

	exam with right and wrong questions.	and incorrect answers for the post of AE/Electrical is attached herewith as Annex.-'A'.
2.	What was my score in interview.	Applicant's marks in Interview are 40. Applicant belongs to OBC category.
3.	How was final cut off calculated.	The cut-off marks are the marks scored by last candidate in the panel of shortlisted candidates. The criteria for determining such cut off is as per IRCON's recruitment rules and relevant part of these rules is attached as Annex.-'B'.
4.	Why did seats get reduced.	As per clause A1 of Advt. No.22/2017, it is clearly mentioned that "The number of posts indicated above may vary based on further assessment of requirement."  Based on present business requirement, it was decided by the Competent Authority to decrease the no. of post from 20 to 08.
5.	Is there any future calling from the remaining students closer to cut off.	The final selection panel is prepared based on the marks of Written Test and Computer Based Test (CBT). The standby / waiting list is maintained in every interview, the operation of which depends on business requirement and the joining status of selected candidates.  However, the applicant has not scored qualifying marks in Interview.

Page 1 of 2

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**IRCON INTERNATIONAL LIMITED**  
(A Public Sector Undertaking under the Ministry of Railways)  
Regd. Office: C-4, District Centre, Saket, New Delhi – 110 017 (India)



Participants Id:	
Participant Name:	
Test Center Name:	
Test Date:	05/04/2018
Test Time:	9:00 AM - 11:00 AM
Subject:	ASSISTANT ENGINEER ELECTRICAL

Section : Discipline

Q.1 A current transformer has a phase error of  $3^\circ$ . The phase angle between the primary and secondary current is:

- Ans
- ☒ 1.  $3^\circ$
  - ☒ 2.  $180^\circ$
  - ☒ 3.  $177^\circ$
  - ☒ 4.  $-3^\circ$

Question ID : 5013734925

Status : Answered

Chosen Option : 3

Q.2 A DC electronic volt meter using chopper stabilisation is free from errors due to:

- Ans
- ☒ 1. Source output impedance
  - ☒ 2. Amplifier drift
  - ☒ 3. Interference
  - ☒ 4. low CNRR

Question ID : 5013734914

Status : Answered

Chosen Option : 3

Q.3 A 25 kva single-phase transformer has 250 turns on the primary winding and 40 turns on the secondary winding. The primary is connected to a 1500 V, 50 Hz main supply. What will be electromotive force of the secondary?

- Ans
- ☒ 1. 210 V
  - ☒ 2. 220 V
  - ☒ 3. 230 V
  - ☒ 4. 240 V

Question ID : 5013734877

Status : Answered

Chosen Option : 4

Q.4 Power electronics choppers are used in:

- Ans
- ☒ 1. Uninterruptible power supply
  - ☒ 2. Illumination control
  - ☒ 3. Fork lift truck
  - ☒ 4. Hydrogen production

Question ID : 5013734943

Status : Answered

Chosen Option : 1

Q.5 In brushless DC (BLDC) motor, damper winding:

- Ans
- ☒ 1. is used to decrease hunting
  - ☒ 2. is used to increase stability
  - ☒ 3. is not used
  - ☒ 4. is used to decrease phase swing

Question ID : 5013734932

Status : Answered

Chosen Option : 3

Q.6 If an equal amplitude and same frequency voltage is applied to the X and Y plates of a cathode-ray oscilloscope (CRO) it produces a circle on the screen. The phase difference between the two voltages will be:

- Ans
- ☒ 1.  $150^\circ$

Question ID : 5013734912

Status : Answered

Chosen Option : 4





- ☒ 2.  $60^\circ$
- ☒ 3.  $30^\circ$
- ☒ 4.  $90^\circ$

Q.7 When the supply voltage of induction motor is reduced, which of the following will increase?

- Ans
- ☒ 1. Half load current
  - ☒ 2. Minimum temperature on full load
  - ☒ 3. Percentage slip and full load current
  - ☒ 4. Speed of rotor

Question ID : 5013734878

Status : Answered

Chosen Option : 3

Q.8 A Schering Bridge is used to measure:

- Ans
- ☒ 1. inductance of low Q value
  - ☒ 2. value of lossless capacitors
  - ☒ 3. inductance of high Q value
  - ☒ 4. capacitors with high loss

Question ID : 5013734916

Status : Answered

Chosen Option : 4

Q.9 What is the unit of reactive power?

- Ans
- ☒ 1. kW
  - ☒ 2. KVA
  - ☒ 3. kVAR
  - ☒ 4. Watt

Question ID : 5013734870

Status : Answered

Chosen Option : 2

Q.10 Which of the following circuit breakers do NOT use a pneumatic operating mechanism?

- Ans
- ☒ 1. Air break
  - ☒ 2. SF6
  - ☒ 3. Air blast
  - ☒ 4. Bulk oil

Question ID : 5013734889

Status : Answered

Chosen Option : 4

Q.11 A silicon-controlled rectifier (SCR) can be replaced by:

- Ans
- ☒ 1. two transistors
  - ☒ 2. two DIACs (Diode for Alternating Current)
  - ☒ 3. two metal-oxide-semiconductor field-effect transistors (MOSFETs)
  - ☒ 4. two diodes

Question ID : 5013734906

Status : Answered

Chosen Option : 1

Q.12 Two watt meters are used to measure power in a three-phase balanced load. If the wattmeter readings are 8.2 kW and 7.5 kW, the power factor will be \_\_\_\_\_.

- Ans
- ☒ 1. 0.89
  - ☒ 2. 1
  - ☒ 3. 0.877
  - ☒ 4. 0.997

Question ID : 5013734874

Status : Answered

Chosen Option : 4

Q.13 The capacitance and loss angle of a capacitor can be accurately measured by a/an \_\_\_\_\_.

- Ans
- ☒ 1. Anderson Bridge
  - ☒ 2. Kelvin Bridge
  - ☒ 3. Carey Foster Bridge

Question ID : 5013734918

Status : Answered

Chosen Option : 4



✓ 4. Schering Bridge

Q.14 A relay which has no moving part and performs the measurement of solid state circuit is called \_\_\_\_\_

- Ans
- ✓ 1. Static relay
  - ✗ 2. Induction relay
  - ✗ 3. Differential relay
  - ✗ 4. Thermal relay

Question ID : 5013734885

Status : Answered

Chosen Option : 1

Q.15 In a single-phase induction-type energy meter, the maximum torque will be produced when the shunt magnetic flux:

- Ans
- ✗ 1. lags the supply voltage by 45 degrees
  - ✗ 2. leads the supply voltage by 90 degrees
  - ✓ 3. lags the supply voltage by 90 degrees
  - ✗ 4. is in phase with the supply voltage

Question ID : 5013734903

Status : Answered

Chosen Option : 4

Q.16 Which of the following motors can be used for both, AC and DC?

- Ans
- ✗ 1. Induction motor
  - ✗ 2. DC series motor
  - ✓ 3. Reluctance motor
  - ✗ 4. Stepper motor

Question ID : 5013734901

Status : Answered

Chosen Option : 2

Q.17 A TRIAC (TRIode for Alternating Current) has \_\_\_\_\_ in total.

- Ans
- ✗ 1. 4 layers and 3 junctions
  - ✗ 2. 7 layers and 6 junctions
  - ✗ 3. 3 layers and 2 junctions
  - ✓ 4. 6 layers and 5 junctions

Question ID : 5013734907

Status : Answered

Chosen Option : 1

Q.18 DC series motors have:

- Ans
- ✗ 1. lower starting torque and infinite speed at no load condition
  - ✗ 2. lower starting torque and finite speed at no load condition
  - ✗ 3. higher starting torque and finite speed at no load condition
  - ✓ 4. higher starting torque and infinite speed at no load condition

Question ID : 5013734948

Status : Answered

Chosen Option : 4

Q.19 The output waveform of a three-phase bridge inverter is a \_\_\_\_\_.

- Ans
- ✗ 1. square wave
  - ✗ 2. triangular wave
  - ✓ 3. quasi square wave or six step
  - ✗ 4. quasi sine wave or six step

Question ID : 5013734927

Status : Answered

Chosen Option : 3

Q.20 In a transmission line, the sending end voltage derived from nominal  $\pi$ -method is:

- Ans
- ✗ 1.  $\bar{V}_s = \bar{V}_R + \bar{I}_L R$
  - ✗ 2.  $\bar{V}_s = \bar{V}_R - \bar{I}_L \bar{Z}$

Question ID : 5013734892

Status : Answered

Chosen Option : 3



✓ 3.  $\bar{V}_s = \bar{V}_R + \bar{I}_L \bar{Z}$

✗ 4.  $\bar{V}_s = \bar{V}_R - \bar{I}_L R$

Q.21 The first company which built a programmable logic controller (PLC) was:

- Ans
- ✗ 1. Allen Bradley
  - ✓ 2. Modicon
  - ✗ 3. Square D
  - ✗ 4. General Electric (GE)

Question ID : 5013734920

Status : Answered

Chosen Option : 4

Q.22 Two capacitors of 10 pF and 100 pF are connected in parallel with an inductor of 10 mH. What will be the frequency of oscillation?

- Ans
- ✗ 1. 159.8 kHz
  - ✗ 2. 155.8 kHz
  - ✓ 3. 151.8 kHz
  - ✗ 4. 149.8 kHz

Question ID : 5013734939

Status : Answered

Chosen Option : 2

Q.23 In the measurement of power on balanced load by the two-wattmeter method in a three-phase circuit, the reading of the wattmeters are 3 kW and 1 kW, respectively. The latter is obtained after reversing the connections of the current coil. The power factor of the load is \_\_\_\_\_

- Ans
- ✓ 1. 0.277
  - ✗ 2. 0.866
  - ✗ 3. 0.625
  - ✗ 4. 0.554

Question ID : 5013734921

Status : Answered

Chosen Option : 1

Q.24 Which of the following sensors is used to measure radio frequency power?

- Ans
- ✗ 1. Microphone
  - ✓ 2. Thermocouple
  - ✗ 3. Photo diode
  - ✗ 4. Strain gauge

Question ID : 5013734931

Status : Answered

Chosen Option : 2

Q.25 A meter, whose constant is 600 revolutions per kWh, make 5 revolutions in 20 sec. What will be load in kW if the load consumes 1 kWh energy?

- Ans
- ✓ 1. 1.5 kW
  - ✗ 2. 1 kW
  - ✗ 3. 2.5 kW
  - ✗ 4. 2 kW

Question ID : 5013734915

Status : Answered

Chosen Option : 1

Q.26 DC motors speed can be increased beyond base speed by using:

- Ans
- ✗ 1. Armature resistance control
  - ✓ 2. Field flux control
  - ✗ 3. Armature current control
  - ✗ 4. Supply voltage control

Question ID : 5013734936

Status : Answered

Chosen Option : 2

Q.27 The pulse number of a three-phase fully controlled bridge converter is:

- Ans
- ✗ 1. 4
  - ✓ 2. 6
  - ✗ 3. 3
  - ✗ 4. 5

Question ID : 5013734934

Status : Answered

Chosen Option : 2

Q.28





The condition for maximum efficiency of a DC generator is:

Question ID : 5013734875

Status : Answered

Chosen Option : 4

- Ans
- ☒ 1. Variable loss =  $2 \times$  constant loss
  - ☒ 2. Variable loss =  $1/(2 \times$  constant loss)
  - ☒ 3. Variable loss =  $1/\text{constant loss}$
  - ☒ 4. Variable loss = constant loss

Q.29 A balanced star-connected load, connected to a 400 V, 50 Hz, three-phase AC supply draws a phase current of 50 A. At 0.6 power factor lagging, what will be the total power?

Question ID : 5013734941

Status : Answered

Chosen Option : 1

- Ans
- ☒ 1. 20.784 kW
  - ☒ 2. 23.784 kW
  - ☒ 3. 18.784 kW
  - ☒ 4. 25.784 kW

Q.30 A power transformer will give maximum efficiency at \_\_\_\_\_.

Question ID : 5013734946

Status : Answered

Chosen Option : 1

- Ans
- ☒ 1. 75% load
  - ☒ 2. Half load
  - ☒ 3. 60% load
  - ☒ 4. No load

Q.31 A Maxwell Bridge is used to measure Q factor in the range:

Question ID : 5013734944

Status : Answered

Chosen Option : 4

- Ans
- ☒ 1. 30 - 50
  - ☒ 2. 76 - 100
  - ☒ 3. 50 - 75
  - ☒ 4. 1 - 10

Q.32 The power factor of a three-phase induction motor:

Question ID : 5013734928

Status : Answered

Chosen Option : 2

- Ans
- ☒ 1. is always leading and never lagging
  - ☒ 2. is always lagging and never leading
  - ☒ 3. is always leading
  - ☒ 4. is always zero

Q.33 स्प्रिंग नियंत्रित उपकरण में, पैमाना किस प्रकार का होगा?

Question ID : 5013734881

Status : Answered

Chosen Option : 1

- Ans
- ☒ 1. दोनों छोर पर तंग
  - ☒ 2. निचले छोर पर तंग और ऊपरी छोर पर विस्तृत
  - ☒ 3. एकसमान
  - ☒ 4. ऊपरी छोर पर तंग और निचले छोर पर विस्तृत

Q.34 A spectrum analyser is used across the frequency spectrum of a given signal to study the:

Question ID : 5013734917

Status : Answered

Chosen Option : 1

- Ans
- ☒ 1. amplitude distribution
  - ☒ 2.  $I^2R$  distribution
  - ☒ 3. voltage distribution
  - ☒ 4. current distribution

To minimise loading effect of circuit under test, the input impedance of the cathode-ray oscilloscope (CRO) must:



Q.35

- Ans ☒ 1. be capacitive  
☒ 2. be low  
☒ 3. match with the input impedance of the circuit  
☒ 4. be high

Question ID : 5013734910  
Status : Answered  
Chosen Option : 4

Q.36 Two wattmeters are connected to measure the power of a star-connected, three-phase load. The readings of two wattmeters can be same:

- Ans ☒ 1. Two wattmeter readings cannot be the same  
☒ 2. at 0.5 power factor  
☒ 3. at zero power factor  
☒ 4. at unity power factor

Question ID : 5013734923  
Status : Answered  
Chosen Option : 4

Q.37 Power electronics cycloconverters are used in:

- Ans ☒ 1. Room Heaters  
☒ 2. Aircraft supplies  
☒ 3. Electric Cars  
☒ 4. Rolling mill drives

Question ID : 5013734942  
Status : Answered  
Chosen Option : 2

Q.38 The calibration of a voltmeter can be done with \_\_\_\_\_.

- Ans ☒ 1. a function generator  
☒ 2. an ammeter  
☒ 3. a frequency meter  
☒ 4. a potentiometer

Question ID : 5013734898  
Status : Answered  
Chosen Option : 4

Q.39 Which of the following instruments has readings independent of waveform and frequency?

- Ans ☒ 1. Induction  
☒ 2. Moving iron  
☒ 3. Hot wire  
☒ 4. Electro static

Question ID : 5013734879  
Status : Answered  
Chosen Option : 4

Q.40 An AC network analyser is employed for solving the problems of \_\_\_\_\_.

- Ans ☒ 1. load flow, stability and short circuit  
☒ 2. load flow and stability  
☒ 3. load flow and short circuit  
☒ 4. load flow

Question ID : 5013734895  
Status : Answered  
Chosen Option : 2

Q.41 What is the form factor of a sinusoidal wave?

- Ans ☒ 1. 1.11  
☒ 2. 1.5  
☒ 3. 1.23  
☒ 4. 1

Question ID : 5013734904  
Status : Answered  
Chosen Option : 1

Q.42 A three-phase transformer has its primary connected in delta and secondary in a star. Secondary to primary turns ratio per phase is K. If the ratio of secondary to primary line voltage is  $K_1$ , and the secondary voltage leads the primary voltage by an angle  $\phi$  then:

Question ID : 5013734949  
Status : Answered



- Ans ☒ 1.  $K_1 = K/\sqrt{3}$ ;  $\Phi = -30$  degree  
☒ 2.  $K_1 = K/\sqrt{3}$ ;  $\Phi = 30$  degree  
☒ 3.  $K_1 = \sqrt{3}K$ ;  $\Phi = 60$  degree  
☒ 4.  $K_1 = \sqrt{3}K$ ;  $\Phi = 30$  degree

Chosen Option : 2

Q.43 The surge impedance of a 100 km long underground cable is 50  $\Omega$ . The surge impedance of a 40 km long similar cable would be:

- Ans ☒ 1. 20  $\Omega$   
☒ 2. 80  $\Omega$   
☒ 3. 50  $\Omega$   
☒ 4. 125  $\Omega$

Question ID : 5013734882

Status : Answered

Chosen Option : 3

Q.44 What is the function of a field regulator in a compound motor?

- Ans ☒ 1. To control the flux  
☒ 2. To demagnetise the magnetic field partially  
☒ 3. To increase the armature resistance  
☒ 4. To limit the armature current

Question ID : 5013734876

Status : Answered

Chosen Option : 1

Q.45 A practical current source has:

- Ans ☒ 1. maximum internal resistance in parallel  
☒ 2. zero internal resistance in a series  
☒ 3. infinite internal resistance in parallel  
☒ 4. minimum internal resistance in a series

Question ID : 5013734873

Status : Answered

Chosen Option : 1

Q.46 For a transformer, the copper loss at 75% of full load condition is 1200 W. What will be the copper loss at half load condition?

- Ans ☒ 1. 540 W  
☒ 2. 530.33 W  
☒ 3. 555.55 W  
☒ 4. 533.33 W

Question ID : 5013734900

Status : Answered

Chosen Option : 4

Q.47 A current  $i = 10 + 10 \sin t$  amp is passing through an ideal moving iron type ammeter. Its reading will be:

- Ans ☒ 1.  $\sqrt{150}$  amp  
☒ 2. 10 amp  
☒ 3. 0  
☒ 4.  $\sqrt{2}$  amp

Question ID : 5013734929

Status : Answered

Chosen Option : 1

Q.48 Swamping resistors are used to:

- Ans ☒ 1.  
reduce temperature effect in the coil of the instrument  
☒ 2. increase humidity effect in the instrument  
☒ 3.  
increase voltage effect in the coil of the instrument  
☒ 4.  
increase temperature effect in the coil of the instrument

Question ID : 5013734902

Status : Answered

Chosen Option : 1

Q.49 A silicon-controlled rectifier (SCR) can operate in which quadrant of V-I characteristics?

Question ID : 5013734909





- Ans ☒ 1. Only in third quadrant  
☒ 2. In all four quadrants  
☒ 3. Only in first quadrant  
☒ 4. Only in second quadrant

Status : Answered  
Chosen Option : 2

Q.50 The analogue-to-digital (A/D) converters are usually of \_\_\_\_.

- Ans 1. Ramp type  
2. Integrating type  
3. Flash type  
4. R and 2R type

Question ID : 5013734911  
Status : Answered  
Chosen Option : 1

Note: For this question, discrepancy is found in question/answer. So, This question is ignored for all candidates.

Q.51 In a four-pole induction motor, rotor speed is 1400 rpm. What will be the air gap field speed?

- Ans ☒ 1. 1600 rpm  
☒ 2. 1500 rpm  
☒ 3. 1400 rpm  
☒ 4. 1700 rpm

Question ID : 5013734945  
Status : Answered  
Chosen Option : 2

Q.52 When a relay is NOT energised:

- Ans ☒ 1.  
there is an electrical path through the normally open contacts  
☒ 2.  
neither the normally open nor the normally closed contacts have an electrical path  
☒ 3.  
both, the normally open and the normally closed contacts have an electrical path  
☒ 4.  
there is an electrical path through the normally closed contacts

Question ID : 5013734922  
Status : Answered  
Chosen Option : 4

Q.53 \_\_\_\_\_ is best suited for long transmission line phase fault.

- Ans ☒ 1. Reactance relay  
☒ 2. Impedance relay  
☒ 3. Mho relay  
☒ 4. Induction relay

Question ID : 5013734887  
Status : Answered  
Chosen Option : 3

Q.54 Bus bar zone faults are generally:

- Ans ☒ 1. Double line to ground faults  
☒ 2. Three-phase short circuit faults  
☒ 3. Phase to phase faults  
☒ 4. Single line to ground faults

Question ID : 5013734886  
Status : Answered  
Chosen Option : 3

Q.55 Electrical energy is defined as:

- Ans ☒ 1. Electrical power / time  
☒ 2. Heat absorbed per unit time

Question ID : 5013734871  
Status : Answered  
Chosen Option : 3



- ☒ 3. Electrical power  $\times$  time
- ☒ 4. Power absorbed per unit time

Q.56 Three-phase induction motors are:

- Ans ☒ 1.  
low cost and have adequate starting torque and variable speed motor
- ☒ 2.  
high cost and have adequate starting torque and constant speed motor
- ☒ 3.  
low cost and have adequate starting torque and approximate constant speed motor
- ☒ 4.  
low cost and have low starting torque and constant speed motor

Question ID : 5013734938  
Status : Answered  
Chosen Option : 3

Q.57 Which of the following motors is used in a tape recorder?

- Ans ☒ 1. Three-phase induction motor
- ☒ 2. Two-phase synchronous motor
- ☒ 3. DC series motor
- ☒ 4. Hysteresis motor

Question ID : 5013734899  
Status : Answered  
Chosen Option : 2

Q.58 Let L and D be the length and diameter of a rotor, then for the servo motor:

- Ans ☒ 1.  $\frac{L}{D} > 1$
- ☒ 2.  $\frac{L}{D} < 1$
- ☒ 3.  $L = D$
- ☒ 4.  $D = L^2$

Question ID : 5013734933  
Status : Answered  
Chosen Option : 2

Q.59 The coefficient of reflection for the current of an open-ended line is \_\_\_\_\_.

- Ans ☒ 1. -1.0
- ☒ 2. 0
- ☒ 3. -0.5
- ☒ 4. +1.0

Question ID : 5013734891  
Status : Answered  
Chosen Option : 2

Q.60 Three identical inductive loads of resistance 15  $\Omega$  and reactance 40  $\Omega$  are connected in star to a 440 V, three-phase supply. What will be the line current?

- Ans ☒ 1. 5.5 A
- ☒ 2. 5 A
- ☒ 3. 6.22 A
- ☒ 4. 5.95 A

Question ID : 5013734872  
Status : Answered  
Chosen Option : 3

Q.61 Half-controlled rectifier means that \_\_\_\_\_.

- Ans ☒ 1.  
the upper side and lower side are diode for bridge combination
- ☒ 2.  
the upper side is diode and lower side is thyristor for bridge combination
- ☒ 3.  
the upper side is 1 thyristor and 1 diode, lower side is diode for bridge combination
- ☒ 4.  
the upper side and lower side are thyristor for bridge combination

Question ID : 5013734905  
Status : Answered  
Chosen Option : 2



Q.62 For a purely capacitive circuit, the power factor is \_\_\_\_\_.

- Ans
- ☒ 1. 0 (lagging)
  - ☒ 2. 0.777 (leading)
  - ☒ 3. 1
  - ☒ 4. 0 (leading)

Question ID : 5013734940  
Status : Answered  
Chosen Option : 4

Q.63 Vibration galvanometers, tunable amplifiers and headphones are used in \_\_\_\_\_.

- Ans
- ☒ 1. AC Bridges
  - ☒ 2. Both AC and DC Bridges
  - ☒ 3. DC Bridges
  - ☒ 4. Kelvin Double Bridges

Question ID : 5013734919  
Status : Answered  
Chosen Option : 1

Q.64 An integrator contains a  $1.99 \text{ k}\Omega$  and  $1 \mu\text{F}$  capacitor. If the voltage applied to the integrator is  $1 \text{ V}$ , what voltage will be present at the output of the integrator after  $1 \text{ sec}$ ?

- Ans
- ☒ 1.  $5.025 \text{ V}$
  - ☒ 2.  $10 \text{ V}$
  - ☒ 3.  $8.5 \text{ V}$
  - ☒ 4.  $16 \text{ V}$

Question ID : 5013734930  
Status : Answered  
Chosen Option : 3

Q.65 An LED will work in the \_\_\_\_\_ quadrant.

- Ans
- ☒ 1. fourth
  - ☒ 2. second
  - ☒ 3. third
  - ☒ 4. first

Question ID : 5013734908  
Status : Answered  
Chosen Option : 4

Q.66 The design of insulation for systems above  $400 \text{ kV}$  is based upon \_\_\_\_\_.

- Ans
- ☒ 1. system load level
  - ☒ 2. system voltage level
  - ☒ 3. switching surges
  - ☒ 4. lightning overvoltage

Question ID : 5013734883  
Status : Answered  
Chosen Option : 3

Q.67 A Triode for Alternating Current (TRIAC) can operate in \_\_\_\_\_.

- Ans
- ☒ 1. three quadrants of VI characteristics
  - ☒ 2. four quadrants of VI characteristics
  - ☒ 3. one quadrant of VI characteristics
  - ☒ 4. two quadrants of VI characteristics

Question ID : 5013734926  
Status : Answered  
Chosen Option : 2

Q.68 Which of the following instruments has the highest accuracy in the given limit of frequency range?

- Ans
- ☒ 1. Rectifier
  - ☒ 2. Moving iron
  - ☒ 3. Electrodynamometer
  - ☒ 4. Permanent magnet moving coil (PMMC)

Question ID : 5013734880  
Status : Answered  
Chosen Option : 4

Q.69 Electromechanical type of voltage regulators are \_\_\_\_\_.

- Ans
- ☒ 1. rheostatic

Question ID : 5013734893  
Status : Answered



- ☒ 2. vibrating contact
- ☒ 3. electrodynamic contact
- ☒ 4. rheostat or vibrating contact

Chosen Option : 4

Q.70 For limiting the short circuit current we use \_\_\_\_\_.

- Ans
- ☒ 1. inductance
  - ☒ 2. active device
  - ☒ 3. resistors
  - ☒ 4. capacitors

Question ID : 5013734896

Status : Marked For Review

Chosen Option : 3

Q.71 Sparking occurs on switching off the load due to a circuit's \_\_\_\_\_.

- Ans
- ☒ 1. high resistance
  - ☒ 2. high capacitance
  - ☒ 3. high inductance
  - ☒ 4. skin effect

Question ID : 5013734890

Status : Answered

Chosen Option : 3

Q.72 Which of the following methods is NOT applicable for speed control of a squirrel cage induction motor?

- Ans
- ☒ 1. Frequency of the input supply
  - ☒ 2. External stator resistance
  - ☒ 3. External rotor resistance
  - ☒ 4. Terminal voltage

Question ID : 5013734935

Status : Answered

Chosen Option : 3

Q.73 The efficiency of a power transformer under full load condition is approximately \_\_\_\_\_.

- Ans
- ☒ 1. 96%
  - ☒ 2. 75%
  - ☒ 3. 25%
  - ☒ 4. 50%

Question ID : 5013734897

Status : Answered

Chosen Option : 2

Q.74 What is the melting point of tin used as material of a fuse?

- Ans
- ☒ 1. 1090 °C
  - ☒ 2. 240 °C
  - ☒ 3. 980 °C
  - ☒ 4. 328 °C

Question ID : 5013734884

Status : Answered

Chosen Option : 2

Q.75 A Hays Bridge is used to measure inductance of \_\_\_\_\_.

- Ans
- ☒ 1. low Q
  - ☒ 2. very high Q
  - ☒ 3. medium Q
  - ☒ 4. high Q

Question ID : 5013734947

Status : Answered

Chosen Option : 4

Q.76 In a cathode ray tube (CRT), the highest positive potential is given to \_\_\_\_\_.

- Ans
- ☒ 1. post deflection acceleration anode
  - ☒ 2. vertical plates
  - ☒ 3. focusing electrodes

Question ID : 5013734913

Status : Answered

Chosen Option : 1





☒ 4. cathode

Q.77 A 33 kV, three-phase, 50 Hz overhead line 60 km long has capacitance of each line with ground as 0.015  $\mu\text{F}$  per km. Determine the KVA rating of the Peterson coil.

- Ans ☒ 1. 302 kVA  
☒ 2. 320 kVA  
☒ 3. 308 kVA  
☒ 4. 315 kVA

Question ID : 5013734888

Status : Answered

Chosen Option : 3

Q.78 Which of the following devices is used to discharge the charge on the conductor to the earth?

- Ans ☒ 1. Isolator switch  
☒ 2. Earthing switch  
☒ 3. Limiting switch  
☒ 4. Air breaking switch

Question ID : 5013734894

Status : Answered

Chosen Option : 2

Q.79 For precise positioning applications:

- Ans ☒ 1. brushless DC motors (BLDC) are ideal  
☒ 2. servo motors are ideal  
☒ 3. DC motors are ideal  
☒ 4. AC motors are ideal

Question ID : 5013734937

Status : Answered

Chosen Option : 2

Q.80 Which of the following may NOT be the feature of data acquisition application software?

- Ans ☒ 1. Acquiring data from the real world  
☒ 2. Managing the data stored in computer memory  
☒ 3. Reporting relevant information such as the number of samples acquired  
☒ 4. Plotting acquired data

Question ID : 5013734924

Status : Marked For Review

Chosen Option : 2

Section : General

Q.1 Choose the best option to fill in the blank.

I'm so stressed out at work, I really need to take \_\_\_\_\_ whole month off and relax on a tropical beach somewhere.

- Ans ☒ 1. an  
☒ 2. a  
☒ 3. one  
☒ 4. no article

Question ID : 5013734954

Status : Marked For Review

Chosen Option : 2

Q.2 Choose the word that is wrongly spelt.

- Ans 1. Residuum  
2. Vacuum  
3. Continuual  
4. Continuum

Note: For this question, discrepancy is found in question/answer. So, This question is ignored for all candidates.

Question ID : 5013734953

Status : Marked For Review

Chosen Option : 2

Q.3 Choose the correct form of the verb to complete the sentence.

The Wilsons \_\_\_\_\_ enough money to pay their taxes before the deadline arrived.

- Ans ☒ 1. had not saved

Question ID : 5013734956

Status : Answered

Chosen Option : 1

- ☒ 2. must not save
- ☒ 3. will save
- ☒ 4. do not save

Q.4 In the following question, there is a sentence in which some parts (P, Q, R, and S) have been jumbled. Choose the correct sequence.

The food poisoning occurred  
P. was mistaken for salt  
Q. chemical substance  
R. when a white powdered  
S. and used in food preparations

- Ans
- ☒ 1. PRSQ
  - ☒ 2. PSQR
  - ☒ 3. RPSQ
  - ☒ 4. RQPS

Question ID : 5013734958

Status : Answered

Chosen Option : 4

Q.5 Choose the word that best suits the definition.

To make fun of

- Ans
- ☒ 1. Hoot
  - ☒ 2. Tease
  - ☒ 3. Ridicule
  - ☒ 4. Laugh

Question ID : 5013734952

Status : Answered

Chosen Option : 1

Q.6 Choose the correct pronoun to complete the sentence.

I wonder why Geoff rushed off. Did you upset \_\_\_\_\_?

- Ans
- ☒ 1. it
  - ☒ 2. him
  - ☒ 3. he
  - ☒ 4. me

Question ID : 5013734955

Status : Answered

Chosen Option : 2

Q.7 Choose the correct clause to complete the sentence.

\_\_\_\_\_, he finally decided to go ahead with the new marketing project.

- Ans
- ☒ 1. Since any rate
  - ☒ 2. At any rate
  - ☒ 3. In any rate
  - ☒ 4. By any rate

Question ID : 5013734957

Status : Answered

Chosen Option : 2

Q.8 Choose the best antonym for the following word.

Exterior

- Ans
- ☒ 1. Inferior
  - ☒ 2. Internal
  - ☒ 3. Superior
  - ☒ 4. Interior

Question ID : 5013734951

Status : Answered

Chosen Option : 4

Q.9

Question ID : 5013734959



In the following sentence, parts are marked as A, B, C, and D. Identify the part of the sentence which is not grammatically correct.

People have a right to criticise (A) / but at the same time (B) / each of them have to (C) / remember his duty also (D).

Status : Answered

Chosen Option : 2

- Ans
- ☒ 1. remember his duty also
  - ☐ 2. each of them have to
  - ☐ 3. People have a right to criticize
  - ☐ 4. but at the same time

Q.10 Choose the best synonym for the following word.

Kindle

- Ans
- ☐ 1. to allow
  - ☐ 2. to extinguish
  - ☐ 3. to increase
  - ☒ 4. to ignite

Question ID : 5013734950

Status : Answered

Chosen Option : 1

Q.11 The world-renowned Pooram festival is celebrated in the month of April in which part of South India?

- Ans
- ☐ 1. Telangana
  - ☐ 2. Karnataka
  - ☐ 3. Tamil Nadu
  - ☒ 4. Kerala

Question ID : 5013734965

Status : Answered

Chosen Option : 4

Q.12 Who is the author of the book 'Geeta Rahasya', which is a treatise on the Bhagavad Gita?

- Ans
- ☐ 1. Mata Amritanandamayi
  - ☐ 2. Sri Sri Ravishankar
  - ☐ 3. Gopalakrishna Gokhale
  - ☒ 4. Bal Gangadhar Tilak

Question ID : 5013734963

Status : Answered

Chosen Option : 4

Q.13 Where was the 2018 Asian Billiards Championship held, in which Indian billiards player Pankaj Advani retained his title?

- Ans
- ☒ 1. Yangon, Myanmar
  - ☐ 2. Kuala Lumpur, Malaysia
  - ☐ 3. Tokyo, Japan
  - ☐ 4. Bangkok, Thailand

Question ID : 5013734960

Status : Answered

Chosen Option : 2

Q.14 What is the capital of Mongolia?

- Ans
- ☐ 1. Phnom Penh
  - ☒ 2. Ulaanbaatar
  - ☐ 3. Pyongyang
  - ☐ 4. Seoul

Question ID : 5013734961

Status : Answered

Chosen Option : 2

Q.15 The melting point of ice in the Celsius scale is 0°. What is the melting point of ice in the Fahrenheit scale?

- Ans
- ☐ 1. 34 °F
  - ☐ 2. 36 °F
  - ☒ 3. 32 °F
  - ☐ 4. 30 °F

Question ID : 5013734966

Status : Answered

Chosen Option : 3

Q.16



In which Latin American country would you find the ancient ruins of Machu Picchu, treated as one of the wonders of the world?

- Ans
- ☒ 1. Bolivia
  - ☒ 2. Brazil
  - ☒ 3. Peru
  - ☒ 4. Argentina

Question ID : 5013734967  
Status : Answered  
Chosen Option : 3

Q.17 Sterlite Industries Limited, which has recently been in trouble with the local population of Tuticorin for creating environmental pollution, operates in which industry sector?

- Ans
- ☒ 1. Metal and Mining
  - ☒ 2. Hospitality
  - ☒ 3. Pharmaceuticals
  - ☒ 4. Telecommunication

Question ID : 5013734969  
Status : Answered  
Chosen Option : 3

Q.18 What was the name of the celebrated Mughal Empress Nur Jahan, the wife of Jahangir, before her marriage?

- Ans
- ☒ 1. Asmat Begum
  - ☒ 2. Mehrunnisa
  - ☒ 3. Nadira Banu
  - ☒ 4. Jahanara

Question ID : 5013734962  
Status : Answered  
Chosen Option : 2

Q.19 Name the disgraced player of the Australian team who actually tampered with the ball on the cricket field in a recent Australia-South Africa test match held in March 2018. His action led to the resignation of the Australian captain.

- Ans
- ☒ 1. Steve Smith
  - ☒ 2. Cameron Bancroft
  - ☒ 3. David Warner
  - ☒ 4. Josh Hazlewood

Question ID : 5013734968  
Status : Answered  
Chosen Option : 2

Q.20 Which physicist is credited with the discovery of the positively charged proton particle?

- Ans
- ☒ 1. Jon Dalton
  - ☒ 2. Werner Heisenberg
  - ☒ 3. Ernest Rutherford
  - ☒ 4. Albert Einstein

Question ID : 5013734964  
Status : Answered  
Chosen Option : 3





8.3.2.7 All candidates selected through open market recruitment have to execute a bond for a period of 3 years.

### 8.3.2.8 MARKS

8.3.2.8.1 Where selection is to be made on the basis of both written tests and interview (where no experience is prescribed) :

- i) **Written Test (weightage) : 50%**
- ii) **Interview (weightage) : 50%**
  - (A) Qualifications : 10%
  - (B) Technical & Professional proficiency : 50%
  - (C) Personality, Communication & Competencies: 40%
- iii) **Qualifying Marks (%) for WT and Interview separately:**
  - a. For Gen : 60%
  - b. For SC & OBC : 50%
  - c. For ST : 45%

N.B.

- (ii) Those, who fail to secure minimum qualifying marks in written test will not be called for interview.
- (iii) Final selection shall be made on the basis of merit only.

8.3.2.8.2 Where selection is to be made on the basis of both written test and Interview (where experience is prescribed)

- i) **Written Test (weightage) : 50%**
- ii) **Interview (weightage) : 50%**
  - (A) Qualifications : 10%
  - (B) Experience : 10%
  - (C) Technical & Professional Proficiency : 50%
  - (D) Personality, Communication & Competencies : 30%
- iii) **Qualifying Marks (%) for WT and Interview separately:**
  - a. For Gen : 60%
  - b. For SC & OBC : 50%
  - c. For ST : 45%

N.B.

- (i) Those, who failed to secure minimum qualifying marks in written test will not be called for interview.
- (ii) However, final selection shall be made on the basis of merit only.

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