परीक्षेचे नांव : कार्यकारी अभियंता (विद्युत)/विद्युत निरीक्षक, गट - अ **परीक्षेचा दिनांक : 20 एप्रिल, 2014**

महाराष्ट्र लोकसेवा आयोगामार्फत कार्यकारी अभियंता (विद्युत)/विद्युत निरीक्षक, गट - अ या चाळणी परीक्षेच्या प्रश्नपत्रिकेची उत्तरतालिका उमेदवारांच्या माहितीसाठी संकेतस्थळावर प्रसिध्द करण्यात आली होती. त्यासंदर्भात उमेदवारांनी अधिप्रमाणित (Authentic) स्पष्टीकरण / संदर्भ देऊन पाठविलेली लेखी निवेदने, तसेच तज्ज्ञांचे अभिप्राय विचारात घेऊन आयोगाने उत्तरतालिका सुधारित केली आहे. या उत्तरतालिकेतील उत्तरे अंतिम समजण्यात येतील. यासंदर्भात आलेली निवेदने विचारात घेतली जाणार नाहीत व त्याबाबत कोणताही पत्रव्यवहार केला जाणार नाही, याची कृपया नोंद घ्यावी.

उत्तरतालिका - KEY

Bundle Preview

Notations :

1. Options shown in green color and with ✔ icon are correct.
2. Options shown in red color and with ✖ icon are incorrect.

Paper Id	Paper Name	Subject
11910	Executive Engineer Electrical actual	Executive Engineer Electrical

Question Paper Details:

Question Paper Name:	Executive Engineer Electrical actual
Cut Off:	10
Duration:	90
Status:	Sealed

Group 1		
Number of optional sections to be attempted: 0	Group Maximum duration : 0	Group Minimum duration : 90
Revisit allowed for view? : No	Revisit allowed for edit? : No	Break time: 0

Technical		
Section type : Online	Number of Questions to be attempted:70	Mandatory or Optional: Mandatory

Sub-Section : 1	Question Shuffling Allowed : Yes

Question id : 7705 Question Type :

Among the following mentioned sources of commercial energy production, which is most widely used across the globe?

Options :

1. ✖ Nuclear fission
2. ✔ Oil
3. ✖ Natural gas
4. ✖ Coal

Question id : 7706 Question Type : MCQ

There are various surveys used by scientists to search fossil fuels, one of it is sending a sound wave into the ground and measuring its return to the surface at receiving stations. This is categorized as_____.
(It is also considered that sound is sent to ground by exploding dynamite, thumping the ground with a large weight, or using an electric vibrating machine)

Options :

1. ✖ Dynamite surveying
2. ✖ Destructive surveying
3. ✔ Seismic surveying
4. ✖ Geological surveying

Question id : 7707 Question Type : MCQ

Which of the following statements regarding 'Crude oil' is correct?

Options :

1. ✖ It is composed of just a few types of hydrocarbon molecules.
2. ✖ It is usable in its raw form.
3. ✖ It is formed in a wide range of temperature and pressure circumstances.
4. ✔ It is fractionated to obtain the chemicals used for gasoline, lubricants, plastics and other products.

Question id : 7708 Question Type : MCQ

The Energy Conservation (EC) Act is amended in 2010 and the main amendments of the Act are given below.

I. The State Ministry of Energy may issue the energy savings certificate to the designated consumer whose energy consumption is less than the prescribed norms and standards in accordance with the procedure as may be prescribed.
II. The designated consumer whose energy consumption is more than the prescribed norms and standards shall be entitled to purchase the energy savings certificate to comply with the prescribed norms and standards.
III. The State Ministry of Energy may, in consultation with the Bureau, prescribe the value of per metric ton of oil equivalent of energy consumed.
IV. Commercial buildings which are having a connected load of 100 kW or contract demand of 120 kVA and above come under the purview of ECBC under EC Act.

Choose the one which is/are incorrect.

Options :

1. ✖ Only I
2. ✖ Both I and II

3. ✖ Only III

4. ✔ Both I and III

Question id : 7709 Question Type : MCQ

Running cost is minimum for:

Options :

1. ✔ Hydro-electric station

2. ✖ Nuclear power station

3. ✖ Thermal power station

4. ✖ Diesel power plant

Question id : 7710 Question Type : MCQ

The response of a reactive circuit is:

1. Homogenous
2. Linear
3. Integro-differential

Choose the correct answer from the options given below.

Options :

1. ✖ Only 1

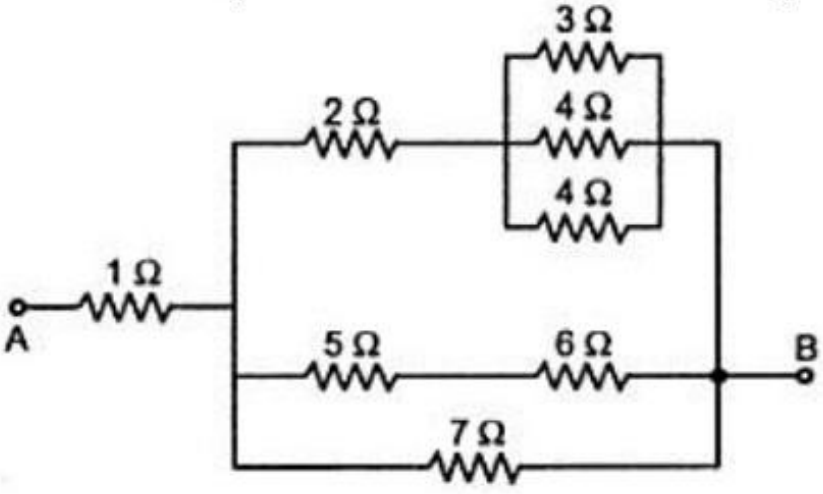
2. ✖ Only 2

3. ✖ Only 3

4. ✔ All 1, 2 and 3

Question id : 7711 Question Type : MCQ

Find the equivalent resistance between point A and B.



Options :

1. ✖ 1.2 Ω
2. ✖ 4.277 Ω
3. ✖ 1.83 Ω
4. ✔ 2.83 Ω

Question id : 7712 Question Type : MCQ

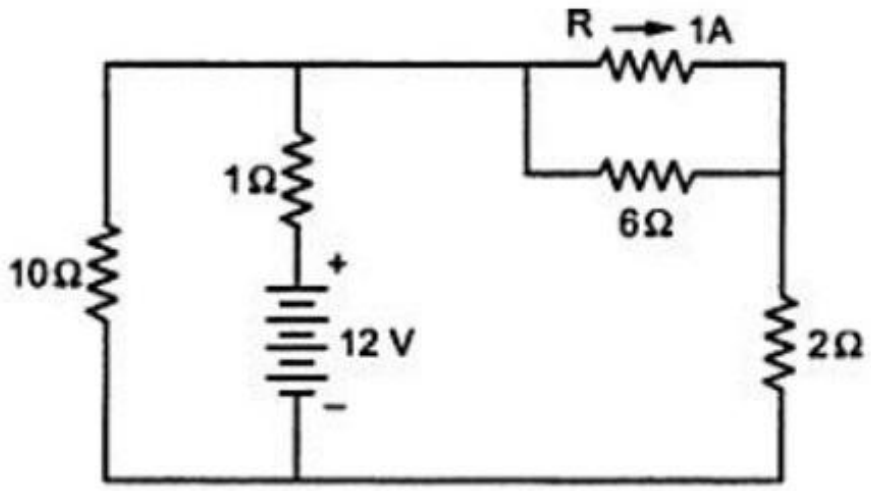
The number of circuits required to solve a network using superposition theorem is equal to the number of:

Options :

1. ✖ Nodes
2. ✖ Branches
3. ✔ Voltage source + Current source
4. ✖ Voltage source

Question id : 7713 Question Type : MCQ

Find the value of R so that current of value 1 A flows in it.

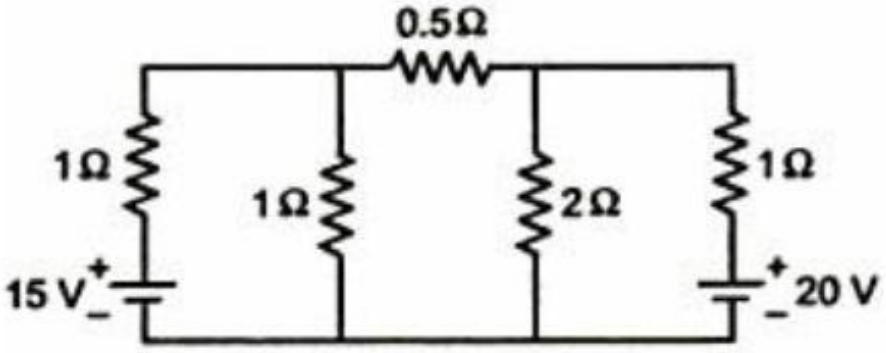


Options :

1. ✖ 0.898 Ω
2. ✔ 5.3888 Ω
3. ✖ 7.8345 Ω
4. ✖ 8.983 Ω

Question id : 7714 Question Type : MCQ

Find the value of current passing through 2 Ωresistor.



Options :

1. ✔ 5.5 A
2. ✖ 5.75 A
3. ✖ 3.5 A
4. ✖ 9.25 A

Question id : 7715 Question Type : MCQ

What is the reason of applying reduced voltage in short-circuit test?

Options :

1. ✖ Because transformer is not loaded
2. ✔ Because current is limited by the winding impedances
3. ✖ Because full voltage is not available
4. ✖ Because of voltage regulation

Question id : 7716 Question Type : MCQ

The no-load test of a transformer cannot determine:

Options :

1. ✔ Winding resistance and reactance
2. ✖ Shunt branch parameter
3. ✖ No-load power factor
4. ✖ No-load losses

Question id : 7717 Question Type : MCQ

The interaction between the armature flux and the flux produced by the rotor direct current is called:

Options :

1. ✖ Commutation
2. ✔ Armature reaction
3. ✖ Synchronization
4. ✖ Phase reversal

Question id : 7718 Question Type : MCQ

The starting current in an induction motor is high because:

Options :

1. ✖ the motor is on no load
2. ✖ the rotor resistance is low
3. ✖ the stator resistance is low
4. ✔ the rotor behaves like a short-circuited secondary

Question id : 7719 Question Type : MCQ

Consider following given statements about a lap wound dc machine and choose the one which is/are incorrect.
I. The number of parallel paths is equal to the number of poles
II. The number of brushes is equal to the number of poles
III. The current in each coil is half the armature current
Choose the correct answer from the options given below.

Options :

1. ✖ Both I and II
2. ✔ Only III
3. ✖ Only I
4. ✖ All I, II and III

Question id : 7720 Question Type : MCQ

How will the speed of a dc-shunt motor change when the applied voltage is half of the normal voltage?

Options :

1. ✖ There will be no change in speed
2. ✖ The speed will become half of the normal speed

3. ✔ The speed will fall slightly below the normal speed

4. ✖ The speed will increase slightly above the normal speed

Question id : 7721 Question Type : MCQ

Which of the following is applicable to a dc generator?

Options :

1. ✖ It is a prime mover

2. ✖ It is a static converter

3. ✔ It is a rotary converter

4. ✖ It is an energy transformer

Question id : 7722 Question Type : MCQ

Calculate the efficiency (approximately) of a 3-phase, 50 Hz, 500 V induction motor. Also consider following given specifications.
Motor develops 20 BHP at a slip of 5%.
Mechanical losses = 1 H.P.
Stator losses = 1000 W.

Options :

1. ✔ 85%

2. ✖ 75%

3. ✖ 70%

4. ✖ 50%

Question id : 7723 Question Type : MCQ

A single phase transformer has 500 primary and 1000 secondary turns. The net cross-sectional area of the core is 50 cm^2. If the primary winding is connected to a 50-Hz supply at 400 V, calculate the voltage induced in the secondary winding.

Options :

1. ✖ 80 V

2. ✔ 800 V

3. ✖ 700 V

4. ✖ 60 V

Question id : 7724 Question Type : MCQ

A transformer has its maximum efficiency of 0.98 at 15kVA at unity power factor. During the day it is loaded as follows:
a) 2 kW at power factor 0.5 for 10 hours
b) 12 kW at power factor 0.8 for 8 hours
c) 18 kW at power factor 0.9 for 6 hours

Find its all day efficiency (in kWh).

Question Cancelled

Question id : 7725 Question Type : MCQ

Which among the following is not a primary source of energy in alternative/unconventional power stations?

Options :

1. ✖ Wind
2. ✔ Plutonium
3. ✖ Geothermal
4. ✖ Tides

Question id : 7726 Question Type : MCQ

To reduce the earth's resistance during earthing process, the earthing pit is filled with:

Options :

1. ✖ alternate layers of steel and brass
2. ✖ alternate layers of charcoal and brass
3. ✔ alternate layers of charcoal and salt
4. ✖ alternate layers of charcoal and steel

Question id : 7727 Question Type : MCQ

Which of the following distribution systems is recommended to supply a large load reliably over a large area?

Options :

1. ✖ Direct distribution from the grid
2. ✖ Radial distribution
3. ✖ Loop distribution
4. ✔ Network distribution

Question id : 7728 Question Type : MCQ

The power transmitted over a transmission line is a function of the transmission voltage and is proportional to:

Options :

1. ✖ the transmission voltage
2. ✔ the square of transmission voltage
3. ✖ the cube of the transmission voltage
4. ✖ the fourth power of transmission voltage

Question id : 7729 Question Type : MCQ

The feeder voltage at which distribution of power is undertaken is:

Options :

1. ✖ 66 kV
2. ✖ 33 kV
3. ✖ 22 kV
4. ✔ 11 kV

Question id : 7730 Question Type : MCQ

DPIC is:

Options :

1. ✖ double-phase, iron-clad
2. ✖ double-pole, insulated cover
3. ✔ double-pole, iron-clad
4. ✖ double-phase, insulated-cover

Question id : 7731 Question Type : MCQ

Which of the following statements about the gas-fired power stations is/are true?

1. The gas-fired power station is used with a diesel-oil-fired power station
2. Gas turbine first generates power, the hot exhaust gases then produce steam, which is used to generate power in a conventional steam station
3. Gas turbine first generates power, the hot exhaust gases are then used to run another gas station

Choose the correct answer from the options given below.

Options :

1. ✖ All 1, 2 and 3
2. ✖ Only 1
3. ✔ Only 2
4. ✖ Only 3

Question id : 7732 Question Type : MCQ

Which among the following cannot be used to obtain variable speed?

Options :

1. ✖ DC motors controller
2. ✖ AC motor controller
3. ✔ Soft starter controller
4. ✖ AC and DC controllers

Question id : 7733 Question Type : MCQ

What is the output voltage of the circuit shown below?

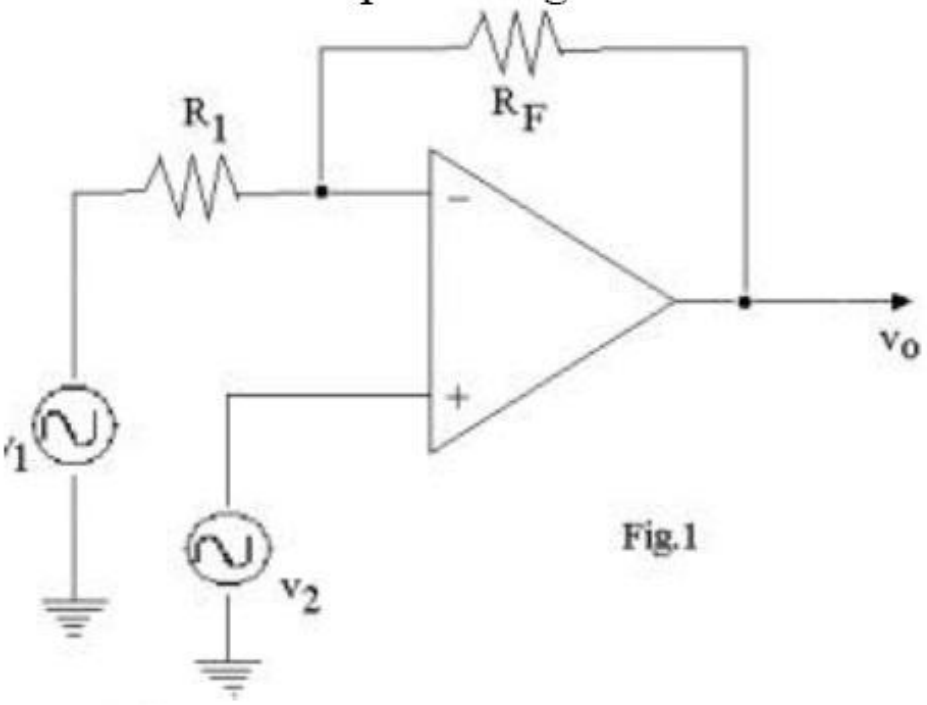


Fig.1

Options :

1. $v_o = \frac{R_F}{R_1}(v_2 - v_1)$ ✖

2. $v_o = \frac{R_F}{R_1}(v_2 - v_1) - v_2$ ✖

3. $v_o = \frac{R_F}{R_1}(v_2 - v_1) + v_2$ ✔

4. $v_o = (v_2 - v_1) / (R_1 + R_F)$ ✖

Question id : 7734 Question Type : MCQ

Consider following given data points for a power generating station and calculate its diversity factor.

Maximum load for the year = 18,000 kW
Load factor = 30.5%
Maximum loads on the substations were 7500 kW, 5000 kW, 3400 kW, 4600 kW and 2800 kW.

Options :

1. 1 ✖

2. ✔ 1.3

3. ✖ 0.8

4. ✖ 1.98

Question id : 7735 Question Type : MCQ

Which among the following is not a type of wattmeter?

Options :

1. ✔ Moving-coil permanent magnet

2. ✖ Electrostatic

3. ✖ Induction

4. ✖ Dynamometer

Question id : 7736 Question Type : MCQ

Which of the following is a function of the damping system?

Options :

1. ✖ Balance the deflecting and controlling torques

2. ✖ Increase the deflecting torque

3. ✖ Produce oscillations in the controlling torque

4. ✔ Bring the pointer quickly to its steady-state position

Question id : 7737 Question Type : MCQ

A current of 300 μA produces full scale deflection in an instrument whose coil resistance is 75 Ω. Calculate the value of shunt resistor if the instrument is to measure a current of 5 A.

Options :

1. ✔ 4.5 m Ω

2. ✖ 5.5 m Ω

3. ✖ 6.5 m Ω

4. ✖ 7.5 m Ω

Question id : 7738 Question Type : MCQ

A 0-50 V voltmeter is reading 15V. If it is considered to be accurate within ±1% of full scale, calculate the limiting error of voltmeter at this reading.

Options :

1. ✖ 9%
2. ✖ 5.39%
3. ✔ 3.33%
4. ✖ 4.98%

Question id : 7739 Question Type : MCQ

During a test it was measured that 20.5 A was flowing through a resistor of 0.2 Ω. It was found that the ammeter reading was low by 1.3% while the resistance value was high by 0.5%. Find the true power as a percentage of the power that was originally calculated.

Options :

1. ✖ 100%
2. ✖ 109.10%
3. ✔ 102.103%
4. ✖ 200%

Question id : 7740 Question Type : MCQ

Choose the correct statement among the following.

Options :

1. ✖ A 11 kV feeder voltage level is LV distribution voltage.
2. ✔ A 11 kV feeder voltage level is primary distribution voltage.
3. ✖ A 11 kV feeder voltage level is sub-transmission voltage.
4. ✖ A 11 kV feeder voltage level is sub-transmissive voltage.

Question id : 7741 Question Type : MCQ

Which among the following statements about 400-V, LV distribution line is correct?

Options :

1. ✔ It is 3-phase, 4 or 5-wire line.
2. ✖ It is 3-phase, 3-wire line.

3. ✖ It is 1-phase, 3-wire with central point earthed.

4. ✖ It is d.c distributed line.

Question id : 7742 Question Type : MCQ

Changing the distribution line voltage from 22 kV to 33 kV, the transmitted power would

Options :

1. ✖ become 4 times

2. ✖ become 2 times

3. ✔ become 2.25 times

4. ✖ remain same

Question id : 7743 Question Type : MCQ

What is secondary banking?

Options :

1. ✖ Operating two or more distribution transformers alternately

2. ✔ Operating two or more distribution transformers in parallel with proper protection

3. ✖ Putting the secondary distribution into ring system

4. ✖ Dividing the feeder network into main and sub-feeders

Question id : 7744 Question Type : MCQ

Among the following which correctly defines the transformer utility factor?

Question Cancelled

Question id : 7745 Question Type : MCQ

The choice of secondary voltage level depends upon:
I. length and loading of feeder
II. Number of distribution substations and their location
III. Number of consumers and their imprudence
Choose the correct answer from the options given below.

Options :

1. ✖ Only III
2. ✔ All I, II and III
3. ✖ Only I
4. ✖ Only II and III

Question id : 7746 Question Type : MCQ

Which of the following is the disadvantage of secondary banking?

Options :

1. ✖ Voltage regulation is poor.
2. ✖ Parallel operation of transformer and their load sharing is different.
3. ✔ Overloading of one transformer can occur and coordination of fuses is difficult.
4. ✖ Load growth and future expansion is difficult.

Question id : 7747 Question Type : MCQ

Voltage drop is minimum for which of the following type of load?

Options :

1. ✖ Load at the end of the feeder
2. ✖ Uniformly distributed load
3. ✖ Uniformly increasing load
4. ✔ Uniformly decreasing load

Question id : 7748 Question Type : MCQ

Which among the following is an advantage of 'Corona'?

Options :

1. ✖ Increase effect of transients

2. ✖ Corrosion of conductor

3. ✔ Increase effective conductor size

4. ✖ Increase effective of subtransients

Question id : 7749 Question Type : MCQ

Which among the following type of conductor(s) should be used to reduce corona effect?

I. Large diameter
II. Hollow
III. Bundled

Options :

1. ✖ Only I

2. ✔ All I, II and III

3. ✖ Only I & III

4. ✖ Only II and III

Question id : 7750 Question Type : MCQ

Modern EHV (extra-high-voltage) line insulation is designed based on

Options :

1. ✖ the lighting voltage

2. ✔ the switching voltage

3. ✖ corona

4. ✖ switching power

Question id : 7751 Question Type : MCQ

Consider the following given loading specifications for a two-wire 400 m long distributor:

Meters from feeding point:	100	200	275	325	400
Load in ampere:	25	10	30	50	20

If the resistivity of conductor is 1.5×10^{-8} Ω-m, then what should be the cross-section of each conductor, in order that the voltage drop may not exceed 10V.

Options :

1. ✖ $2.2\ cm^2$

2. ✔ $1.1\ cm^2$

3. ✖ $2.2\ m^2$

4. ✖ $1.1\ m^2$

Question id : 7752 Question Type : MCQ

Which of the following voltage/s should be used for %voltage-drop expression?

I. Sending end voltage
II. Receiving end voltage
III. System nominal voltage

Choose the correct answer from the options given below.

Options :

1. ✖ Only I

2. ✖ Only II

3. ✔ Only III

4. ✖ Any of I, II or III

Question id : 7753 Question Type : MCQ

ACSR (Aluminium Conductor Steel Reinforced) are used as:

Options :

1. ✔ Over head transmission lines

2. ✖ Super conductors

3. ✖ Fuse

4. ✖ Underground cables

Question id : 7754 Question Type : MCQ

The dew point temperature, for unsaturated air:

Options :

1. ✔ is less than wet bulb temperature

2. ✖ is equal to wet bulb temperature

3. ✖ is more than wet bulb temperature

4. ✖ cannot be determined

Question id : 7755 Question Type : MCQ

Match the following correctly.

A. Dry bulb temperature	I. The difference between dry bulb temperature and wet bulb temperature.
B. Wet bulb depression	II. The temperature of air measured by an ordinary thermometer.
C. Dew point temperature	III. The temperature at which the water vapour in air starts condensing.

Options :

1. ✔ A-II, B-I, C-III
2. ✖ A-I, B-III, C-II
3. ✖ A-I, B-II, C-III
4. ✖ A-III, B-II, C-I

Question id : 7756 Question Type : MCQ

5000 kg of water is converted into ice at 0 °C from 20 °C in 12 hrs. Determine the power rating of the capacitor in TR (ton of refrigeration).

Options :

1. ✖ 38.13
2. ✖ 48.47
3. ✔ 13.85
4. ✖ 20.87

Question id : 7757 Question Type : MCQ

The by-pass factor of single cooling coil in an air-conditioner is 0.7. The by-pass factor if three such cooling coils with the same apparatus dew point are kept one behind the other, will be

Options :

1. ✖ 0.21
2. ✖ 0.292
3. ✔ 0.343
4. ✖ 0.412

Question id : 7758 Question Type : MCQ

When wavelength increases from violet to red, the luminosity:

Options :

1. ✖ continuously increases

2. ✖ continuously decreases

3. ✔ first increases and then decreases

4. ✖ first decreases and then increases

Question id : 7759 Question Type : MCQ

What would be the intensity of illumination, of a light source having luminous intensity of 500 candela, on a surface placed at a distance of 5 m?
(Assume that light is falling normally)

Options :

1. ✖ 0.5 lux

2. ✔ 20 lux

3. ✖ 10 lux

4. ✖ 50 lux

Question id : 7760 Question Type : MCQ

What would be the candela rating of an isotropic source which produces a light flux of 6π lumen?

Options :

1. ✔ 1.5 candela

2. ✖ 2 candela

3. ✖ 2.5 candela

4. ✖ 3 candela

Question id : 7761 Question Type : MCQ

Of the following, which one is an example of chemiluminescence?

Options :

1. ✖ Halogen lamps

2. ✖ Sodium lamps

3. ✔ Light produced by firefly

4. ✖ Marine animals giving off light

Question id : 7762 Question Type : MCQ

Which of the following can lead to premature failure of roller bearing?

Options :

1. ✔ Misalignment
2. ✖ Contamination
3. ✖ Shrinkage
4. ✖ Over greasing

Question id : 7763 Question Type : MCQ

The discharge of centrifugal pump is _____ while that of reciprocating pump is_____.

Options :

1. ✖ turbulent, laminar
2. ✖ intermittent, continuous
3. ✔ continuous, pulsating
4. ✖ pulsating, continuous

Question id : 7764 Question Type : MCQ

If the rotational speed of a cargo pump is increased

Options :

1. ✔ Pump flow rate will increase in proportion to the increment in speed
2. ✖ Pump flow rate will decrease in proportion to the decrement in speed
3. ✖ Pump flow rate remains same
4. ✖ Pump flow rate shows random behaviour

Question id : 7765 Question Type : MCQ

Which of the following tube type represents air compressor cooler type of tube?

Options :

1. ✖ Spring type
2. ✖ Floating type
3. ✖ Fixed tube

4. ✔ U tube

Question id : 7766 Question Type : MCQ

Which of the following types of alarm modules are used in a standard annunciator system?

Options :

1. ✔ Relay driven or IC (integrated circuit) driven

2. ✖ First and Flash reset

3. ✖ Alarm and Point Canister

4. ✖ Flasher pulse and static

Question id : 7767 Question Type : MCQ

Among the following mentioned definitions, which one best describes an Uninterruptible Power Source (UPS)?

Options :

1. ✖ A synchronous motor/alternator connected on the main Bus power

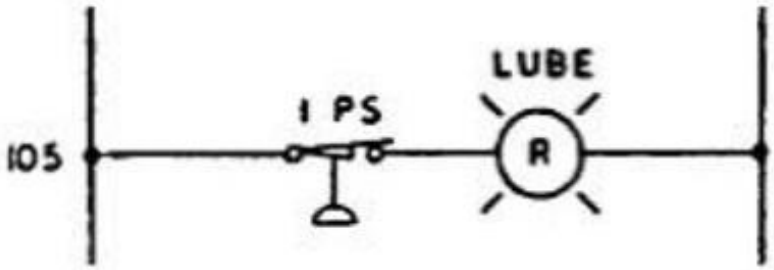
2. ✔ Electrical apparatus that provides emergency power to a load when the input power source fails

3. ✖ The utility, or incoming, power supply with an Automated Transfer Switch (ATS)

4. ✖ Series and paralleled batteries used to provide control power during outages

Question id : 7768 Question Type : MCQ

Consider the diagram given below.



Of the following actions, which will cause the indicator turn 'off'?

Options :

1. ✖ No change in the operation

2. ✖ Vacuum on the measured variable

3. ✖ Increase in lube pressure

4. ✔ Decrease in lube pressure

Question id : 7769 Question Type : MCQ

Among the following which parameters are classified as battery ratings?

Options :

1. ✖ Lead-acid, voltage, resistance

2. ✖ Ampere-hours, nickel-cadmium, alkaline

3. ✔ Internal resistance, voltage, ampere-hours

4. ✖ Weight, connections, type of terminal fittings

Question id : 7770 Question Type : MCQ

In a D'Arsonval meter, what is the pointer attached to?

Options :

1. ✖ Magnet

2. ✔ Coil

3. ✖ Spring

4. ✖ Pivot bearing

Sub-Section : 2	Question Shuffling Allowed : Yes

Question id : 7771 Question Type : COMPREHENSION

A 3-phase induction motor is wound for 4-poles and is supplied from a 50 Hz system.

Sub questions

Sub-question id - 7772 Question Type : MCQ

What is the value of synchronous speed?

Options :

1. ✔ 1500 r.p.m

2. ✖ 2500 r.p.m

3. ✖ 1100 r.p.m

4. ✖ 1440 r.p.m

Sub-question id - 7773 Question Type : MCQ

What is the actual speed of the motor when running at 4 % slip?

Options :

1. ✖ 1500 r.p.m
2. ✖ 2500 r.p.m
3. ✖ 1100 r.p.m
4. ✔ 1440 r.p.m

Sub-question id - 7774 Question Type : MCQ

What is the frequency of emf induced in rotor?

Options :

1. ✖ 1 Hz
2. ✔ 2 Hz
3. ✖ 1 kHz
4. ✖ 2 kHz

Question id : 7775 Question Type : COMPREHENSION

Consider the following given load observations-

Type of load	Max. demand (kW)	Diversity of group	Demand factor
Domestic	1500	1.2	0.8
Commercial	2000	1.1	0.9
Industrial	10,000	1.25	1

Consider the overall system diversity factor = 1.35.

Sub questions

Sub-question id - 7776 Question Type : MCQ

What is the value of maximum demand?

Options :

1. ✖ 13,500 kW
2. ✔ 10,000 kW
3. ✖ 5,000 kW
4. ✖ 6,000 kW

Sub-question id - 7777 Question Type : MCQ

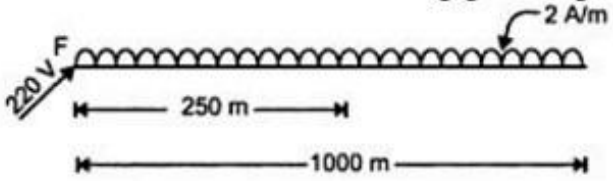
What is the value of connected industrial load?

Options :

1. ✖ 2250 kW
2. ✖ 2444 kW
3. x 12, 500 kW
4. ✔ 10,000 kW

Question id : 7778 Question Type : COMPREHENSION

Consider the following given figure of a DC two-wire distributor:



It is given that distributor is uniformly loaded at 2 A/m run. The distributor is fed at one end at 220V and the loop resistance is 3×10^{-5} Ω/m.

Sub questions

Sub-question id - 7779 Question Type : MCQ

Determine the voltage drop (approximately) at a distance 250 m from the feeding station.

Options :

1. ✖ 30 V
2. ✖ 15 V
3. ✔ 13 V
4. ✖ 25 V

Sub-question id - 7780 Question Type : MCQ

Determine the voltage drop at far end.

Options :

1. ✔ 30 V
2. ✖ 15 V
3. ✖ 13 V
4. ✖ 25 V

Question id : 7781 Question Type : COMPREHENSION

Consider the following specifications of a refrigerator operating on Bell-Coleman cycle. Air temperature before entering the compressor is 8 °C and it is 27 °C before entering into expander. The mass of air calculated in the refrigeration is 1.67 kg/sec and refrigerator capacity is 50 TR.
(Take index of both compression and expansion as 1.3)

Sub questions

Sub-question id - 7782 Question Type : MCQ

What is the actual COP (Coefficient of Performance) to drive the compressor?

Options :

1. ✖ 300 kJ/sec
2. ✔ 151 kJ/sec
3. ✖ 251 kJ/sec
4. ✖ 80 kJ/sec

Sub-question id - 7783 Question Type : MCQ

What is the power required to drive the compressor?

Options :

1. ✔ 1.16
2. ✖ 2.98
3. ✖ 1.99
4. ✖ 3.78

General awareness and RTI		
Section type : Online	Number of Questions to be attempted:25	Mandatory or Optional: Mandatory

Sub-Section : 1	Question Shuffling Allowed : Yes

Question id : 7784 Question Type : MCQ

The Central Chief Information Commissioner of India is appointed by

Options :

1. ✔ The President of India
2. ✖ The Prime Minister of India
3. ✖ The Finance Minister of India

4. ✖ A committee formed by the Prime Minister of India

Question id : 7785 Question Type : MCQ

Does any state in India exist where RTI act is not applicable? If it exists, name it.

Options :

1. ✖ No, it does not exist

2. ✖ Yes, it's Maharashtra

3. ✔ Yes, it's Jammu and Kashmir

4. ✖ Yes, it's Assam

Question id : 7786 Question Type : MCQ

What is the term given to the officer in the Public authority who provides information in India?

Options :

1. ✖ Government Information Officer

2. ✖ Government Authoritarian Officer

3. ✔ Public Information Officer

4. ✖ Public Authoritarian Officer

Question id : 7787 Question Type : MCQ

Consider the following statements with reference to RTI 2005. Find out which of them is/are true/false and mark the correct option accordingly.

1. Oral request is sufficient to seek information.
2. Only citizens of India can seek information.
3. The RTI Act is not applicable to the High Court and Supreme Court.

Options :

1. ✖ Statement 1 - True; Statement 2 - True; Statement 3 - True

2. ✔ Statement 1 - False; Statement 2 - True; Statement 3 - False

3. ✖ Statement 1 - False; Statement 2 - True; Statement 3 - True

4. ✖ Statement 1 - False; Statement 2 - False; Statement 3 - True

Question id : 7788 Question Type : MCQ

Which of the following is a facility for the Indian citizens to file RTI applications online?

Options :

1. ✔ www.rtionline.gov.in
2. ✖ www.onlinerti.gov.in
3. ✖ www.rtionline.com
4. ✖ www.gov-rtionline.co.in

Question id : 7789 Question Type : MCQ

Which of the following is the only novella ever written by the screen legend Charlie Chaplin which has recently been made public for the first time?

Options :

1. ✖ Limelight
2. ✖ Green Room
3. ✔ Footlights
4. ✖ Powder Room

Question id : 7790 Question Type : MCQ

The tropical forests are found in which one of the following regions of India?

Options :

1. ✖ Western part of the Western Ghats
2. ✖ North-Eastern parts of India
3. ✔ Both "Western part of the Western Ghats" and "North-Eastern parts of India"
4. ✖ Only Eastern part of the Eastern Ghats

Question id : 7791 Question Type : MCQ

Due to the presence of _____, the red soil is of red colour.

Options :

1. ✖ Phosphoric acid
2. ✖ Humus
3. ✖ Nitrogen
4. ✔ Iron

Question id : 7792 Question Type : MCQ

Which National Highway connects Delhi and Mumbai?

Options :

1. ✖ NH 6
2. ✔ NH 8
3. ✖ NH 10
4. ✖ NH 12

Question id : 7793 Question Type : MCQ

Which one of the following places is famous for production of railways' coaches?

Options :

1. ✖ Nasik
2. ✔ Kapurthala
3. ✖ Kanpur
4. ✖ Kochi

Question id : 7794 Question Type : MCQ

By which of the following tech giants, is the company "Whatsapp" acquired?

Options :

1. ✔ Facebook
2. ✖ Google
3. ✖ Viber
4. ✖ Snapchat

Question id : 7795 Question Type : MCQ

Which is the second Indian state to withdraw approval for FDI in multi-brand retail?

Options :

1. ✖ Delhi
2. ✖ Gujarat
3. ✖ Punjab

4. ✔ Rajasthan

Question id : 7796 Question Type : MCQ

For which state lately, has a proposal been authorized by the Indian government for setting up a nuclear fuel complex?

Options :

1. ✖ Maharashtra
2. ✔ Rajasthan
3. ✖ Gujarat
4. ✖ Haryana

Question id : 7797 Question Type : MCQ

Where is "Khavda Flamingo Colony" situated?

Options :

1. ✖ Maharashtra
2. ✖ Rajasthan
3. ✔ Gujarat
4. ✖ Haryana

Question id : 7798 Question Type : MCQ

One among the following IT giants has developed "Watson", an artificially intelligent computer system which analyzes natural language questions and content. Identify it.

Options :

1. ✖ Infosys
2. ✔ IBM
3. ✖ Google
4. ✖ Microsoft

Question id : 7799 Question Type : MCQ

Who prints and supplies the currency notes in India?

Options :

1. ✖ Security Press, Mumbai

2. ✖ Security Press, Noida

3. ✔ RBI

4. ✖ Security Press, Nasik

Question id : 7800 Question Type : MCQ

The first Chairman of Disinvestment Commission of India was:

Options :

1. ✔ G. V. Ramkrishna

2. ✖ Indira Gandhi

3. ✖ Madhu Dandavate

4. ✖ C Rangarajan

Question id : 7801 Question Type : MCQ

Highest per capita income is inversely co-related with the proportion of active population engaged in
I. Service
II. Industry
III. Agriculture

Options :

1. ✖ Only I

2. ✖ Both II & III

3. x All I, II & III

4. ✓ Only III

Question id : 7802 Question Type : MCQ

In India Currency notes and coins of one rupee are issued by ___ .

Options :

1. ✖ SBI

2. x the Ministry of Finance

3. ✖ the Ministry of Commerce

4. ✓ RBI

Question id : 7803 Question Type : MCQ

Which of the following statements is/are true about the Planning Commission of India?

1. It was set up in 1950.
2. It is a government department.

Options :

1. ✓ Only 1

2. ✖ Only 2

3. x Both 1 and 2

4. ✖ Neither 1 nor 2

Question id : 7804 Question Type : MCQ

What is the age (in years) of retirement of the President of India?

Options :

1. ✖ 70

2. ✖ 75

3. ✖ 80

4. ✔ There is not any such limit.

Question id : 7805 Question Type : MCQ

Socialism is opposed to:

Options :

1. ✔ unrestricted competition

2. ✖ social security scheme

3. ✖ equal distribution of wealth

4. ✖ collective ownership

Question id : 7806 Question Type : MCQ

What does "secularism" imply?

Options :

1. ✖ Suppression of all religions

2. ✖ Giving minorities more freedom for religion

3. ✖ Separation of the religion from the state

4. ✔ Not favouring any particular religion/faith

Question id : 7807 Question Type : MCQ

Under the Constitution of India, which one of the following is not a "fundamental duty"?

Options :

1. ✔ To vote in public elections

2. ✖ To develop a scientific temper

3. ✖ To safeguard public property

4. ✖ To abide by the Constitution and respect its ideals

Question id : 7808 Question Type : MCQ

With which of the following articles is the phrase "To have speedy justice" associated in the Constitution of India?

Options :

1. ✖ Article 19

2. ✖ Article 20

3. ✔ Article 21

4. ✖ Article 22