एनर्जी एफिशिएंसी सर्विसेज़ 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	www.exammix.com
Test Center Name	
Test Date	23/10/2020
Test Time	2:00 PM - 4:00 PM
Subject	Engineer (Technical)

Section : **General Knowledge**

Q.1 **The _____ festival, celebrated near the Junagarh Fort in Bikaner, is observed annually in the month of January.**

Ans

✗ 1. kite

✗ 2. nature

✓ 3. camel

✗ 4. lamp

Question ID : **976755441**
Status : **Answered**
Chosen Option : **3**

Q.2 **A team of researchers at the University of Waterloo in Canada has developed a novel voice assistant tool that lets people with _____ impairments to browse web content as quickly as possible from smart speakers and similar devices.**

Ans

✗ 1. hearing

✗ 2. sensitivity

✗ 3. speech

✓ 4. visual

Question ID : **976755442**
Status : **Not Answered**
Chosen Option : **--**

Q.3 In which of the following states did the Indian army begin its first ever mountain exercise 'Him Vijay' on October 7, 2019?

Ans
✗ 1. Uttarakhand
✗ 2. Himachal Pradesh
✓ 3. Arunachal Pradesh
✗ 4. Nagaland

Question ID : **976755447**
Status : **Not Answered**
Chosen Option : **--**

Q.4 The team of researchers at the Massachusetts Institute of Technology (MIT), have detected _____ from a newly born black hole.

Ans
✗ 1. cold waves
✓ 2. gravitational waves
✗ 3. hot waves
✗ 4. ultra-rays

Question ID : **976755443**
Status : **Answered**
Chosen Option : **2**

Q.5 Who among the following is conferred with Padma Vibhushan Award 2020 in the field of Sport?

Ans
✗ 1. Saina Nehwal
✗ 2. Saurav Ganguly
✗ 3. P. V. Sindhu
✓ 4. Mary Kom

Question ID : **976755445**
Status : **Answered**
Chosen Option : **4**

Q.6 India's ace cueist _____won the 35th Asian Men's Snooker Championship in Doha on June 21, 2019 to complete a career Grand Slam in Snooker.

Ans
✓ 1. Pankaj Advani
✗ 2. Abhijeet Gupta
✗ 3. D. Gukesh
✗ 4. Bhakti Kulkarni

Question ID : **976755448**
Status : **Answered**
Chosen Option : **1**

Q.7 Name the tidal port located in Gujarat.

Ans
✗ 1. Mormugao
✓ 2. Kandla
✗ 3. New Mangalore
✗ 4. Jawaharlal Nehru

Question ID : **976755444**
Status : **Answered**
Chosen Option : **2**

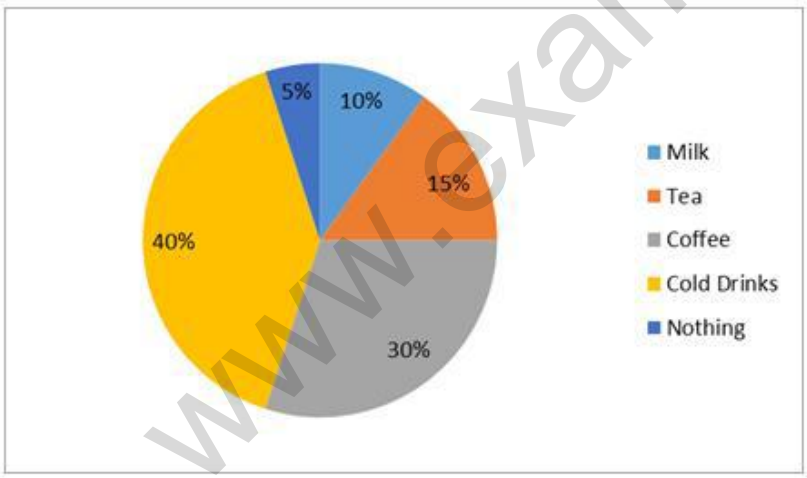
Q.8 Who among the following is the writer of the book titled, 'The Hindu Way: An Introduction to Hinduism'?

Ans
✗ 1. Naresh Rastogi
✗ 2. Namrata Joshi
✓ 3. Shashi Tharoor
✗ 4. Kiran Doshi

Question ID : **976755446**
Status : **Answered**
Chosen Option : **2**

Section : **Data Analysis and Interpretation**

Q.1 A survey was carried out to find the favorite beverage preferred by a certain group of young people. The following pie chart shows the findings of the survey.

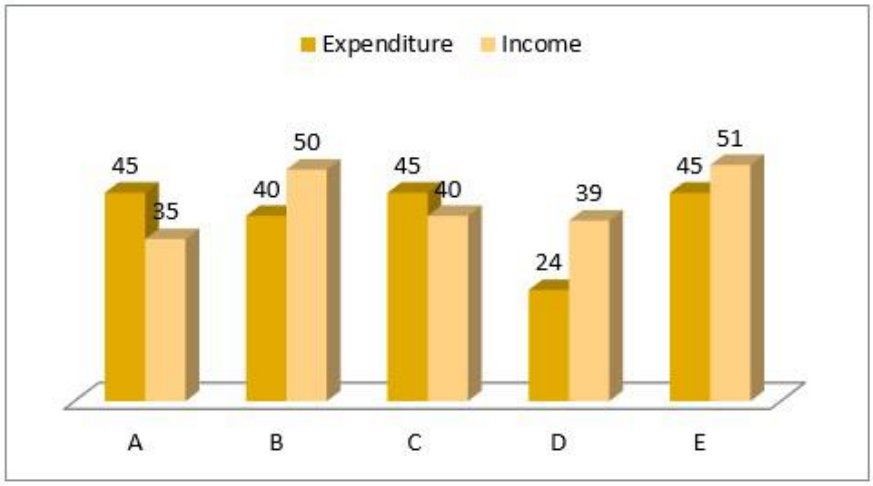


If 45 people like tea, how many people were surveyed?

Ans
✓ 1. 300
✗ 2. 500
✗ 3. 350
✗ 4. 400

Question ID : **976755453**
Status : **Answered**
Chosen Option : **1**

Q.2 The following bar graph represents the income and expenditure (in 100 crore) of five multinational companies in the year 2019.

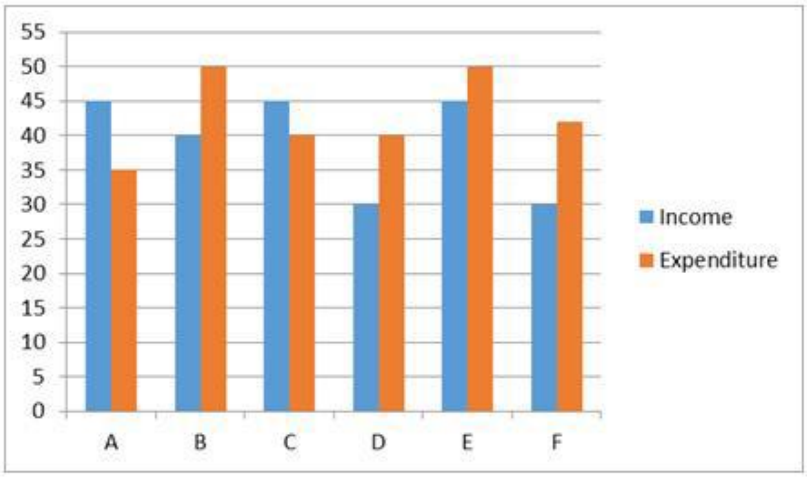


Which company earned the maximum profit in the year 2019?

Ans
1. C
2. B
3. D
4. E

Question ID : **976755449**
Status : **Answered**
Chosen Option : **3**

Q.3 Income and expenditure (in thousand crore) of six companies in the year 2019 are shown by the following bar graph.

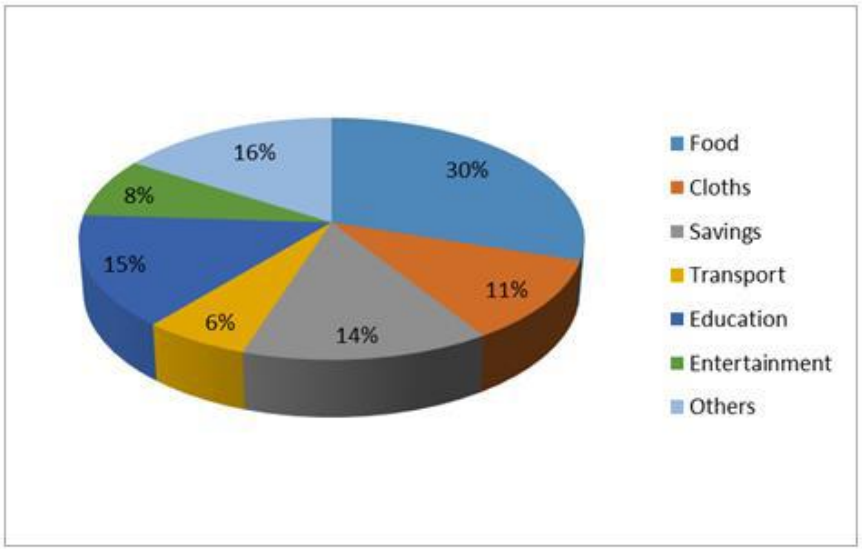


If the income of company B in 2019 was 10 percent more than its income in 2018 and the company had earned a profit of 20 percent in 2018, then its expenditure in 2018 (in thousand crore) was?

Ans
1. 34.27
2. 28.47
3. 30.30
4. 32.56

Question ID : **976755452**
Status : **Answered**
Chosen Option : **1**

Q.4 The following pie-chart gives the expenditure on various items and savings of a family during a month.



If the monthly savings of the family is Rs 4200, what is the monthly expenditure on clothes?

Ans
1. Rs. 5200
2. Rs. 3900
3. Rs. 3300
4. Rs. 3000

Question ID : **976755454**
Status : **Answered**
Chosen Option : **3**

Q.5 On a particular day, the sales (in rupees) of a grocery shop are given below.

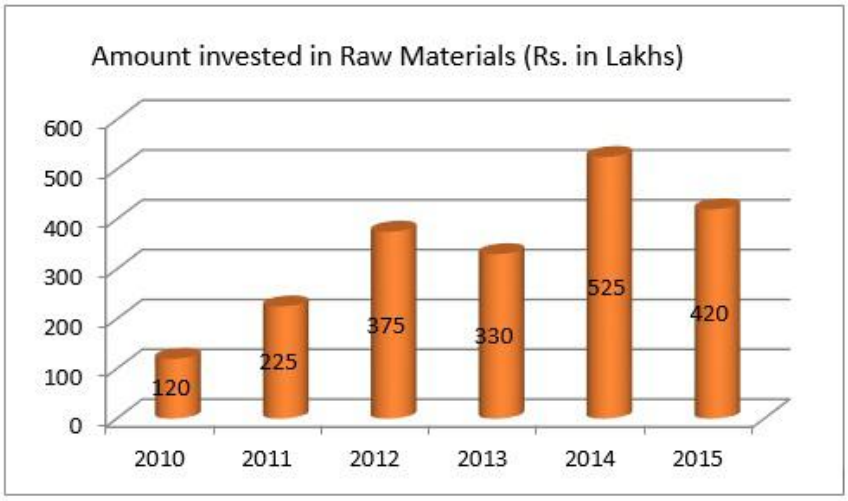
Item	Price (Rs.)
Rice	800
Oil	3200
Biscuits	1200
Dry fruits	1600
Others	400
Total	**7200**

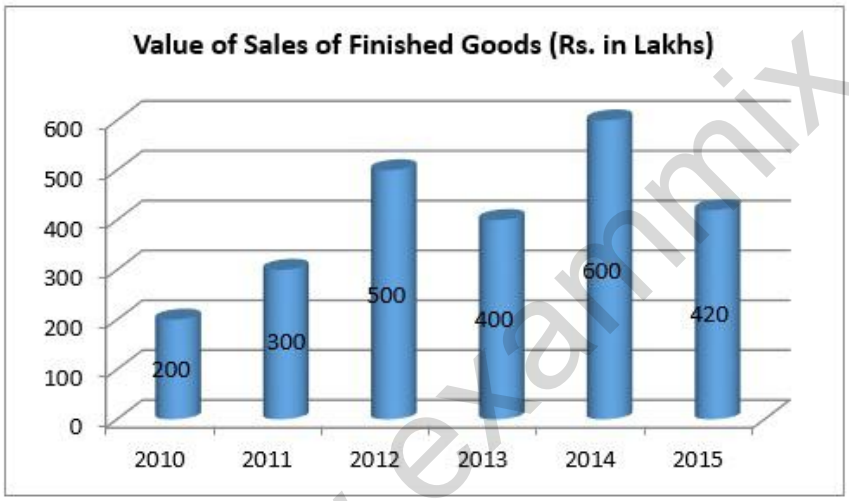
If this data is represented by a pie chart then find the central angle created by the sector of rice.

Ans
1. 88 degree
2. 40 degree
3. 65 degree
4. 60 degree

Question ID : **976755456**
Status : **Answered**
Chosen Option : **2**

Q.6 Out of the two bar graphs provided below, one shows the amounts (in Lakh Rs.) invested by a Company in purchasing raw materials over the years and the other shows the values (in Lakh Rs.) of finished goods sold by the Company over the years.



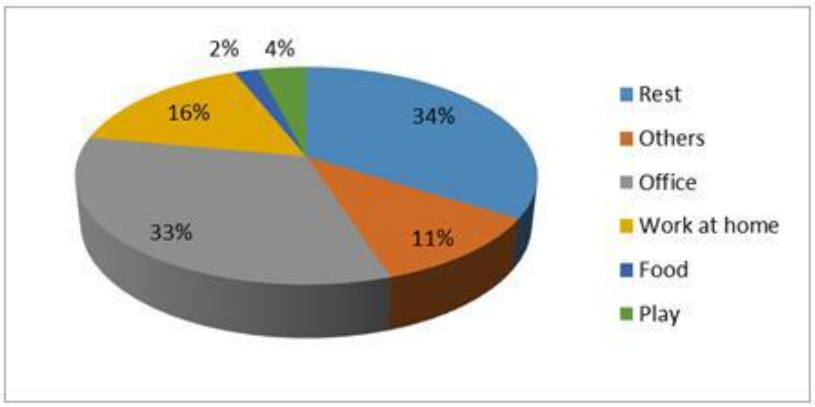


In which year, there has been a maximum percentage increase in the amount invested in Raw materials as compared to the previous year?

Ans
1. 2011
2. 2014
3. 2013
4. 2012

Question ID : **976755451**
Status : **Answered**
Chosen Option : **2**

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

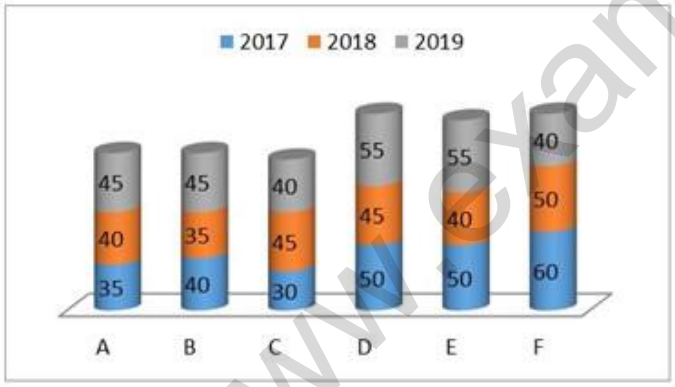


Approximately how much time he spends for work at home?

Ans
1. 2 hours 40 minutes
2. 2 hours 20 minutes
3. 5 hours
4. 3 hours 50 minutes

Question ID : **976755455**
Status : **Answered**
Chosen Option : **4**

Q.8 The following bar graph represents the production of rice in 6 states in 2017, 2018, 2019.



The total production in three years in state A is what percent of the total production in state F in three years?

Ans
1. 75.5 percent
2. 80 percent
3. 64 percent
4. 83 percent

Question ID : **976755450**
Status : **Answered**
Chosen Option : **2**

Section : **Numerical Ability**

Q.1 A common factor of $(41^{43} + 43^{43})$ and $(41^{41} + 43^{41})$ is:

Ans
✗ 1. $(41 - 43)$
✗ 2. $(41^{41} + 43^{41})$
✓ 3. $(41 + 43)$
✗ 4. $(41^{43} + 43^{43})$

Question ID : **976755462**
Status : **Answered**
Chosen Option : **3**

Q.2 The mid-points of AB and AC of a ΔABC are, respectively, D and E. If BC + DE = 12 units, then the value of BC − DE is:

Ans
✗ 1. 12 units
✗ 2. 8 units
✓ 3. 4 units
✗ 4. 6 units

Question ID : **976755461**
Status : **Answered**
Chosen Option : **3**

Q.3 If $\tan(A + B) = \sqrt{3}$ and tanA=1, then $\tan(A - B)$ is equal to:

Ans
✓ 1. $\frac{1}{\sqrt{3}}$
✗ 2. 1
✗ 3. $\sqrt{2}$
✗ 4. 0

Question ID : **976755457**
Status : **Answered**
Chosen Option : **1**

Q.4 **The difference between the compound interest and simple interest on Rs. 8,000 at an interest rate of 5 percent p.a. for 3 years is:**

Ans
✗ 1. Rs. 600
✗ 2. Rs. 50
✓ 3. Rs. 61
✗ 4. Rs. 60

Question ID : **976755458**
Status : **Answered**
Chosen Option : **3**

Q.5 A man covers a certain distance on scooter. Had he moved 3 km/h faster, he would have taken 40 min less. If he had moved 2 km/h slower, he would have taken 40 min more. The distance (in km) is:

Ans

✗ 1. 42

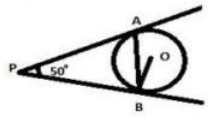
✗ 2. 36

✓ 3. 40

✗ 4. 37

Question ID : **976755464**
Status : **Answered**
Chosen Option : **1**

Q.6 In the given figure, PA and PB are tangents to the circle with centre O such that angle APB $= 50^{\circ}$. The measure of angle PAB is:



Ans

✗ 1. 25 degree

✓ 2. 65 degree

✗ 3. 40 degree

✗ 4. 50 degree

Question ID : **976755460**
Status : **Answered**
Chosen Option : **2**

Q.7 15 men can complete a task in 20 days, however, it takes 24 women to finish it in 20 days. If 10 men and 8 women undertake to complete the task, then they will take:

Ans

✗ 1. 15 days

✓ 2. 20 days

✗ 3. 30 days

✗ 4. 10 days

Question ID : **976755463**
Status : **Answered**
Chosen Option : **2**

Q.8 Aman, Rahul and Kiran start a partnership. They invested Rs 25000, Rs 30000 and Rs 40000 respectively. The stayed in partnership for 9 months, 6 months and 3 months respectively. If total profit is Rs 140000, then what is the combined share of Aman and Kiran in the profit?

Ans

✗ 1. Rs 80000

✗ 2. Rs 100000

✗ 3. Rs 72000

✓ 4. Rs 92000

Question ID : **976755459**
Status : **Answered**
Chosen Option : **4**

Section : **Current Affairs**

Q.1 Name the country which banned single-use plastic shopping bags with effect from July 1, 2019?

Ans
1. USA
2. New Zealand
3. India
4. Srilanka

Question ID : **976755468**
Status : **Answered**
Chosen Option : **2**

Q.2 Who won the Man Booker International Prize 2019 for the novel-Celestial Bodies?

Ans
1. Han Kang
2. David Grossman
3. Jokha Alharthi
4. Olga Tokarczuk

Question ID : **976755470**
Status : **Answered**
Chosen Option : **2**

Q.3 Who among the following was selected as the player of the tournament in ICC Cricket World Cup 2019?

Ans
1. David Warner
2. Rohit Sharma
3. Shakib Al Hassan
4. Kane Williamson

Question ID : **976755472**
Status : **Answered**
Chosen Option : **2**

Q.4 Which country hosted the 11th 'BRICS Summit 2019'?

Ans
1. Russia
2. India
3. China
4. Brazil

Question ID : **976755465**
Status : **Answered**
Chosen Option : **4**

Q.5 Which one of the following countries will host the ICC Cricket World Cup 2023?

Ans
✗ 1. England
✗ 2. South Africa
✗ 3. Australia
✓ 4. India

Question ID : **976755471**
Status : **Answered**
Chosen Option : **3**

Q.6 On 15 December 2019, the Ministry of Coal has decided to establish a 'Sustainable Development Cell'. What is the objective of this cell?

Ans
✓ 1. To promote environment friendly and sustainable coal mining
✗ 2. To promote inclusive and sustainable industrialization
✗ 3. To promote environment friendly sustainable development
✗ 4. To achieve a better and more sustainable future for all

Question ID : **976755469**
Status : **Answered**
Chosen Option : **1**

Q.7 Which State government launched the mobile application, 'e-Ganna', for the sugarcane farmers?

Ans
✗ 1. Madhya Pradesh
✓ 2. Uttar Pradesh
✗ 3. Gujarat
✗ 4. Bihar

Question ID : **976755467**
Status : **Answered**
Chosen Option : **2**

Q.8 Arantza Pena Popo won 'Doodle for Google' 2019 contest for her Doodle titled:

Ans
✗ 1. "Birth of hip-hop "
✗ 2. "The Wizard of Oz"
✓ 3. "Once You Get It, Give It Back"
✗ 4. "The Great Wave of Kanagawa"

Question ID : **976755466**
Status : **Not Answered**
Chosen Option : **--**

Section : **English**

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

TRANSPARENT

Ans

✗ 1. distinct

✗ 2. obscure

✓ 3. crystal clear

✗ 4. vague

Question ID : **976755480**
Status : **Answered**
Chosen Option : **3**

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

A period in which you recover from illness

Ans

✗ 1. Constellation

✗ 2. Claque

✓ 3. Convalescence

✗ 4. Cortege

Question ID : **976755479**
Status : **Not Answered**
Chosen Option : **--**

Q.3 Select the most appropriate ANTONYM of the given word.

ERRATIC

Ans

✗ 1. Stray

✗ 2. Arbitrary

✓ 3. Regular

✗ 4. Random

Question ID : **976755475**
Status : **Answered**
Chosen Option : **4**

Q.4 Choose the correctly spelt word from the given options.

Ans

✗ 1. Questionaire

✗ 2. Questionnare

✓ 3. Questionnaire

✗ 4. Questinaire

Question ID : **976755477**
Status : **Answered**
Chosen Option : **1**

Q.5 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.

She worked hard / so that she / was win / the prize.

Ans
- ✗ 1. the prize
- ✗ 2. She worked hard
- ✓ 3. was win
- ✗ 4. so that she

Question ID : **976755473**
Status : **Answered**
Chosen Option : **3**

Q.6 Select the correct indirect form of the given sentence.

The boy's mother said, "I shall come with you."

Ans
- ✗ 1. The boy's mother said that she shall come with us.
- ✓ 2. The boy's mother said that she would go with us.
- ✗ 3. The boy's mother asked that she should go with us
- ✗ 4. The boy's mother told that she shall go with us.

Question ID : **976755474**
Status : **Answered**
Chosen Option : **3**

Q.7 Select the most appropriate meaning of the following idiom:

Your better half

Ans
- ✓ 1. Your husband or wife
- ✗ 2. Your sister
- ✗ 3. Your teacher
- ✗ 4. Your colleague

Question ID : **976755478**
Status : **Answered**
Chosen Option : **1**

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

India has the _____ tea garden in the world.

Ans
- ✗ 1. big
- ✓ 2. largest
- ✗ 3. larger
- ✗ 4. large

Question ID : **976755476**
Status : **Answered**
Chosen Option : **2**

Section : **Questions on Subject Discipline**

Q.1 An inductor connected in series with a DC source, in a closed circuit, will behave in steady state as:

Ans

✗ 1. open circuit

✗ 2. resistance

✗ 3. voltage source

✓ 4. current source

Question ID : **976755493**
Status : **Answered**
Chosen Option : **4**

Q.2 Daily peak sun hour is defined as:

Ans

✓ 1. equivalent to the number of hours of solar irradiance

✗ 2. the amount of heat generated in a day

✗ 3. the amount of load availability in a day

✗ 4. the amount of electricity generated in a day

Question ID : **976755548**
Status : **Answered**
Chosen Option : **1**

Q.3 Sputtering is a technique used for:

Ans

✗ 1. sputtering of electronics

✗ 2. name deposition

✗ 3. water deposition

✓ 4. thin film deposition

Question ID : **976755540**
Status : **Answered**
Chosen Option : **3**

Q.4 As per Government of India plans, The capacity of renewable energy based power plants, to be installed by 2022 is:

Ans

✗ 1. 150 GW

✗ 2. 200 GW

✓ 3. 175 GW

✗ 4. 300 GW

Question ID : **976755554**
Status : **Answered**
Chosen Option : **3**

Q.5 Which of the following methods is used for measurement of solar radiation data?

Ans
- ✗ 1. Frequency meter
- ✗ 2. Power factor meter
- ✗ 3. Astrology
- ✓ 4. Numerical weather prediction

Question ID : **976755527**
Status : **Answered**
Chosen Option : **4**

Q.6 Which of the following is NOT a source of electrical energy generation?

Ans
- ✗ 1. Solar
- ✓ 2. Leaf
- ✗ 3. Wind
- ✗ 4. Coal

Question ID : **976755515**
Status : **Answered**
Chosen Option : **2**

Q.7 The parameter used for measuring the amount of energy withdrawn from a battery is expressed as:

Ans
- ✗ 1. balance of discharge
- ✗ 2. voltage of discharge
- ✗ 3. thermal of discharge
- ✓ 4. depth of discharge

Question ID : **976755551**
Status : **Answered**
Chosen Option : **2**

Q.8 The voltage across a terminal pair is a measure of _____ required to move a charge through the element.

Ans
- ✗ 1. temperature
- ✓ 2. work
- ✗ 3. length
- ✗ 4. time

Question ID : **976755488**
Status : **Answered**
Chosen Option : **4**

Q.9 A three phase load consists of three similar inductive coils of resistances of 50 Ω and inductance of 0.3 H. The supply voltage is 415 V and 50 Hz. What is the line current load which is star connected?

Ans

✗ 1. 224.6 A

✓ 2. 2.246 A

✗ 3. 0.2246 A

✗ 4. 22.46 A

Question ID : **976755503**
Status : **Answered**
Chosen Option : **2**

Q.10 **Which of the following instruments is used for measurement of ground reflected radiation?**

Ans

✓ 1. Albedometer

✗ 2. Hygrometer

✗ 3. Altitude meter

✗ 4. Watt meter

Question ID : **976755526**
Status : **Answered**
Chosen Option : **1**

Q.11 **Which of the following is NOT a parameter of solar cell data sheet?**

Ans

✗ 1. Voltage at maximum power point

✓ 2. Short circuit voltage

✗ 3. Short circuit current

✗ 4. Current at maximum power point

Question ID : **976755523**
Status : **Answered**
Chosen Option : **2**

Q.12 **Energy performance is defined as:**

Ans

✗ 1. percentage of energy used at current rate of use compared to previous year rate of use

✓ 2. percentage of energy saved at current rate of use compared to reference year rate of use

✗ 3. percentage of energy used at current rate of use compared to reference year rate of use

✗ 4. percentage of energy saved at current rate of use compared to previous year rate of use

Question ID : **976755482**
Status : **Answered**
Chosen Option : **3**

Q.13 The instrument used for measurement of solar irradiation is:

Ans
- ✗ 1. ammeter
- ✗ 2. voltmeter
- ✗ 3. sun meter
- ✓ 4. pyranometer

Question ID : **976755525**
Status : **Answered**
Chosen Option : **4**

Q.14 The slip of a three-phase induction motor is 1.0. What is the state of the motor?

Ans
- ✗ 1. Running at variable speed
- ✗ 2. Running at full speed
- ✓ 3. Standstill
- ✗ 4. Running at half speed

Question ID : **976755506**
Status : **Answered**
Chosen Option : **3**

Q.15 Determine the angle through which a coil turns when a deflection of 42 mm is observed on the scale of a galvanometer placed at a distance of 0.6 m from the mirror.

Ans
- ✗ 1. 0.35 radians
- ✓ 2. 0.035 radians
- ✗ 3. 35 radians
- ✗ 4. 3.5 radians

Question ID : **976755508**
Status : **Not Answered**
Chosen Option : **--**

Q.16 The battery is required in which type of solar power plant:

Ans
- ✗ 1. Grid connected
- ✓ 2. Standalone
- ✗ 3. Anti-islanding
- ✗ 4. LVRT

Question ID : **976755547**
Status : **Answered**
Chosen Option : **2**

Q.17 How much was the power generated from thermal power plants in India till March 2019?

Ans
- ✗ 1. 65 percent
- ✗ 2. 61.5 percent
- ✗ 3. 66.9 percent
- ✓ 4. 63.4 percent

Question ID : **976755517**
Status : **Answered**
Chosen Option : **3**

Q.18 Which of the following parameters is NOT covered for transmissivity of the cover system?

Ans
- ✓ 1. Thermal emission
- ✗ 2. Reflection
- ✗ 3. Absorption
- ✗ 4. Refraction

Question ID : **976755529**
Status : **Answered**
Chosen Option : **1**

Q.19 The effective energy use for maximising profit and market position is known as:

Ans
- ✓ 1. management of energy
- ✗ 2. energy policy
- ✗ 3. audit of energy
- ✗ 4. conservation of energy

Question ID : **976755481**
Status : **Answered**
Chosen Option : **1**

Q.20 The main reason of electricity generation using a solar power plant is:

Ans
- ✗ 1. high efficiency of hydro power plants
- ✗ 2. high efficiency of thermal power plants
- ✗ 3. high efficiency of nuclear power plants
- ✓ 4. greenhouse gas emission

Question ID : **976755519**
Status : **Answered**
Chosen Option : **4**

Q.21 The other name for thick film deposition technology is:

Ans
- ✗ 1. film printing
- ✗ 2. name printing
- ✓ 3. screen printing
- ✗ 4. diode printing

Question ID : **976755537**
Status : **Answered**
Chosen Option : **1**

Q.22 The basic material used for making a solar cell is:

Ans
- ✗ 1. steel
- ✗ 2. silver
- ✓ 3. silica
- ✗ 4. gold

Question ID : **976755522**
Status : **Answered**
Chosen Option : **3**

Q.23 The symbol shown below is:

Ans
- ✗ 1. dependent voltage source
- ✗ 2. dependent current source
- ✓ 3. independent current source
- ✗ 4. voltage source

Question ID : **976755490**
Status : **Answered**
Chosen Option : **3**

Q.24 In a solar PV plant, if solar array is producing energy of 136.8 Ah and daily peak sun hour is 5, then what will be the PV array output current?

Ans
- ✓ 1. 27.3 A
- ✗ 2. 0.273 A
- ✗ 3. 2.73 A
- ✗ 4. 273 A

Question ID : **976755549**
Status : **Answered**
Chosen Option : **1**

Q.25 **A moving coil voltmeter has a uniform scale with 100 divisions and gives a full scale reading of 200 V. The instrument can read up to 1/5 of a scale division with a fair degree of certainty. The resolution of the instrument in volt is:**

Ans
- ✗ 1. 400 V
- ✗ 2. 4 V
- ✗ 3. 40 V
- ✓ 4. 0.4 V

Question ID : **976755514**
Status : **Answered**
Chosen Option : **4**

Q.26 An alternating voltage is $v = 100\sin 50t$. What is the value of amplitude and frequency?

Ans
- ✗ 1. 100 Hz, 15.9 V
- ✓ 2. 100 V, 7.96 Hz
- ✗ 3. 10 V, 1.59 Hz
- ✗ 4. 10 Hz, 7.96V

Question ID : **976755502**
Status : **Answered**
Chosen Option : **2**

Q.27 **The Ohm's is NOT valid for:**

Ans
- ✗ 1. resistors connected in parallel
- ✗ 2. resistors connected in series
- ✗ 3. linear inductors
- ✓ 4. zener diode working in zener region

Question ID : **976755491**
Status : **Answered**
Chosen Option : **3**

Q.28 A PMMC ammeter of resistance 2 Ω has a full scale value of 5 A. If a shunt value of 0.5 Ω is connected, then what would be the new range?

Ans
- ✓ 1. 25 A
- ✗ 2. 2.5 A
- ✗ 3. 0.25 A
- ✗ 4. 250 A

Question ID : **976755512**
Status : **Answered**
Chosen Option : **1**

Q.29 Which of the following is a correct relation?

Ans
✔ 1. $Y_{11} = 1/h_1$
✘ 2. $Y_{11} = h_{11}$
✘ 3. $Y_{11} = h_{11}/h_{12}$
✘ 4. $Y_{11} = h_{11} + h_{12}$

Question ID : **976755496**
Status : **Answered**
Chosen Option : **3**

Q.30 Which type of current signal shape has an average value of zero?

Ans
✔ 1. Sinusoidal
✘ 2. Exponential
✘ 3. Pulsed
✘ 4. Straight line

Question ID : **976755487**
Status : **Answered**
Chosen Option : **1**

Q.31 In a solar cell manufacturing process, the anti-reflective coating is done:

Ans
✘ 1. for increase in heating
✔ 2. for reduction in reflection
✘ 3. for increase in reflection
✘ 4. for reduction in heating

Question ID : **976755534**
Status : **Answered**
Chosen Option : **2**

Q.32 The total installed capacity of electricity generation in India till June 2019 was:

Ans
✔ 1. 357.875 GW
✘ 2. 412.52 GW
✘ 3. 305.65 GW
✘ 4. 300 GW

Question ID : **976755516**
Status : **Not Answered**
Chosen Option : **--**

Q.33 The damping provided in moving iron type of instruments is of type:

Ans

✗ 1. spring

✓ 2. air friction

✗ 3. oil friction

✗ 4. eddy current

Question ID : **976755509**
Status : **Answered**
Chosen Option : **2**

Q.34 If a solar cell has more than one junction, then is it known as:

Ans

✓ 1. multi junction solar cell

✗ 2. multi current solar cell

✗ 3. single junction solar cell

✗ 4. multi thermal solar cell

Question ID : **976755541**
Status : **Answered**
Chosen Option : **1**

Q.35 The range of band gap of semiconductor material used for the manufacturing of a thin film solar cell should be:

Ans

✗ 1. 2 eV to 3 eV

✗ 2. 5 eV and higher

✗ 3. 4 eV to 5 eV

✓ 4. 1 eV to 1.5 eV

Question ID : **976755538**
Status : **Answered**
Chosen Option : **4**

Q.36 Varun Mitra programme is related to:

Ans

✗ 1. grid connected solar plant

✓ 2. solar water pumping plant

✗ 3. roof top solar plant

✗ 4. solar standalone plant

Question ID : **976755556**
Status : **Answered**
Chosen Option : **2**

Q.37 Which of the following components is NOT a part of the solar street lighting system?

Ans
- ✗ 1. Battery
- ✗ 2. PV panel
- ✓ 3. Thermistor
- ✗ 4. LED lamp

Question ID : **976755542**
Status : **Answered**
Chosen Option : **3**

Q.38 The parameter used to measure the use of energy for its manufacturing process with previous usage is known as:

Ans
- ✗ 1. plant safety
- ✗ 2. plant efficiency
- ✓ 3. plant energy performance
- ✗ 4. plant audit

Question ID : **976755484**
Status : **Answered**
Chosen Option : **3**

Q.39 For which of the following sum will be unity:

Ans
- ✗ 1. Reflectivity + Refractivity
- ✗ 2. Reflectivity
- ✓ 3. Reflectivity + Refractivity + Transmissivity
- ✗ 4. Reflectivity + Refractivity – Transmissivity

Question ID : **976755531**
Status : **Answered**
Chosen Option : **1**

Q.40 Calculate the value of R, if the current flowing through it is –1.6 mA and voltage across its terminal is –6.3 V.

Ans
- ✗ 1. 39.4 kΩ
- ✓ 2. 3.94 kΩ
- ✗ 3. 394 Ω
- ✗ 4. 394 kΩ

Question ID : **976755498**
Status : **Answered**
Chosen Option : **2**

Q.41 Which of the following is NOT a type of system used for electricity generation?

Ans
- ✗ 1. Solar photovoltaic grid connected
- ✓ 2. Solar water heater
- ✗ 3. Solar photovoltaic standalone
- ✗ 4. Solar thermal power

Question ID : **976755520**
Status : **Answered**
Chosen Option : **2**

Q.42 National UJALA scheme is related to:

Ans
- ✓ 1. LED installation
- ✗ 2. electricity for every one
- ✗ 3. solar power plant installation
- ✗ 4. chulha distribution

Question ID : **976755559**
Status : **Answered**
Chosen Option : **1**

Q.43 Solar efficiency can be increased by which of the following methods?

Ans
- ✗ 1. By adding insulating material
- ✓ 2. By reduction in carrier recombination
- ✗ 3. By providing proper cooling
- ✗ 4. By providing shading

Question ID : **976755533**
Status : **Answered**
Chosen Option : **2**

Q.44 Which of the following is a conventional source of electricity generation?

Ans
- ✓ 1. Thermal
- ✗ 2. Wind
- ✗ 3. Fuel cell
- ✗ 4. Solar

Question ID : **976755518**
Status : **Answered**
Chosen Option : **1**

Q.45 Which of the following is NOT an advantage of solar energy?

Ans
- ✗ 1. It is renewable
- ✗ 2. It is available free of cost
- ✗ 3. It is available in abundance
- ✓ 4. E-waste problem can be solved

Question ID : **976755521**
Status : **Answered**
Chosen Option : **4**

Q.46 Surya Mitra programme is a:

Ans
- ✓ 1. skill development programme
- ✗ 2. solar inverter installation programme
- ✗ 3. solar park installation programme
- ✗ 4. solar plant installation programme

Question ID : **976755555**
Status : **Answered**
Chosen Option : **4**

Q.47 Which of the following is NOT an element of an electrochemical cell?

Ans
- ✗ 1. Separator
- ✓ 2. Thermocouple
- ✗ 3. Cathode
- ✗ 4. Anode

Question ID : **976755550**
Status : **Answered**
Chosen Option : **1**

Q.48 The saw damage in solar cells can be removed by:

Ans
- ✗ 1. water etching
- ✓ 2. chemical etching
- ✗ 3. thermal etching
- ✗ 4. humidity etching

Question ID : **976755535**
Status : **Answered**
Chosen Option : **1**

Q.49 Which of the following is NOT a utility treated in the energy audit system?

Ans
- ✗ 1. Steam
- ✗ 2. Electricity
- ✗ 3. Chilled Water
- ✓ 4. Wind

Question ID : **976755483**
Status : **Answered**
Chosen Option : **3**

Q.50 An electric motor takes a power of 2 kW. The efficiency of the motor is 80 percent. What is the motor output?

Ans
- ✗ 1. 2 kW
- ✗ 2. 2.4 kW
- ✗ 3. 1.4 kW
- ✓ 4. 1.6 kW

Question ID : **976755504**
Status : **Answered**
Chosen Option : **4**

Q.51 PM KUSUM scheme is related with:

Ans
- ✓ 1. farmers
- ✗ 2. educational institutes
- ✗ 3. government sector
- ✗ 4. poor families

Question ID : **976755557**
Status : **Answered**
Chosen Option : **1**

Q.52 The rise and fall of current in the R-L circuit connected with a DC source will:

Ans
- ✗ 1. vary triangular
- ✗ 2. vary straight
- ✗ 3. remain zero
- ✓ 4. vary exponential

Question ID : **976755494**
Status : **Answered**
Chosen Option : **2**

Q.53 The force per meter length between two conductors, 0.1 meter apart carrying currents of 1000 A and 2000 A is:

Ans

✗ 1. Sqrt (9) N

✗ 2. Sqrt (36) N

✗ 3. Sqrt (25) N

✓ 4. Sqrt (16) N

Question ID : **976755501**
Status : **Not Answered**
Chosen Option : **--**

Q.54 The battery in solar street is used for:

Ans

✗ 1. Providing mechanical support

✗ 2. Providing strength to the pillar

✗ 3. Providing thermal control

✓ 4. Providing back up electrical power

Question ID : **976755544**
Status : **Answered**
Chosen Option : **4**

Q.55 What will be the transient response of a purely resistive circuit:

Ans

✗ 1. depends on the circuit condition

✗ 2. high overshoot

✗ 3. low overshoot

✓ 4. no transient condition will occur

Question ID : **976755492**
Status : **Answered**
Chosen Option : **4**

Q.56 1 kWh is equal to how many kcals (approximately):

Ans

✗ 1. 86 kcals

✗ 2. 8.6 kcals

✓ 3. 860 kcals

✗ 4. 8600 kcal

Question ID : **976755499**
Status : **Answered**
Chosen Option : **3**

Q.57 **A meter whose constant is 750 revolutions per kWh makes 15 revolutions in 30 seconds. Determine the load in kW.**

Ans

✔ 1. 2.4 kW

✘ 2. 0.24 kW

✘ 3. 240 kW

✘ 4. 24 kW

Question ID : **976755511**
Status : **Answered**
Chosen Option : **1**

Q.58 **The scheme name 'Roof Top Solar Grid Engineer' is:**

Ans

✔ 1. skill development programme

✘ 2. solar inverter installation programme

✘ 3. solar plant installation programme

✘ 4. solar park installation programme

Question ID : **976755558**
Status : **Answered**
Chosen Option : **3**

Q.59 **The colour of the sky is blue because of:**

Ans

✘ 1. water scattering

✘ 2. thermal scattering

✔ 3. Rayleigh scattering

✘ 4. Compton scattering

Question ID : **976755532**
Status : **Answered**
Chosen Option : **3**

Q.60 An electric circuit is supplied with +4V dc and it takes input current of –5 A. The correct statement about the power of the element of electric circuit is:

Ans

✘ 1. It consumes 20 W of power

✘ 2. The power loss is 20 W

✔ 3. It generates 20 W of power

✘ 4. The power cannot be computed

Question ID : **976755489**
Status : **Answered**
Chosen Option : **1**

Q.61 The Laplace transform of a function $F(t) = \exp(-\alpha t) \sin wt\, u(t)$ is:

Ans
✔ 1. $w/(((s+\alpha)(s+\alpha)) + w\,w)$
✘ 2. $w/(((s+\alpha)) + w\,w)$
✘ 3. $w/(s+\alpha)$
✘ 4. $w/(((s+\alpha)(s+\alpha)) + w)$

Question ID : **976755497**
Status : **Answered**
Chosen Option : **1**

Q.62 **Which of the following electrical parameters is NOT used for energy audit?**

Ans
✔ 1. Steam
✘ 2. Kilowatt
✘ 3. Power Factor
✘ 4. Frequency

Question ID : **976755485**
Status : **Answered**
Chosen Option : **1**

Q.63 **The instrument used to measure the frequency of an AC signal is known as:**

Ans
✘ 1. AC meter
✘ 2. dynamo meter
✘ 3. DC meter
✔ 4. frequency meter

Question ID : **976755510**
Status : **Answered**
Chosen Option : **4**

Q.64 **The measurement for electricity is done in a grid connected solar street light system by using:**

Ans
✘ 1. voltmeter
✘ 2. normal meter
✔ 3. bidirectional meter
✘ 4. ammeter

Question ID : **976755545**
Status : **Answered**
Chosen Option : **3**

Q.65 A 4-pole 50 Hz, 3 phase induction motor running at full load develops a torque of 160 N-m. When the rotor makes 120 complete cycles per minute. Calculate the shaft power output.

Ans
1. 2413 kW
2. 2.413 kW
3. 24.13 kW
4. 241.3 kW

Question ID : **976755507**
Status : **Not Answered**
Chosen Option : **--**

Q.66 Illumination is measured using:

Ans
1. multimeter
2. lux meter
3. leak detector
4. ammeter

Question ID : **976755486**
Status : **Answered**
Chosen Option : **2**

Q.67 While installing a solar PV panel which angle plays a significant role?

Ans
1. Meridian angle
2. Masdar angle
3. Equator angle
4. Azimuthal angle

Question ID : **976755546**
Status : **Answered**
Chosen Option : **4**

Q.68 In a two-port network, the other name of Z parameters is:

Ans
1. open circuit admittance parameters
2. short circuit admittance parameters
3. open circuit impedance parameters
4. short circuit impedance parameters

Question ID : **976755495**
Status : **Answered**
Chosen Option : **4**

Q.69 In the industrial solar cell process, which gas is used for emitter diffusion?

Ans
1. KCl_3
2. $POCl_3$
3. H_2Cl_3
4. $NaCl_3$

Question ID : **976755536**
Status : **Not Answered**
Chosen Option : **--**

Q.70 The converter used in solar PV power plants is named as:

Ans
1. thermal inverter
2. solar thermal inverter
3. hydro inverter
4. solar inverter

Question ID : **976755524**
Status : **Answered**
Chosen Option : **4**

Q.71 The E-mobility scheme is related to:

Ans
1. electronics communication
2. solar electricity
3. electric vehicle
4. skill development

Question ID : **976755560**
Status : **Answered**
Chosen Option : **3**

Q.72 Which of the following is a demerit of a Ni-Cd battery?

Ans
1. Longer life
2. Low energy density
3. Fast charging
4. High ruggedness

Question ID : **976755552**
Status : **Answered**
Chosen Option : **2**

Q.73 The slip of a three-phase induction motor is defined as:

Ans
1. Slip Speed – Synchronous Speed
2. Slip Speed / Synchronous Speed
3. Synchronous Speed / Slip Speed
4. Slip Speed × Synchronous Speed

Question ID : **976755505**
Status : **Answered**
Chosen Option : **2**

Q.74 The transmissivity based on absorption can be obtained by assuming that attenuation due absorption is proportional to:

Ans
1. thermal intensity
2. water intensity
3. local intensity
4. global intensity

Question ID : **976755530**
Status : **Answered**
Chosen Option : **4**

Q.75 An alternating current is measured by a rectifier and a hot wire ammeter and the readings are found to be 30 A and 32 A respectively. What is the form factor of the current wave?

Ans
1. 0.184
2. 1.184
3. 118.4
4. 11.84

Question ID : **976755513**
Status : **Answered**
Chosen Option : **2**

Q.76 Which of the following is used for thin film deposition?

Ans
1. Plant vapour deposition
2. Water vapour deposition
3. Salt vapour deposition
4. Chemical vapour deposition

Question ID : **976755539**
Status : **Not Answered**
Chosen Option : **--**

Q.77 Which of the following data base is NOT used for solar radiation measurement?

Ans

✗ 1. WRDC by WMO

✗ 2. Solar GIS

✓ 3. Big data centre database

✗ 4. Meteonorm

Question ID : **976755528**
Status : **Answered**
Chosen Option : **3**

Q.78 Under which scheme of Government of India, solar parks are encourages to set up

Ans

✓ 1. Solar Park Scheme

✗ 2. Solar PV scheme

✗ 3. Solar Heat Scheme

✗ 4. Solar Grid Scheme

Question ID : **976755553**
Status : **Answered**
Chosen Option : **4**

Q.79 The equivalent resistance of four resistors joined in parallel is 20 Ω. The current flowing through them are 0.6, 0.3, 0.2 and 0.1 ampere. The value of each resistor is:

Ans

✓ 1. 40 Ω, 80 Ω, 120 Ω, 240 Ω

✗ 2. 240 Ω, 240 Ω, 240 Ω, 240 Ω

✗ 3. 40 Ω, 40 Ω, 40 Ω, 40 Ω

✗ 4. 4 Ω, 8 Ω, 12 Ω, 24 Ω

Question ID : **976755500**
Status : **Answered**
Chosen Option : **1**

Q.80 The performance parameter for a white LED lantern is:

Ans

✗ 1. fixture strength

✗ 2. humidity

✓ 3. illuminance

✗ 4. heat

Question ID : **976755543**
Status : **Answered**
Chosen Option : **3**