



एनर्जी एफिशिएंसी सर्विसेज लिमिटेड

भारत सरकार, विद्युत मंत्रालय के सार्वजनिक क्षेत्र के उपक्रम की संयुक्त उद्यम कंपनी

**ENERGY EFFICIENCY SERVICES LIMITED**

A JV of PSUs under the Ministry of Power

Participant ID	
Participant Name	<a href="http://www.exammix.com">www.exammix.com</a>
Test Center Name	
Test Date	23/10/2020
Test Time	2:00 PM - 4:00 PM
Subject	Deputy Manager (Technical)

Section : General Knowledge

Q.1 Who among the following was nicknamed Napoleon of India?

- Ans
- 1. Tipu Sultan
  - 2. Aurangzeb
  - 3. Ashoka
  - 4. Samudragupta

Question ID : 9767551165  
Status : Answered  
Chosen Option : 1

Q.2 The Western Ghats are also known as the \_\_\_\_\_.

- Ans
- 1. Gangotri Hills
  - 2. Yamunotri Hills
  - 3. Sahyadri Hills
  - 4. Saptagiri Hills

Question ID : 9767551164  
Status : Answered  
Chosen Option : 2

Q.3 Who is the author of the famous book 'Lowland'?

- Ans
- 1. Jhumpa Lahiri
  - 2. Amitav Ghosh
  - 3. R.K. Narayan
  - 4. Ruskin Bond

Question ID : 9767551166  
Status : Not Answered  
Chosen Option : --

Q.4 प्रसिद्ध 'सिपी मेला' भारत के निम्नलिखित में से किस राज्य में आयोजित किया जाता है?

- Ans
- 1. तेलंगाना
  - 2. ओडिशा
  - 3. हिमाचल प्रदेश
  - 4. झारखंड

Question ID : 9767551161  
Status : Answered  
Chosen Option : 2

Q.5 Which Article of the Indian Constitution gives provision of high courts for states?

- Ans
- 1. Article 314
  - 2. Article 214
  - 3. Article 414
  - 4. Article 514

Question ID : 9767551167  
Status : Not Answered  
Chosen Option : --

Q.6 What is the full form of 'WAN' in software terminology?

- Ans
- 1. Wide Ample Network
  - 2. Wide Assessment Network
  - 3. Wide Augmentation Network
  - 4. Wide Area Network

Question ID : 9767551163  
Status : Answered  
Chosen Option : 4

Q.7 With which sport is the famous 'Hiralal Cup' associated?

- Ans
- 1. Hockey
  - 2. Cricket
  - 3. Football
  - 4. Badminton

Question ID : 9767551168  
Status : Answered  
Chosen Option : 1

Q.8 The disease Diphtheria is caused by \_\_\_\_\_.

- Ans
- 1. fungus
  - 2. flatworm
  - 3. bacteria
  - 4. virus

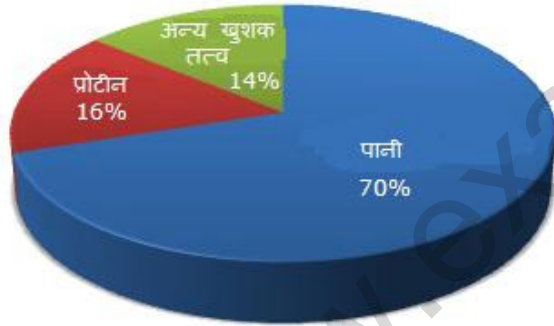
Question ID : 9767551162

Status : Not Answered

Chosen Option : --

Section : Data Analysis and Interpretation

Q.1 निम्नलिखित पाई आरेख मानव शरीर के भिन्न-भिन्न संघटकों के वितरण को दर्शाते हैं।



मानव शरीर के कुल वजन का कितना प्रतिशत भाग मानव शरीर की त्वचा में निहित प्रोटीन के वजन के बराबर है?

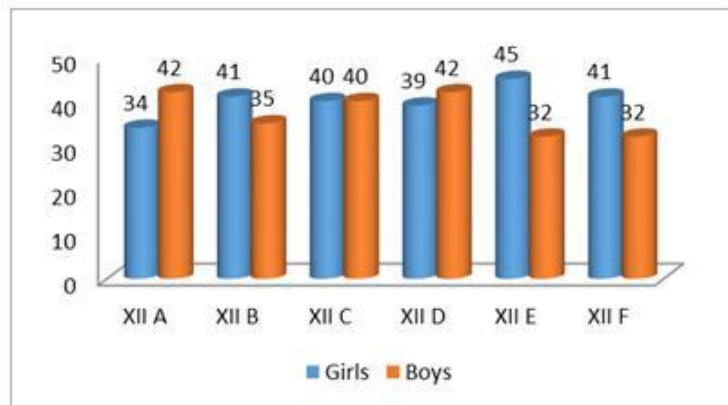
- Ans
- 1. 0.8
  - 2. 2.5
  - 3. 1.1
  - 4. 1.6

Question ID : 9767551175

Status : Answered

Chosen Option : 4

Q.2 The following double bar graph represents the number of boys and girls in different sections of classes 12.



The average number of girls in each section is:

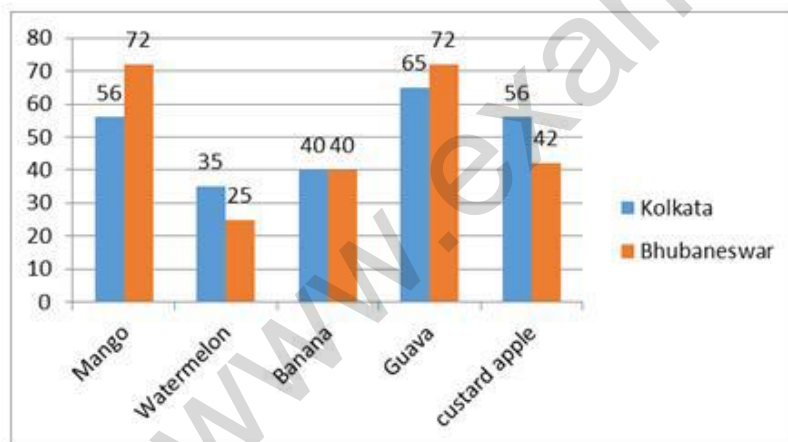
- Ans  1. 40  
 2. 39  
 3. 37  
 4. 42

Question ID : 9767551170

Status : Answered

Chosen Option : 1

Q.3 The following graph represents the cost of the different fruits in Bhubaneswar and Kolkata.



What is the ratio of the cost of custard apple per kg in Kolkata to the cost to the custard apple of per kg in Bhubaneswar.

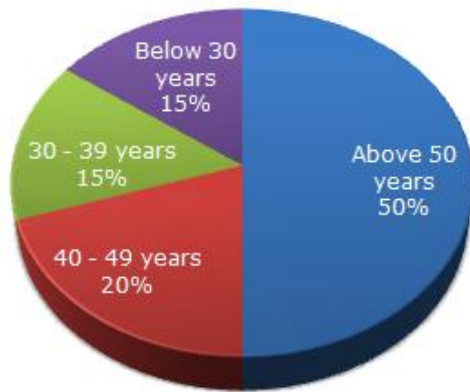
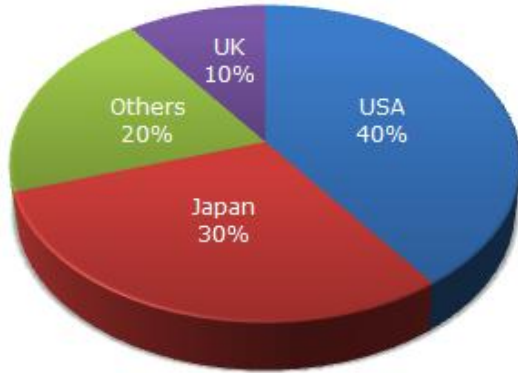
- Ans  1. 1 : 1  
 2. 1 : 2  
 3. 3 : 4  
 4. 4 : 3

Question ID : 9767551169

Status : Answered

Chosen Option : 4

Q.4 The following pie charts exhibit the distribution of the overseas tourist traffic from India. The two charts shows the tourist distribution by country and the age profiles of the tourists respectively.



The ratio of the number of Indian tourists that went to USA to the number of Indian tourists who were below 30 years of age is :

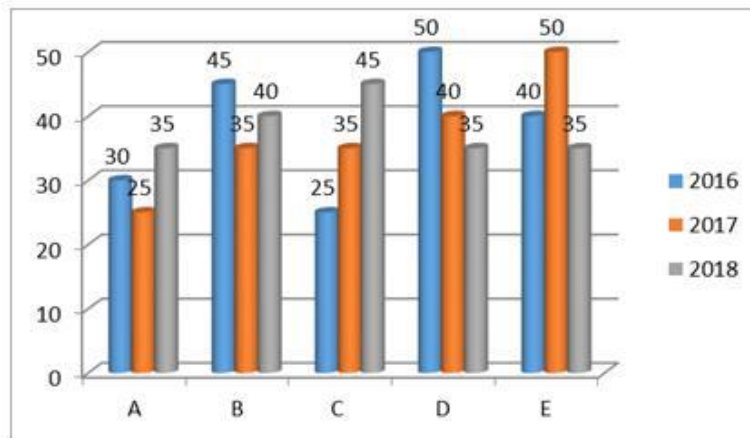
- Ans
- 1. 3 : 8
  - 2. 7 : 2
  - 3. 2 : 7
  - 4. 8 : 3

Question ID : 9767551176

Status : Answered

Chosen Option : 4

Q.5 The following diagram represents the production of fertilizer in lakh tons by different companies for these years 2016, 2017, & 2018.



The average production for three years was maximum for which of the following companies?

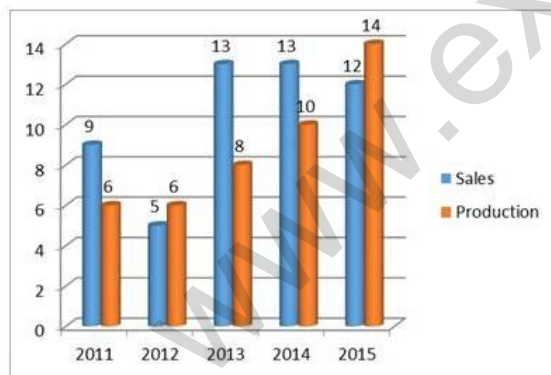
- Ans
- 1. B only
  - 2. B & D both
  - 3. D & E both
  - 4. A only

Question ID : 9767551172

Status : Answered

Chosen Option : 3

Q.6 The following bar chart shows production and sales of cars (in thousands) over the years 2011 to 2014.



The percentage by which sales exceeds production in 2014 is:

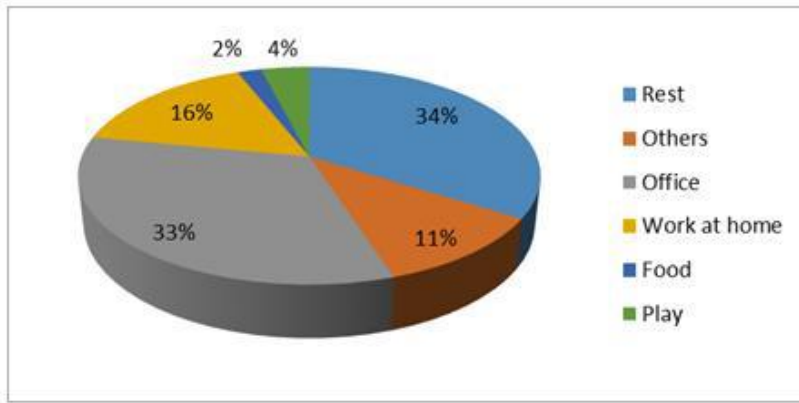
- Ans
- 1. 35 percent
  - 2. 40 percent
  - 3. 30 percent
  - 4. 28 percent

Question ID : 9767551171

Status : Answered

Chosen Option : 3

Q.7 The following pie chart exhibits the time spent by a person throughout the day (24 hours).



In the rest sector, approximately how many degrees should be there in the central angle?

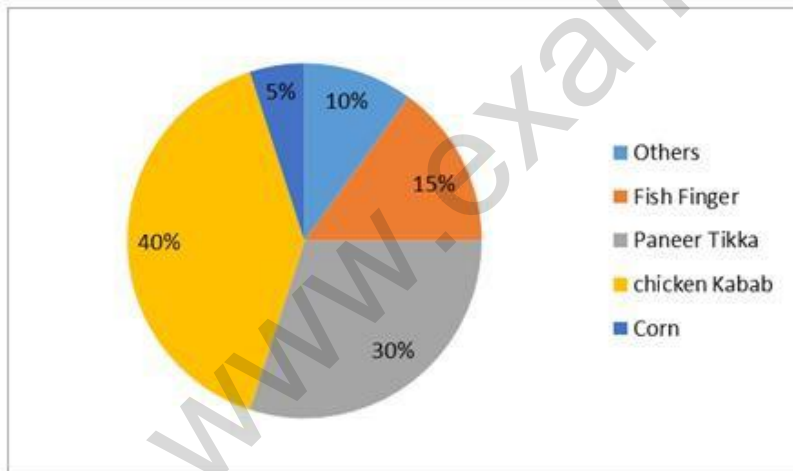
- Ans
- 1. 22 degree
  - 2. 122 degree
  - 3. 102 degree
  - 4. 132 degree

Question ID : 9767551174

Status : Answered

Chosen Option : 2

Q.8 A survey was carried out to find the favourite starter preferred by a certain group of young people. The following pie charts shows the findings of the survey.



If 90 people like fish finger, how many people were surveyed?

- Ans
- 1. 600
  - 2. 750
  - 3. 300
  - 4. 500

Question ID : 9767551173

Status : Answered

Chosen Option : 1

Q.1 A sum grows to Rs. 36,300 in 2 years at 10 percent p.a. compound interest, interest being compounded annually. Find the sum.

- Ans
- 1. Rs. 30,000
  - 2. Rs. 43,923
  - 3. Rs. 39,930
  - 4. Rs. 33,000

Question ID : 9767551178  
Status : Answered  
Chosen Option : 2

Q.2 A bus starts from Delhi to a place at a distance of 360 km. An hour later, a taxi, ratio of whose speed with the bus is 3 : 2, took after it. Find the speed of the taxi, if the taxi arrive the destination one and a half hour earlier than the bus.

- Ans
- 1. 60 km/h
  - 2. 72 km/h
  - 3. 180 km/h
  - 4. 48 km/h

Question ID : 9767551184  
Status : Answered  
Chosen Option : 2

Q.3 Solve the Following equation:

$$1 + \frac{\tan^2 \theta}{1 + \sec \theta} = ?$$

- Ans
- 1. 1
  - 2.  $\sec^2 \theta$
  - 3.  $\tan^2 \theta$
  - 4.  $\sec \theta$

Question ID : 9767551177  
Status : Answered  
Chosen Option : 4



**Q.4** Ritu does self-study for  $5\frac{3}{4}$  hours daily. She devotes  $1\frac{1}{4}$  hours to English,  $\frac{2}{3}$  hours to Hindi, and  $1\frac{1}{2}$  hours to Maths. How much time does she devote to other subjects?

- Ans
- 1.  $3\frac{5}{8}$  hours
  - 2.  $2\frac{1}{3}$  hours
  - 3.  $3\frac{1}{3}$  hours
  - 4.  $2\frac{2}{3}$  hours

Question ID : 9767551182  
Status : Answered  
Chosen Option : 3

**Q.5** एक कोण का माप कितना होगा, जो अपने पूरक से  $28^\circ$  अधिक है?

- Ans
- 1.  $76^\circ$
  - 2.  $31^\circ$
  - 3.  $104^\circ$
  - 4.  $59^\circ$

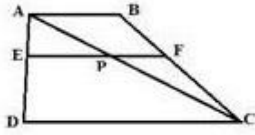
Question ID : 9767551180  
Status : Answered  
Chosen Option : 4

**Q.6** A share broker invested Rs. 1,00,000 in the stock market and suffered a loss of 5 percent on his investment at the end of the year. He invested his money again for the second year and gained profit 10 percent. Find his net profit or loss percentage.

- Ans
- 1. 4.5 percent profit
  - 2. 5 percent profit
  - 3. 1 percent loss
  - 4. 1 percent profit

Question ID : 9767551179  
Status : Answered  
Chosen Option : 1

Q.7 In the figure,  $AB \parallel EF \parallel DC$ ,  $AE = 4$  cm,  $ED = 6$  cm,  $FC = 9$  cm.  
Find BC.



- Ans
- 1. 14 cm
  - 2. 6 cm
  - 3. 16 cm
  - 4. 15 cm

Question ID : 9767551181  
Status : Answered  
Chosen Option : 1

Q.8 8 पुरुष या 10 महिलाएं किसी कार्य को 60 दिनों में पूरा कर सकती हैं। उसी कार्य को पूरा करने में 24 पुरुषों और 30 महिलाओं को कितना समय लगेगा?

- Ans
- 1. 8 दिन
  - 2.  $8\frac{7}{9}$  दिन
  - 3. 10 दिन
  - 4.  $12\frac{1}{2}$  दिन

Question ID : 9767551183  
Status : Answered  
Chosen Option : 3

Section : Current Affairs

Q.1 In which of the following cities, India and United Kingdom launched two year initiative- Innovating for Clean Air (IfCA)?

- Ans
- 1. Kolkatta
  - 2. Mumbai
  - 3. Chennai
  - 4. Bengaluru

Question ID : 9767551188  
Status : Answered  
Chosen Option : 4

Q.2 On 18 July 2019, Union Minister of HRD has released a University Grants Commission (UGC) Guide to Student Induction Programme. What is the name of that guide?

- Ans
- 1. Deeksharambh
  - 2. Nishtha
  - 3. Ayushman Bharat
  - 4. Swayamprabha

Question ID : 9767551187  
Status : Not Answered  
Chosen Option : --

Q.3 Which among the following countries topped the International Shooting Sport Federation (ISSF) Combined World Cup 2019 with 30 medals?

- Ans
- 1. Bangladesh
  - 2. China
  - 3. India
  - 4. Nepal

Question ID : 9767551192  
Status : Not Answered  
Chosen Option : --

Q.4 विश्व स्वास्थ्य संगठन (डब्ल्यू.एच.ओ.) ने निम्नलिखित में से किस देश में इबोला के प्रकोप को वैश्विक स्वास्थ्य आपातकाल घोषित किया?

- Ans
- 1. डी.आर. कांगो
  - 2. फिलिस्तीन
  - 3. इजराइल
  - 4. केन्या

Question ID : 9767551185  
Status : Not Answered  
Chosen Option : --

Q.5 Which of the following states has officially declared Yeoman (Cirrochroa thais) butterfly species as their state butterfly?

- Ans
- 1. Rajasthan
  - 2. Tamil Nadu
  - 3. Maharashtra
  - 4. Karnataka

Question ID : 9767551189  
Status : Answered  
Chosen Option : 2

Q.6 Name the Indian batsman who became the first batsman in the world to score 5 centuries in a World Cup tournament?

- Ans
- 1. Suresh Raina
  - 2. Virat Kohli
  - 3. Yuvraj Singh
  - 4. Rohit Sharma

Question ID : 9767551191  
Status : Answered  
Chosen Option : 4

Q.7 Who among the following won the Sahitya Akademi Award 2019 for the book, "An Era of Darkness"?

- Ans
- 1. S.Ramakrishnan
  - 2. Sashi Tharoor
  - 3. Inderjeet Kesar
  - 4. Chitra Mudgal

Question ID : 9767551190  
Status : Answered  
Chosen Option : 2

Q.8 विश्व स्वास्थ्य संगठन (डब्ल्यू.एच.ओ.) ने किसकी 200वीं जयंती के उपलक्ष्य में वर्ष 2020 को "नर्स और मिडवाइफ का वर्ष (ईयर ऑफ नर्स एंड मिडवाइफ)" के रूप में नामित किया है।

- Ans
- 1. सुधा मूर्ति
  - 2. इंद्राणी नाडिसेन
  - 3. मदर टेरेसा
  - 4. फ्लोरेंस नाइटिंगेल

Question ID : 9767551186  
Status : Answered  
Chosen Option : 4

Section : English

Q.1 Select the most appropriate synonym of the given word.

HARMONY

- Ans
- 1. Disorganisation
  - 2. Coherence
  - 3. Confusion
  - 4. Dissonance

Question ID : 9767551200  
Status : Answered  
Chosen Option : 2

Q.2 Select the option that can be used as a one-word substitute for the given group of words.

A box made of wood with a wire front in which small animals, such as rabbits, are kept .

- Ans
- 1. Hutch
  - 2. Gymnasium
  - 3. Kennel
  - 4. Creche

Question ID : 9767551199  
Status : Answered  
Chosen Option : 1

Q.3 Select the most appropriate meaning of the following idiom.

All and sundry

- Ans
- 1. A hard situation
  - 2. Work done during the daytime
  - 3. Everyone
  - 4. None

Question ID : 9767551198  
Status : Answered  
Chosen Option : 1

Q.4 Select the option that expresses the given sentence in reported speech.

The teacher said, "Be quiet and listen to my words."

- Ans
- 1. The teacher urged them to be quiet and listen to his words.
  - 2. The teacher said them to be quiet and listen to him words.
  - 3. The teacher said them to be quiet and listen to my words.
  - 4. The teacher asked him to be quiet and listen to my words.

Question ID : 9767551194  
Status : Answered  
Chosen Option : 1

Q.5 Select the most appropriate ANTONYM of the given word.

POMPOUS

- Ans
- 1. Bumptious
  - 2. Assumptive
  - 3. Modest
  - 4. Arrogant

Question ID : 9767551195  
Status : Not Answered  
Chosen Option : --

Q.6 The following sentence has been divided into four parts. One of them contains an error. Select the part that contains the error from the given options.

Her husband / still trusted her / though she / had deceives him.

- Ans
- 1. still trusted her
  - 2. though she
  - 3. Her husband
  - 4. had deceives him

Question ID : 9767551193  
Status : Answered  
Chosen Option : 1

Q.7 Choose the correctly spelt word from the given options.

- Ans
- 1. Consansus
  - 2. Consansuas
  - 3. Consensous
  - 4. Consensus

Question ID : 9767551197  
Status : Answered  
Chosen Option : 4

Q.8 Choose the most appropriate option to fill in the blank.

He is \_\_\_\_\_ for you in the compound.

- Ans
- 1. waits
  - 2. waited
  - 3. wait
  - 4. waiting

Question ID : 9767551196  
Status : Answered  
Chosen Option : 4

Section : Questions on Subject Discipline

Q.1



Calculate the equivalent resistance (in  $\Omega$ ) in the circuit shown above.

Ans  1. 4

2.  $\frac{3}{8}$

3. 8

4.  $\frac{1}{4}$

Question ID : 9767551229

Status : Answered

Chosen Option : 3

Q.2 The Street Lighting National Programme was launched in the year:

Ans  1. 2012

2. 2015

3. 2014

4. 2010

Question ID : 9767551274

Status : Answered

Chosen Option : 2

Q.3 Which of the following has the highest percentage of fixed carbon content in it?

Ans  1. Lignite

2. Hydrogen fuel

3. Bituminous

4. Anthracite

Question ID : 9767551210

Status : Answered

Chosen Option : 4

Q.4 In a throttling process, the enthalpy \_\_\_\_\_ and work done is \_\_\_\_\_.

Ans  1. remains constant, infinite

2. remains constant, zero

3. increases, zero

4. reduces, zero

Question ID : 9767551225

Status : Answered

Chosen Option : 2

Q.5 The solar power is expressed in:

- Ans
- 1.  $\text{m}^2/\text{watt}$
  - 2.  $\text{watt}/\text{m}^2$
  - 3.  $\text{watt}/\text{m}$
  - 4.  $\text{wattm}^3$

Question ID : 9767551250  
Status : Answered  
Chosen Option : 2

Q.6 \_\_\_\_\_ is a tube that brings water to turbine.

- Ans
- 1. Penstock
  - 2. Trash rack
  - 3. Spillway
  - 4. Forebay

Question ID : 9767551246  
Status : Answered  
Chosen Option : 1

Q.7 1,367 watts per square metre is the value of:

- Ans
- 1. Planck's constant
  - 2. Fine structure constant
  - 3. Boltzmann's constant
  - 4. Solar constant

Question ID : 9767551260  
Status : Answered  
Chosen Option : 4

Q.8 Liquid LPG is \_\_\_\_\_ as heavy as water.

- Ans
- 1. twice
  - 2. half
  - 3. quarter
  - 4. thrice

Question ID : 9767551211  
Status : Answered  
Chosen Option : 1



Q.9 Which of the following is NOT a component in a thermal power plant?

- Ans
- 1. Economizer
  - 2. Boiler
  - 3. Reactor
  - 4. Chimney

Question ID : 9767551245  
Status : Answered  
Chosen Option : 3

Q.10 The overall heat transfer coefficient is measured in kcal/hr/ \_\_\_\_ /°C.

- Ans
- 1.  $m^3$
  - 2.  $m^4$
  - 3. m
  - 4.  $m^2$

Question ID : 9767551221  
Status : Answered  
Chosen Option : 4

Q.11 A refrigerator is a reversed \_\_\_\_\_, and a heat pump is similar to a/an \_\_\_\_\_.

- Ans
- 1. heat engine, refrigerator respectively
  - 2. heat pump, refrigerator respectively
  - 3. heat pump, heat engine respectively
  - 4. heat engine, heat engine respectively

Question ID : 9767551217  
Status : Answered  
Chosen Option : 1

Q.12 An  $80\ \Omega$  resistor has a current  $i = 2.5 \sin \omega t$  (A). Calculate the power dissipated in the resistor.

- Ans
- 1.  $25 \sin^2 \omega^2 t$  (W)
  - 2.  $2.5 \sin \omega t$  (W)
  - 3.  $2.5 \sin^2 \omega t$  (W)
  - 4.  $50 \sin^2 \omega t$  (W)

Question ID : 9767551230  
Status : Answered  
Chosen Option : 1

Q.13 The expression  $e = -d\Phi/dt$  is the combination of which of the following laws?

- Ans
- 1. Coulomb's and Ampere's laws
  - 2. Faraday's and Lenz's laws
  - 3. Coulomb's and Faraday's laws
  - 4. Faraday's and Ampere's laws

Question ID : 9767551240  
Status : Answered  
Chosen Option : 2

Q.14 Which of the following is a measure of whether a plant is now using more or less energy to manufacture its products than it did in the past?

- Ans
- 1. Product energy performance
  - 2. Production factor
  - 3. Plant energy performance
  - 4. Reference year equivalent energy use

Question ID : 9767551201  
Status : Answered  
Chosen Option : 3

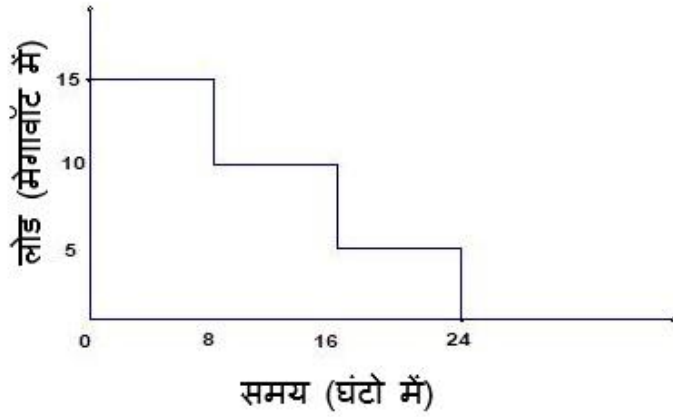
Q.15 The phase change materials can store heat energy as:

- Ans
- 1. sensible heat
  - 2. neither sensible nor latent heat
  - 3. latent heat
  - 4. sensible as well as latent heat

Question ID : 9767551249  
Status : Answered  
Chosen Option : 3

www.exammix.com

Q.16 Calculate the load factor of the load duration curve shown below:



- Ans
- 1. 0.66
  - 2. 0.46
  - 3. 0.86
  - 4. 0.56

Question ID : 9767551226  
Status : Answered  
Chosen Option : 1

Q.17 The hour angle is \_\_\_\_ in the morning, and \_\_\_\_ in the afternoon.

- Ans
- 1. positive, negative
  - 2. negative, positive
  - 3. 0 degree, negative
  - 4. 0 degree, positive

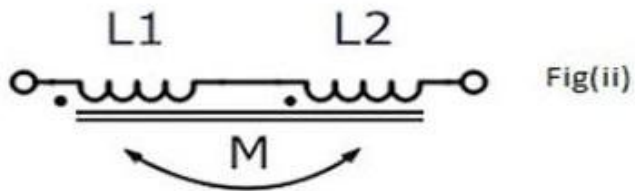
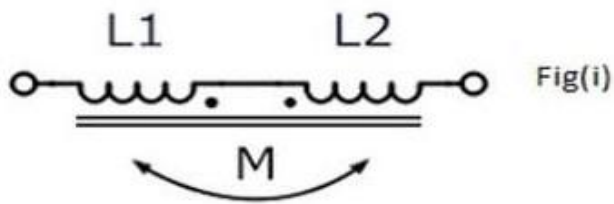
Question ID : 9767551254  
Status : Not Attempted and Marked For Review  
Chosen Option : --

Q.18 A one-ton air-conditioner is rated at \_\_\_\_ Btu per hour.

- Ans
- 1. 28,800/24
  - 2. 2,880/24
  - 3. 28,800/12
  - 4. 2,88,000/24

Question ID : 9767551224  
Status : Answered  
Chosen Option : 4

Q.19



Ans

- 1.  $L_1 + L_2 - M$ ;  $L_1 + L_2 + M$
- 2.  $L_1 + L_2 + M$ ;  $L_1 + L_2 - M$
- 3.  $L_1 + L_2 - 2M$ ;  $L_1 + L_2 + 2M$
- 4.  $L_1 + L_2 + 2M$ ;  $L_1 + L_2 - 2M$

Question ID : 9767551237

Status : Answered

Chosen Option : 3

Q.20 In HVAC systems, which of the following components does NOT come under the chiller plant?

Ans

- 1. Evaporator unit
- 2. Condenser unit
- 3. Compressor unit
- 4. Air handling unit

Question ID : 9767551223

Status : Answered

Chosen Option : 4

Q.21 Which of the following schemes of the Govt. of India is in relation to the LED bulbs?

Ans

- 1. AJAY
- 2. E-mobility
- 3. UJALA
- 4. SLNP

Question ID : 9767551272

Status : Answered

Chosen Option : 3

Q.22 If 'K' is the coefficient of coupling between two coils, then which of the options represents the wrong value of K.

- Ans
- 1.  $K = 0.8$
  - 2.  $K = 1.2$
  - 3.  $K = 0.6$
  - 4.  $K = 0$

Question ID : 9767551239

Status : Answered

Chosen Option : 2

Q.23 Three capacitors  $10\ \mu\text{F}$ ,  $20\ \mu\text{F}$ ,  $30\ \mu\text{F}$  are connected across  $150\ \text{V}$  (sinusoidal). Identify the correct statement from options.

- Ans
- 1. The maximum voltage will be applied across  $20\ \mu\text{F}$
  - 2. The maximum voltage will be applied across  $10\ \mu\text{F}$
  - 3. The maximum voltage will be applied across  $30\ \mu\text{F}$
  - 4. The minimum voltage will be applied across  $10\ \mu\text{F}$

Question ID : 9767551228

Status : Answered

Chosen Option : 2

Q.24 Which of the following parameters of a battery is a measure of a rate of discharge of battery relative to its capacity?

- Ans
- 1. Decay rate
  - 2. Cycle lifetime
  - 3. C-rate
  - 4. Discharge rate

Question ID : 9767551270

Status : Answered

Chosen Option : 3

Q.25 Which of the below is highly toxic?

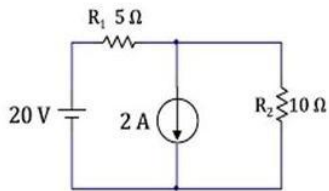
- Ans
- 1. Refrigerant - 12
  - 2. Carbon dioxide
  - 3. Ammonia
  - 4. Freon

Question ID : 9767551216

Status : Answered

Chosen Option : 4

Q.26

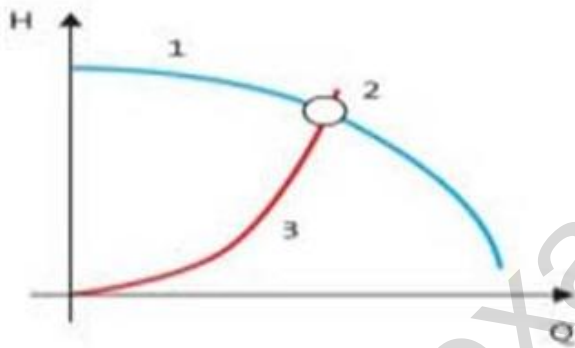


When only current source is active in the circuit given, then the current through  $10\ \Omega$  is given by:

- Ans
- 1. 0.66 A
  - 2. 0 A
  - 3. 1.33 A
  - 4. 1.66 A

Question ID : 9767551234  
 Status : Answered  
 Chosen Option : 1

Q.27 In the pump performance curve shown in the diagram below, 1 and 3, respectively, represent:



- Ans
- 1. motor curve, pump curve
  - 2. pump curve, system curve
  - 3. pump curve, motor curve
  - 4. system curve, pump curve

Question ID : 9767551222  
 Status : Answered  
 Chosen Option : 2

Q.28 Thevenin's equivalent circuit with  $V_{oc} = 300\text{ V}$  and  $R_{th} = 75\ \Omega$  is equivalent to a current source of:

- Ans
- 1. 4 A in series with  $75\ \Omega$
  - 2. 4 A in parallel with  $75\ \Omega$
  - 3. 2 A in series with  $75\ \Omega$
  - 4. 2 A in parallel with  $75\ \Omega$

Question ID : 9767551235  
 Status : Answered  
 Chosen Option : 2

Q.29 The \_\_\_\_ cycle is employed for solar thermal power generation.

- Ans  1. Rankine  
 2. Otto  
 3. diesel  
 4. dual

Question ID : 9767551252  
Status : Answered  
Chosen Option : 1

Q.30 Which of the following is NOT a heat transfer fluid in solar power utilisation?

- Ans  1. Freon  
 2. Molten salt  
 3. Synthetic oil  
 4. Pressurised steam

Question ID : 9767551251  
Status : Answered  
Chosen Option : 1

Q.31 Which of the following is a solid fuel?

- Ans  1. Peat  
 2. LSHS  
 3. LDO  
 4. Hydrogen fuel

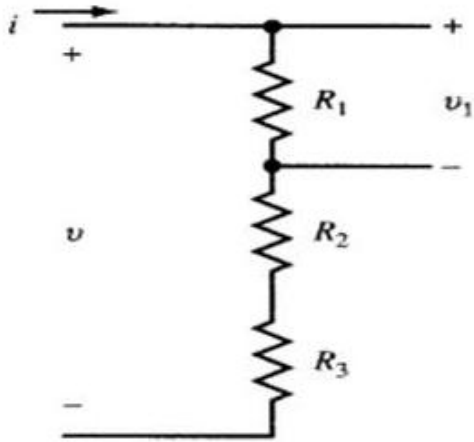
Question ID : 9767551209  
Status : Answered  
Chosen Option : 1

Q.32 In the power measurement by the two wattmeter method, if  $W_1 = W_2 = 2000$  W, then the system is said to be operating at:

- Ans  1. lagging power factor  
 2. unity power factor  
 3. zero power factor  
 4. leading power factor

Question ID : 9767551242  
Status : Answered  
Chosen Option : 2

Q.33 Calculate the voltage  $v - v_1$  in the following circuit.



Ans

1.  $V \left( \frac{R_1}{R_2 + R_3} \right)$

2.  $V \left( \frac{R_2 + R_3}{R_1 + R_2 + R_3} \right)$

3.  $V \left( \frac{1}{R_1 + R_2 + R_3} \right)$

4.  $V \left( \frac{R_1 + R_2 + R_3}{R_1} \right)$

Question ID : 9767551231

Status : Answered

Chosen Option : 2

Q.34 Which of the following factors is NOT involved in deciding the final cost of purchased electricity?

Ans

1. Ripple factor

2. Power factor

3. Maximum demand charges

4. kWh charges

Question ID : 9767551204

Status : Answered

Chosen Option : 1

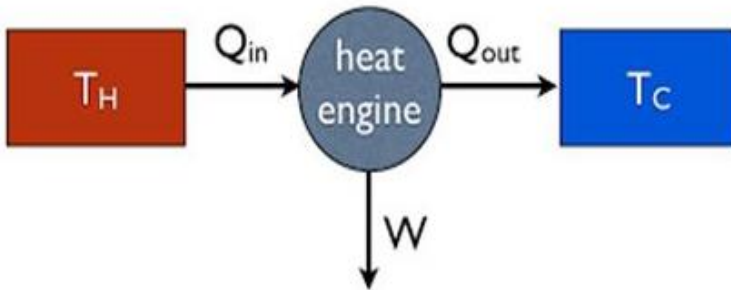


Q.35 For a given boiler,  $\frac{\text{quantity of steam generation}}{\text{quantity of fuel consumption}} = ?$

- Ans
- 1. Boiler blow down
  - 2. Evaporation ratio
  - 3. Percolation ratio
  - 4. Boiler efficiency

Question ID : 9767551212  
 Status : Answered  
 Chosen Option : 1

Q.36



If the photovoltaic device is seen as 'heat engine', then the efficiency of the heat engine is given by:

- Ans
- 1.  $Q_{out}/Q_{in}$
  - 2.  $Q_{in}/Q_{out}$
  - 3.  $W/Q_{in}$
  - 4.  $W/Q_{out}$

Question ID : 9767551257  
 Status : Answered  
 Chosen Option : 3

Q.37 The expression  $(0.736/75)WQH\eta$  (symbols have their usual meaning) represents which of the following power plants?

- Ans
- 1. Thermal power plant
  - 2. Wind power plant
  - 3. Nuclear power plant
  - 4. Hydroelectric power plant

Question ID : 9767551243  
 Status : Answered  
 Chosen Option : 4

Q.38 The typical life time of a PV module is approximately:

- Ans
- 1. 15 years
  - 2. 25 years
  - 3. 10 years
  - 4. 5 years

Question ID : 9767551269  
Status : Answered  
Chosen Option : 2

Q.39 A three-phase induction motor's synchronous speed is 1,000 rpm. Then which of the following motor speeds is practically impossible?

- Ans
- 1. 1,000 rpm
  - 2. 950 rpm
  - 3. 920 rpm
  - 4. 980 rpm

Question ID : 9767551215  
Status : Answered  
Chosen Option : 1

Q.40 If the power factor of an installation is improved from  $\cos\Phi_1$  to  $\cos\Phi_2$ , then the distribution losses will come down by:

- Ans
- 1.  $1 + (\cos\Phi_1/\cos\Phi_2)$
  - 2.  $\cos\Phi_1/\cos\Phi_2$
  - 3.  $1 - (\cos\Phi_1/\cos\Phi_2)^2$
  - 4.  $1 - (\cos\Phi_1/\cos\Phi_2)$

Question ID : 9767551214  
Status : Answered  
Chosen Option : 3

Q.41 Pick the odd option out.

- Ans
- 1. Altitude angle
  - 2. Hour angle
  - 3. Zenith angle
  - 4. Load angle

Question ID : 9767551256  
Status : Answered  
Chosen Option : 4

Q.42 Which unit is used to measure the specific gravity of liquid fuels?

- Ans
- 1. Kg/m<sup>2</sup>
  - 2. Kg/m
  - 3. It has no measuring unit
  - 4. Kg/m<sup>3</sup>

Question ID : 9767551208  
Status : Answered  
Chosen Option : 3

Q.43 In terms of the solar energy utilisation, MPPT stands for:

- Ans
- 1. Minimum Power Portion Tracking
  - 2. Minimum Power Point Tracking
  - 3. Maximum Power Portion Tracking
  - 4. Maximum Power Point Tracking

Question ID : 9767551248  
Status : Answered  
Chosen Option : 4

Q.44 Which of the following enables customers, industries and governments to effectively manage their energy needs through energy-efficient technologies?

- Ans
- 1. EESL
  - 2. IGBC
  - 3. EIL
  - 4. BEE

Question ID : 9767551273  
Status : Answered  
Chosen Option : 4

Q.45 In a solar system, zenith angle + solar altitude angle = ?

- Ans
- 1. 90 degree
  - 2. 180 degree
  - 3. 60 degree
  - 4. 0 degree

Question ID : 9767551265  
Status : Answered  
Chosen Option : 1

Q.46 Switching off computer, fan and light when leaving a room comes under which of the following energy conservation measures?

- Ans
- 1. Low cost-high return
  - 2. Medium cost-medium return
  - 3. High cost-high return
  - 4. No cost

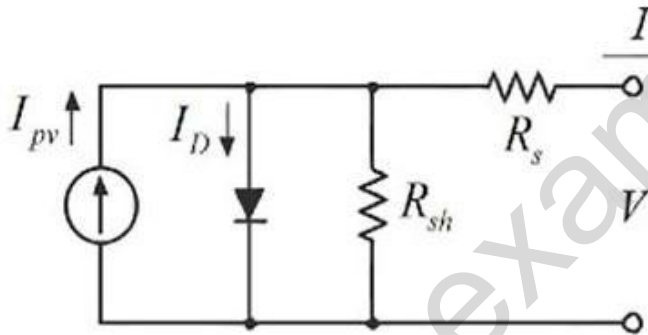
Question ID : 9767551205  
Status : Answered  
Chosen Option : 4

Q.47 Which of the following is NOT a thin film type solar panel?

- Ans
- 1. Amorphous silicon solar panel
  - 2. Poly-crystalline solar panel
  - 3. Cadmium teluride solar panel
  - 4. Dye-sensitised solar panel

Question ID : 9767551261  
Status : Answered  
Chosen Option : 2

Q.48



The circuit shown here represents the equivalent circuit of a/an:

- Ans
- 1. diode
  - 2. solar cell
  - 3. battery
  - 4. fuel cell

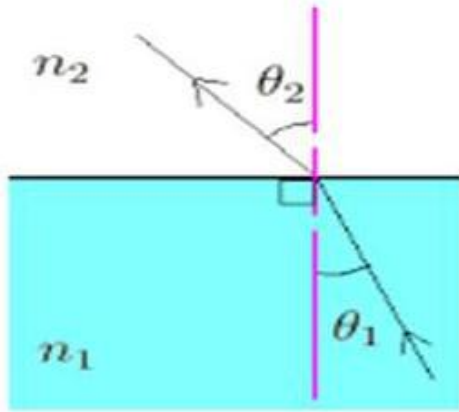
Question ID : 9767551247  
Status : Answered  
Chosen Option : 2

Q.49 The Act that is related to the efficient use of energy and its conservation is:

- Ans
- 1. Energy Conservation Act, 2007
  - 2. Indian Electricity Act, 2003
  - 3. Indian Electricity Act, 2010
  - 4. Energy Conservation Act, 2001

Question ID : 9767551279  
Status : Answered  
Chosen Option : 4

Q.50



For the figure shown here, according to Snell's Law,  $\frac{\sin \theta_1}{\sin \theta_2} = ?$

- Ans
- 1.  $\frac{n_1}{n_2}$
  - 2.  $n_1$
  - 3.  $n_2$
  - 4.  $\frac{n_2}{n_1}$

Question ID : 9767551263  
Status : Answered  
Chosen Option : 4

Q.51 In solar-operated systems, the Balance of System (BOS) refers to:

- Ans
- 1. inverters
  - 2. all components working in a solar power system
  - 3. batteries
  - 4. solar panels

Question ID : 9767551267  
Status : Answered  
Chosen Option : 2

Q.52 The flux through a 1000-turn coil is defined by  $t^3 - 2t$  milli weber, where 't' is the time in seconds. Calculate the magnitude of the induced emf at  $t = 2$  seconds.

- Ans
- 1. 9 V
  - 2. 10 V
  - 3. 11 V
  - 4. 12 V

Question ID : 9767551241  
Status : Answered  
Chosen Option : 2

Q.53 Reducing the RPM of a fan by 10 percent decreases the static pressure by:

- Ans
- 1. 39 percent
  - 2. 19 percent
  - 3. 29 percent
  - 4. 9 percent

Question ID : 9767551220  
Status : Answered  
Chosen Option : 2

Q.54 1,000 equivalent annual sun hours correspond to \_\_\_\_ hours/day.

- Ans
- 1. 2.8
  - 2. 4.8
  - 3. 3.8
  - 4. 1.8

Question ID : 9767551271  
Status : Answered  
Chosen Option : 3

Q.55 In the Japanese concept of energy conservation called 'KAIZEN', the syllable 'KAIZEN' means:

- Ans
- 1. continuous management
  - 2. continuous improvement
  - 3. energy management
  - 4. energy conservation

Question ID : 9767551203  
Status : Answered  
Chosen Option : 2

Q.56 In a standalone solar water pumping system, the voltage of the solar pump = ?

- Ans
- 1. (voltage of one solar module) × (number of PV modules in series)
  - 2. (voltage of one solar module) × (number of PV modules in parallel)
  - 3. voltage of one solar cell
  - 4. voltage of one solar module

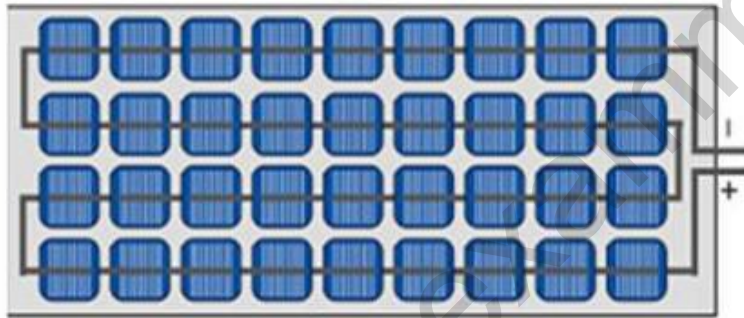
Question ID : 9767551255  
Status : Answered  
Chosen Option : 1

Q.57 1 unit of Certified Emission Reduction represents:

- Ans
- 1. 10 tonne of carbon-dioxide-equivalent emission abatement
  - 2. 1 tonne of carbon-monoxide-equivalent emission abatement
  - 3. 5 tonne of carbon-monoxide-equivalent emission abatement
  - 4. 1 tonne of carbon-dioxide-equivalent emission abatement

Question ID : 9767551280  
Status : Answered  
Chosen Option : 4

Q.58



The PV module shown in the figure here consists of:

- Ans
- 1. two strings of 18 cells that are connected in series
  - 2. a string of 36 solar cells connected in series
  - 3. two strings of 18 cells that are connected in parallel
  - 4. a string of 36 solar cells connected in parallel

Question ID : 9767551258  
Status : Answered  
Chosen Option : 2

Q.59 Which of the following solar storage systems does NOT have any battery storage?

- Ans
- 1. Grid-tied system with battery backup
  - 2. Grid interactive system with battery backup
  - 3. Off-grid system
  - 4. Grid-tied system

Question ID : 9767551264  
Status : Answered  
Chosen Option : 4

Q.60 A pure resistor is connected across an AC supply of 60 Hz, then the ratio of frequency of instantaneous power to the frequency of supply is:

- Ans
- 1. 1
  - 2. 3
  - 3. 2
  - 4. 4

Question ID : 9767551232  
Status : Answered  
Chosen Option : 3

Q.61 ENCON stands for:

- Ans
- 1. Energy Consortia
  - 2. Energy Consortium
  - 3. Energy Conservation
  - 4. Energy Constant

Question ID : 9767551202  
Status : Answered  
Chosen Option : 3

Q.62 10 kWh = ?

- Ans
- 1. 8.6 kcal
  - 2. 860 kcal
  - 3. 86 kcal
  - 4. 8604.21 kcal

Question ID : 9767551207  
Status : Answered  
Chosen Option : 4



Q.63 Which of the following instruments is used to measure total hemisphere solar radiation (beam + diffuse) on a horizontal surface?

- Ans
- 1. Pyranometer
  - 2. Pyrheliometer
  - 3. Manometer
  - 4. Osmometer

Question ID : 9767551259  
Status : Answered  
Chosen Option : 1

Q.64 The specific ratio of a compressor is:

- Ans
- 1. equal to 1
  - 2. upto 1.11
  - 3. more than 1.20
  - 4. between 1.11 to 1.20

Question ID : 9767551219  
Status : Answered  
Chosen Option : 3

Q.65 The generators operating at 3,000 rpm, 3,000 rpm and 300 rpm, respectively, are appropriate to be used in the \_\_\_\_\_ plants respectively.

- Ans
- 1. hydro, thermal, nuclear power
  - 2. hydro, nuclear, thermal power
  - 3. thermal, nuclear, hydropower
  - 4. thermal, hydro, nuclear power

Question ID : 9767551244  
Status : Answered  
Chosen Option : 3

Q.66 While calculating humidity ratio, we consider the \_\_\_\_\_ in the denominator.

- Ans
- 1. volume of wet air
  - 2. mass of dry air
  - 3. volume of dry air
  - 4. mass of wet air

Question ID : 9767551218  
Status : Answered  
Chosen Option : 2

Q.67 The condenser operation is opposite to that of the \_\_\_\_\_ operation.

- Ans
- 1. motor
  - 2. actuator
  - 3. compressor
  - 4. evaporator

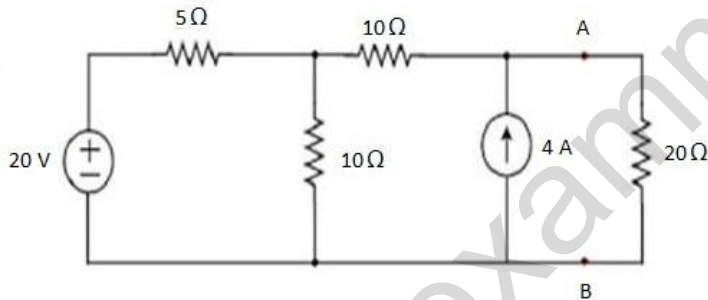
Question ID : 9767551213  
Status : Answered  
Chosen Option : 4

Q.68 Which of the following has replaced the Bachat Lamp Yojana?

- Ans
- 1. UJALA
  - 2. E-mobility
  - 3. AJAY
  - 4. SLNP

Question ID : 9767551276  
Status : Answered  
Chosen Option : 1

Q.69



The Norton's resistance of the given circuit is ( consider 20 Ω as load resistance):

- Ans
- 1. 23.33 Ω
  - 2. 33.33 Ω
  - 3. 13.33 Ω
  - 4. 3.33 Ω

Question ID : 9767551236  
Status : Answered  
Chosen Option : 3

Q.70 Radiometry is the science of:

- Ans
- 1. measurement of resistance
  - 2. measurement of light
  - 3. measurement of radioactivity
  - 4. measurement of electrical energy

Question ID : 9767551266  
Status : Answered  
Chosen Option : 3

Q.71 As of data available till January 2020, the electric vehicle sales in India are less than \_\_\_\_\_ of the total vehicle sales.

- Ans
- 1. 8 percent
  - 2. 10 percent
  - 3. 5 percent
  - 4. 1 percent

Question ID : 9767551277  
Status : Answered  
Chosen Option : 4

Q.72 Global radiation refers to the \_\_\_\_\_, which strikes a horizontal surface.

- Ans
- 1. direct component of sunlight
  - 2. diffuse component of sunlight
  - 3. direct-normal and diffuse component of sunlight
  - 4. direct-normal component of sunlight

Question ID : 9767551262  
Status : Answered  
Chosen Option : 3

Q.73 Which of the following is the least efficient?

- Ans
- 1. CFL
  - 2. Neon lamp
  - 3. Incandescent lamp
  - 4. Fluorescent lamp

Question ID : 9767551278  
Status : Answered  
Chosen Option : 2

Q.74 Zero inductance and infinite resistance are the features of:

- Ans
- 1. Short-circuited coil
  - 2. coil connected to an AC voltage source
  - 3. coil connected to a DC voltage source
  - 4. open coil

Question ID : 9767551238  
Status : Answered  
Chosen Option : 4

Q.75 Illumination level is measured with the help of which of the following instruments?

- Ans
- 1. Lux meter
  - 2. Manometer
  - 3. Leak detector
  - 4. Fyrite

Question ID : 9767551206  
Status : Answered  
Chosen Option : 1

Q.76 Which of the below is the correct full form of AJAY?

- Ans
- 1. Atal Jeevan Yoga
  - 2. Atal Jana Yojana
  - 3. Atal Jyoti Yojana
  - 4. Atal Jeevan Yojana

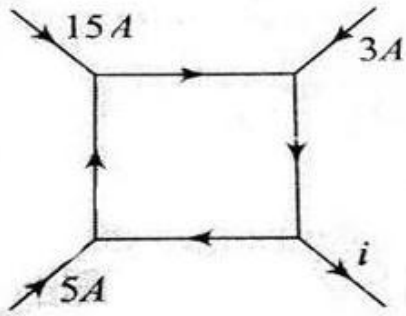
Question ID : 9767551275  
Status : Answered  
Chosen Option : 3

Q.77 A 40 mH inductor is supplied with a current of  $2 \sin(314t - 45^\circ)$ . The average power consumed by the inductor is:

- Ans
- 1. Zero
  - 2. 40 W
  - 3. 20 W
  - 4. 10 W

Question ID : 9767551233  
Status : Not Answered  
Chosen Option : --

Q.78 Determine the value of  $i$  in the circuit shown here.



- Ans
- 1. 23 A
  - 2. 18 A
  - 3. 20 A
  - 4. 8 A

Question ID : 9767551227  
Status : Answered  
Chosen Option : 1

Q.79 The tracking mirror (to reflect sunlight towards a target) used in a solar power is called:

- Ans
- 1. heliostat
  - 2. thermostat
  - 3. thermistor
  - 4. hall sensor

Question ID : 9767551253  
Status : Answered  
Chosen Option : 1

Q.80 The problem of partial shading can be overcome by:

- Ans
- 1. using bypass diodes
  - 2. disconnecting the PV cell
  - 3. using bypass resistor
  - 4. using bypass inductor

Question ID : 9767551268  
Status : Answered  
Chosen Option : 1