HPCL-01st & 04th Nov 22

Participant ID	
Participant Name	
Test Center Name	
Test Date	01/11/2022
Test Time	9:00 AM - 11:30 AM
Subject	ELECTRICAL ENGINEER

Section : **English Language**

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

Perspicuous

Ans
✗ 1. Murky
✗ 2. Indefinite
✓ 3. Apparent
✗ 4. Nebulous

Question ID : **8401604884**
Status : **Answered**
Chosen Option : **4**

Q.2 **Select the most appropriate meaning of the given idiom.**

Stand your ground

Ans
✓ 1. Refuse to change your opinion
✗ 2. Support your friends
✗ 3. Be in a comfortable situation
✗ 4. Stay at one place

Question ID : **8401604887**
Status : **Answered**
Chosen Option : **4**

Q.3 **Select the correctly spelt word to fill in the blank.**

There were only a few _____ trees on the top of the hill.

Ans
✗ 1. sceterred
✗ 2. scaterred
✓ 3. scattered
✗ 4. scettered

Question ID : **8401604888**
Status : **Answered**
Chosen Option : **3**

Q.4 **Select the option that is NOT an antonym of another word by way of adding the prefix 'dis-'.**

Ans
✗ 1. Displease
✓ 2. Dispose
✗ 3. Disorganise
✗ 4. Dispossess

Question ID : **8401604882**
Status : **Answered**
Chosen Option : **2**

Q.5 **Select the most appropriate option to fill in the blank.**

They are buying all new furniture as they _____ to a new house.

Ans
✗ 1. had shifted
✗ 2. shift
✗ 3. were shifting
✓ 4. have shifted

Question ID : **8401604896**
Status : **Answered**
Chosen Option : **4**

Q.6 **Select the most appropriate synonym of the given word.**

Ostentatious

Ans
✓ 1. Flamboyant
✗ 2. Subdued
✗ 3. Restrained
✗ 4. Appropriate

Question ID : **8401604885**
Status : **Answered**
Chosen Option : **1**

Q.7 **Select the most appropriate synonym of the given word.**

Obsolete

Ans
✗ 1. Operative
✗ 2. Current
✓ 3. Outmoded
✗ 4. Contemporary

Question ID : **8401604883**
Status : **Answered**
Chosen Option : **3**

Q.8 **Select the most appropriate option to fill in the blank.**

The night was silent except _____ the occasional passing of a car on the road.

Ans
✔ 1. for
✘ 2. about
✘ 3. with
✘ 4. from

Question ID : **8401604897**
Status : **Answered**
Chosen Option : **1**

Q.9 **Select the most appropriate option to fill in the blank.**

Solomon was _____ than all the other Jewish kings.

Ans
✘ 1. wisest
✘ 2. wise
✔ 3. wiser
✘ 4. more wiser

Question ID : **8401604898**
Status : **Answered**
Chosen Option : **3**

Q.10 **Select the most appropriate option to fill in the blank.**

A news report indicated that Steiner was _____, charged with fraud but was later _____.

Ans
✘ 1. excused, convicted
✘ 2. prisoned, condemned
✘ 3. jailed, accused
✔ 4. arrested, acquitted

Question ID : **8401604892**
Status : **Answered**
Chosen Option : **4**

Q.11 **Select the most appropriate option to fill in the blank and complete the given proverb correctly.**

A _____ always blames his tools

Ans
✘ 1. clever mason
✘ 2. sleepy operator
✔ 3. bad workman
✘ 4. tired labourer

Question ID : **8401604886**
Status : **Answered**
Chosen Option : **3**

Q.12 **Select the most appropriate option to fill in the blank.**

Leave it to me. I _____ care of everything.

Ans
✔ 1. will take
✘ 2. will have taken
✘ 3. will be taken
✘ 4. take

Question ID : **8401604894**
Status : **Answered**
Chosen Option : **1**

Q.13 **The following sentence has been divided into parts. One of them may contain a spelling error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.**

The National Education Policy (NEP) 2020 stresses / on formalising early childhood care and education / and realising the creative potencial of each learner.

Ans
✘ 1. on formalising early childhood care and education
✔ 2. and realising the creative potencial of each learner
✘ 3. No error
✘ 4. The National Education Policy (NEP) 2020 stresses

Question ID : **8401604889**
Status : **Answered**
Chosen Option : **2**

Q.14 **The following sentence has been divided into parts. One of them may contain a spelling error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer.**

Long summars and water scarcity / made everything difficult, and / consequently, she sold her piece of land.

Ans
✘ 1. consequently, she sold her piece of land
✘ 2. made everything difficult, and
✘ 3. No error
✔ 4. Long summars and water scarcity

Question ID : **8401604890**
Status : **Answered**
Chosen Option : **4**

Q.15 **Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.**

A. The jewels were kept in a library, in Dublin Castle from where they were stolen in 1907.
B. The 'crown jewels of Ireland' were created in 1783.
C. The jewels also held rupees from a Mughal emperor and possibly precious stones provided by a sultan of Turkey.
D. The jewellery was made from 394 stones taken from Queen Charlotte's jewellery and an Order of the Bath badge.

Ans
✗ 1. ADBC
✗ 2. CDAB
✓ 3. BDCA
✗ 4. BACD

Question ID : **8401604891**
Status : **Answered**
Chosen Option : **3**

Q.16 **Select the most appropriate option to fill in the blank.**

On 18 March 1990, two thieves _____ as police officers broke into the Isabella Stewart Gardner Museum in Boston, Massachusetts and _____ thirteen works of art.

Ans
✗ 1. dressed, stealing
✓ 2. dressed, stole
✗ 3. dress, stealing
✗ 4. dressing, steal

Question ID : **8401604893**
Status : **Answered**
Chosen Option : **2**

Q.17 **Select the most appropriate option to fill in the blank.**

The train _____ before we got to the station.

Ans
✗ 1. leaves
✗ 2. was leaving
✓ 3. had left
✗ 4. left

Question ID : **8401604895**
Status : **Answered**
Chosen Option : **3**

Section : **Quantitative Aptitude**

Q.1 **The marked price of an article is ₹425. It is sold at an 18% discount on its marked price. If there is a profit of 25%, then what is the cost price (in ₹) of the article?**

Ans

✗ 1. 275

✓ 2. 278.80

✗ 3. 280

✗ 4. 282.50

Question ID : **8401604911**
Status : **Answered**
Chosen Option : **2**

Q.2 **The ratio of incomes of A and B is 5 : 4. A and B save ₹4,000 and ₹3,600, respectively. If the ratio of their expenditures is 9 : 7, then what is the difference between the income of A and the expenditure of B?**

Ans

✗ 1. ₹8,200

✗ 2. ₹9,000

✗ 3. ₹7,500

✓ 4. ₹8,000

Question ID : **8401604915**
Status : **Answered**
Chosen Option : **1**

Q.3 **A trader sold a washing machine for ₹28,750 at a gain of 15% and micro-oven for ₹18,768 at a loss of 8%. His profit/loss percentage in the whole transaction is (correct to one decimal place) :**

Ans

✗ 1. Loss, 4.7%

✗ 2. Profit, 5.4%

✗ 3. Loss, 5.4%

✓ 4. Profit, 4.7%

Question ID : **8401604908**
Status : **Answered**
Chosen Option : **4**

Q.4 A and B start their journey at the same time from X to Y and Y to X, respectively. After crossing each other, A and B complete their remaining journey in x hours and 9 hours, respectively. If the speed of B is $22\frac{2}{9}$ % less than A, then what is the value of x?

Ans

✗ 1. $4\frac{1}{6}$

✗ 2. $7\frac{1}{9}$

✗ 3. $2\frac{1}{4}$

✓ 4. $5\frac{4}{9}$

Question ID : **8401604919**
Status : **Answered**
Chosen Option : **2**

Q.5 **The cost of a television is ₹6,000 more than that of a refrigerator. If the television is sold at a loss of 15% and the refrigerator at a profit of 30%, then there is a profit of 5% in the entire transaction. What is the cost price (in ₹) of the refrigerator?**

Ans
✗ 1. 30,000
✗ 2. 28,000
✗ 3. 25,000
✓ 4. 24,000

Question ID : **8401604910**
Status : **Answered**
Chosen Option : **2**

Q.6 If the roots of the equation $x^2 - 2(1+3k)x + 7(3+2k) = 0$, are equal, then the sum of the squares of all values of k is $\frac{a}{b}$, where a and b are coprime. What is the value of $(a+b)$?

Ans
✓ 1. 505
✗ 2. 515
✗ 3. 478
✗ 4. 495

Question ID : **8401604929**
Status : **Answered**
Chosen Option : **2**

Q.7 **A shopkeeper sells two-thirds of his toys (each of the same cost price) at 40% profit and sells one-fourth of the remaining at 20% loss. He sells the remaining at the cost price. What is his overall profit percentage?**

Ans
✓ 1. 25%
✗ 2. 28%
✗ 3. 20%
✗ 4. 24%

Question ID : **8401604909**
Status : **Answered**
Chosen Option : **4**

Q.8 **Surekha typed a 6-digit number but the two 3's she typed did not show. What appeared instead was 7007. How many different 6-digit numbers can be there?**

Ans
✗ 1. 10
✗ 2. 3
✓ 3. 15
✗ 4. 18

Question ID : **8401604923**
Status : **Answered**
Chosen Option : **3**

Q.9 **The cost of 3 pens and 2 pencils is ₹93. When the cost of a pen is reduced by ₹1.50 and that of a pencil is increased by ₹0.50, then the cost of 4 pens and 3 pencils is ₹121. What are the original cost (in ₹) of 1 pen and 4 pencils?**

Ans
✗ 1. 45
✗ 2. 50
✓ 3. 46
✗ 4. 44

Question ID : **8401604922**
Status : **Answered**
Chosen Option : **3**

Q.10 The value of $\frac{4.169\times4.169\times4.169-64\times(0.728)^3}{(4.169)^2+(2.912)^2+8\times(0.364)(4.169)}$ is $(2-k)$. What is the value of k?

Ans
✗ 1. 0.734
✗ 2. 0.275
✓ 3. 0.743
✗ 4. 0.257

Question ID : **8401604901**
Status : **Answered**
Chosen Option : **2**

Q.11 **The cost of a computer is 150% more than that of a mobile phone and the cost of a mobile phone is 80% more than that of a calculator. The cost of a computer decreases by 15%, that of a mobile phone increases by 20% and the cost of a calculator increases by 25%. What is the net percentage increase/decrease in the total cost of 2 computers, 5 mobile phones and 2 calculators as compared to the original cost?**

Ans
✗ 1. Decrease, 4.5%
✗ 2. Decrease, 5%
✓ 3. Increase, 4.75%
✗ 4. Increase, 4.5%

Question ID : **8401604907**
Status : **Answered**
Chosen Option : **3**

Q.12 In ΔABC, $\angle A = 58°$, BD $\perp$ AC and CE $\perp$ AB. BD and CE intersect each other at O (inside the triangle). The bisectors of $\angle DBC$ and $\angle ECB$ meet at P. What is the measure of $\angle BPC$?

Ans
✗ 1. 122°
✗ 2. 142°
✓ 3. 151°
✗ 4. 116°

Question ID : **8401604932**
Status : **Answered**
Chosen Option : **4**

Q.13

Ans

1.

2.

3.

4.

Question ID : **8401604928**
Status : **Answered**
Chosen Option : **2**

Q.14 **A man sells a watch for ₹ 523.60, by giving two successive discounts of 15 % and 12 % on its marked price and suffers a loss of 20 %. If he sells the article at the marked price, his profit (in ₹) is**

Ans

1. 48
2. 45.50
3. 44
4. 42.50

Question ID : **8401604912**
Status : **Answered**
Chosen Option : **2**

Q.15 **The area of a triangular park with sides 176 m, 330 m and 374 m is equal to a rectangular plot whose sides are in the ratio 15 : 4. What is the cost of putting fence around the rectangular plot at ₹75 per m?**

Ans

1. ₹59,850
2. ₹54,150
3. ₹62,700
4. ₹57,000

Question ID : **8401604930**
Status : **Answered**
Chosen Option : **2**

Q.16 **Lekhi's expenditure for a month is ₹24,000 and her savings are 15% of the monthly expenditure. If her monthly income increases by 20% and savings decrease by 5%, then what is the net increase (in ₹) in her monthly expenditure?**

Ans

1. 5,700
2. 5,400
3. 6,200
4. 5,800

Question ID : **8401604906**
Status : **Answered**
Chosen Option : **2**

Q.17 **The average weight of some persons in a group was 63.5 kg. When 5 persons with weights of 72 kg, 75.8 kg, 76 kg, 72.2 kg and 65 kg joined the group and 9 persons with an average weight of 68 kg left the group, then the average weight of all the persons in the group increased by 0.05 kg. What was the number of persons in the group, initially?**

Ans
✔ 1. 64
✘ 2. 49
✘ 3. 74
✘ 4. 59

Question ID : **8401604903**
Status : **Answered**
Chosen Option : **4**

Q.18 Simplify the following:

$$\left(1\frac{1}{3}\times 1\frac{4}{5}\div\frac{9}{10}\right)\times\left(2\frac{1}{6}\text{ of }\frac{2}{3}\div 1\frac{1}{3}\text{ of }\frac{1}{3}\right)-\left(9\frac{4}{9}\div 11\frac{1}{3}\text{ of }\frac{5}{6}\right)$$

Ans
✘ 1. $3\frac{1}{4}$
✘ 2. $4\frac{1}{3}$
✔ 3. $7\frac{2}{3}$
✘ 4. $3\frac{1}{2}$

Question ID : **8401604899**
Status : **Answered**
Chosen Option : **3**

Q.19 **The time taken by a boat to cover a certain distance downstream is 40% of the time taken by it to cover the same distance upstream. What is the ratio of the speed of the boat in still water to its speed going upstream?**

Ans
✘ 1. 5 : 3
✘ 2. 10 : 7
✔ 3. 7 : 4
✘ 4. 5 : 2

Question ID : **8401604918**
Status : **Answered**
Chosen Option : **2**

Q.20 **Pipes A and B can fill an empty tank in 10 hours and x hours, respectively. Pipe C alone can empty a full tank In 9 hours. When all three pipes are opened together, the tank is filled up completely in 18 hours. What is the value of x?**

Ans
✗ 1. 18
✗ 2. 20
✓ 3. 15
✗ 4. 12

Question ID : **8401604920**
Status : **Answered**
Chosen Option : **4**

Q.21 What is the compound interest on a sum of ₹12,000 at 20% p.a. for $2\frac{3}{4}$ years, interest compounded annually?

Ans
✗ 1. ₹7,825
✓ 2. ₹7,872
✗ 3. ₹7,862
✗ 4. ₹7,828

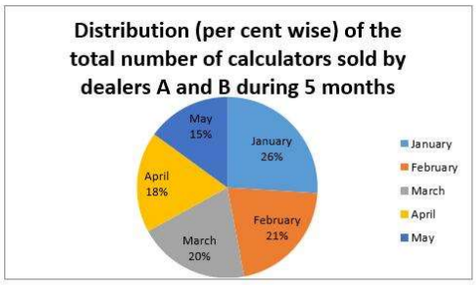
Question ID : **8401604916**
Status : **Answered**
Chosen Option : **2**

Q.22 A can do a certain work in 24 days. B is 20% more efficient than A. Both worked together for 5 days. C alone completed the remaining work in $6\frac{1}{2}$ days. A and C together can complete the original work in:

Ans
✗ 1. 12 days
✗ 2. 9 days
✓ 3. 8 days
✗ 4. 6 days

Question ID : **8401604921**
Status : **Answered**
Chosen Option : **3**

Q.23 Study the following pie chart and answer the question.



Total number of calculators sold by dealers A and B in May = 1620

The difference between the average number of calculators (per month) sold by dealers A and B in January and April and the number of calculators sold by them in March is x. The value of x lies between:

Ans
✗ 1. 180 and 200
✓ 2. 200 and 220
✗ 3. 160 and 180
✗ 4. 220 and 240

Question ID : **8401604925**
Status : **Answered**
Chosen Option : **3**

Q.24 **A car travels first 240 km at 50 km/h, next 90 km at 60 km/h and next 296 km at 80 km/h. What is its average speed (in km/h) for the whole journey?**

Ans
✓ 1. 62.6
✗ 2. 58.4
✗ 3. 55.8
✗ 4. 63.2

Question ID : **8401604902**
Status : **Answered**
Chosen Option : **2**

Q.25 **Two fair dice are rolled once. What is the probability that the sum of numbers appearing on their tops is odd and at least one die shows a prime number?**

Ans
✗ 1. $\frac{1}{3}$
✗ 2. $\frac{4}{9}$
✗ 3. $\frac{5}{12}$
✓ 4. $\frac{7}{18}$

Question ID : **8401604927**
Status : **Answered**
Chosen Option : **2**

Q.26 **Solutions A and B contain acid and water in the ratios 4 : 5 and 5 : 7, respectively. Three litres of A is mixed with 5 litres of B. In 960 ml of this solution, how much (in ml) acid should be mixed so that the ratio of acid and water becomes 1 : 1 in the resulting solution?**

Ans
✗ 1. 136
✗ 2. 130
✓ 3. 140
✗ 4. 144

Question ID : **8401604904**
Status : **Answered**
Chosen Option : **2**

Q.27 **The sales of an article increase by 50% every week. What are the sales in the third week, if the difference between the sales in the third week and the second week is 600?**

Ans
✓ 1. 1800
✗ 2. 900
✗ 3. 1500
✗ 4. 1200

Question ID : **8401604905**
Status : **Answered**
Chosen Option : **2**

Q.28 The amount of a certain sum is 72.8% more than the sum itself in 3 years at a certain rate per cent p.a., when the interest is compounded yearly. What will be the compound interest (in ₹) on a sum of ₹8,000, in $1\frac{1}{2}$ years, at the same rate, if interest is compounded 6-monthly?

Ans
✗ 1. 2,630
✓ 2. 2,648
✗ 3. 2,652
✗ 4. 2,658

Question ID : **8401604917**
Status : **Answered**
Chosen Option : **3**

Q.29 **Let *x* be the least number which when divided by 12, 16, 18, 20 and 25, the remainder in each case is 3, and *x* is divisible by 13. What is the sum of the digits of *x*?**

Ans
✗ 1. 14
✗ 2. 13
✗ 3. 10
✓ 4. 12

Question ID : **8401604900**
Status : **Answered**
Chosen Option : **2**

Q.30 **A swim team has 9 members, only two of which are boys. The coach wants to take a delegation from the team to a special swimming camp. If the delegation must have either 5 or 6 members and must include at least one boy, how many ways are there to select the delegation?**

Ans

✗ 1. 84

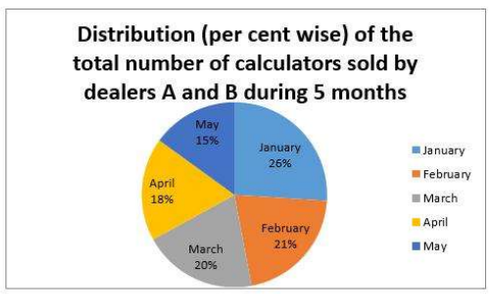
✓ 2. 182

✗ 3. 179

✗ 4. 105

Question ID : **8401604924**
Status : **Answered**
Chosen Option : **3**

Q.31 Study the following pie chart and answer the question.



Total number of calculators sold by dealers A and B in May = 1620

The ratio of the number of calculators sold by dealers A and B in February is 4 : 5, and the profit earned by A and B over the sale of one calculator is ₹250 and ₹300, respectively. What is the total profit earned by A and B in February?

Ans

✗ 1. ₹6,25,000

✓ 2. ₹6,30,000

✗ 3. ₹6,18,000

✗ 4. ₹6,17,400

Question ID : **8401604926**
Status : **Answered**
Chosen Option : **2**

Q.32 A varies directly as B and inversely as C. When $B = \frac{2}{3}$, $C = \frac{8}{9}$, then $A = \frac{9}{4}$. If A = 6, B = 9, then what is the value of C?

Ans

✗ 1. $\frac{3}{4}$

✓ 2. $\frac{9}{2}$

✗ 3. $\frac{8}{3}$

✗ 4. $\frac{5}{4}$

Question ID : **8401604914**
Status : **Answered**
Chosen Option : **2**

Q.33 **An article is marked ₹125 above its cost price. It was sold at a profit of 8%, after giving two successive discounts of 10% and 5%, on its marked price. What is the cost price of the article?**

Ans
✗ 1. ₹425
✓ 2. ₹475
✗ 3. ₹525
✗ 4. ₹575

Question ID : **8401604913**
Status : **Not Answered**
Chosen Option : **--**

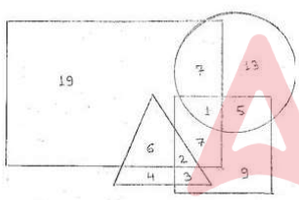
Q.34 **Water flows out through a circular pipe with an internal diameter of 6 cm, at the rate of 12.6 km/h into an empty cylindrical tank whose base radius is 3 m. In 40 minutes, the water level in the tank will rise by (assuming no overflow):**

Ans
✓ 1. 84 cm
✗ 2. 80 cm
✗ 3. 90 cm
✗ 4. 72 cm

Question ID : **8401604931**
Status : **Not Answered**
Chosen Option : **--**

Section : **Intellectual Potential Test**

Q.1 In the following Venn diagram, the rectangle represents green-coloured items, the circle represents bedsheets, the triangle represents carpets and the square represents floral design items. Select the option which represents the number of green floral-designed carpet.



Ans
✗ 1. 1
✓ 2. 2
✗ 3. 3
✗ 4. 6

Question ID : **8401604941**
Status : **Answered**
Chosen Option : **2**

Q.2 **Read the following numbers carefully and answer the questions as per direction given after the number series:**
289 496 337 268 245
If all the digits of the above given numbers in the sequence are written in a reverse order and then placed in descending order, which of the following numbers will be the second from the Left end of the sequence?

Ans
✔ 1. 694
✘ 2. 542
✘ 3. 363
✘ 4. 242

Question ID : **8401604950**
Status : **Answered**
Chosen Option : **1**

Q.3 **In a certain code language, 'CABIN' is written as 'FUECQ'. How will 'REALM' be written in that language?**

Ans
✘ 1. UZDGP
✘ 2. VZEGQ
✔ 3. UYDFP
✘ 4. VYEFQ

Question ID : **8401604951**
Status : **Answered**
Chosen Option : **3**

Q.4 **Choose the correct alternative from the given options which will continue the same pattern and replace the question mark in the given number series.**

698573245, 98573245, 9857324, 857324, 57234, ……..?

Ans
✘ 1. 7325
✘ 2. 7523
✘ 3. 3275
✔ 4. 5723

Question ID : **8401604956**
Status : **Answered**
Chosen Option : **4**

Q.5 **Eight friends Jaya, Yashvi, Ananta, Vibhor, Manan, Disha, Chandan and Zakir are sitting around a square table at an equal distance facing the centre not necessarily in the same order. Yashvi is sitting sixth to the left of Disha. Ananta is to the immediate right of Vibhor. Jaya is sitting to the immediate left of Zakir. Disha is sitting third to the right of Zakir. Manan is sitting second to the right of Chandan. Vibhor is sitting opposite to Yashvi. Who is sitting third to the right of Vibhor?**

Ans
✘ 1. Manan
✘ 2. Disha
✔ 3. Chandan
✘ 4. Jaya

Question ID : **8401604935**
Status : **Answered**
Chosen Option : **3**

Q.6 **Choose the correct alternative from the given options which will continue the same pattern and replace the question mark in the given number series.**

387, 337, 297, 267, 247, …..?

Ans
✗ 1. 236
✓ 2. 237
✗ 3. 228
✗ 4. 231

Question ID : **8401604953**
Status : **Answered**
Chosen Option : **2**

Q.7 **In a certain code language, 2, 5, 6, 7, 1, 4 and 9 are coded as V, O, R, X, K, I and G, respectively.**
If the last two digits of the number cluster are odd, then the first and last letter is to be coded as Q.
If the first two digits of the number cluster are even, then the first and last letter is to be coded as L.
How will '261749' be coded in that language?

Ans
✗ 1. QOKXIQ
✓ 2. LRKXIL
✗ 3. VRKVXG
✗ 4. VOKVXG

Question ID : **8401604952**
Status : **Answered**
Chosen Option : **2**

Q.8 **Select the number from among the given options that can replace the question mark (?) in the following series.**
253, 260, 271, 298, 389, ?

Ans
✗ 1. 597
✓ 2. 736
✗ 3. 679
✗ 4. 485

Question ID : **8401604960**
Status : **Answered**
Chosen Option : **2**

Q.9 **If letters in the word 'ADEQUATE' are rearranged in alphabetical order, then how many letters are there which are in the same place as in the original sequence of the word?**

Ans
✓ 1. 2
✗ 2. 3
✗ 3. 4
✗ 4. 1

Question ID : **8401604947**
Status : **Answered**
Chosen Option : **1**

Q.10 Read the series: 22, 25, 24, 27, 26, ... carefully and suggest the number that should come next?

Ans
- ✔ 1. 29
- ✘ 2. 21
- ✘ 3. 24
- ✘ 4. 22

Question ID : **8401604961**
Status : **Answered**
Chosen Option : **1**

Q.11 By facing the south direction, a certain number of people are sitting in a row. B is sitting sixth from the right of D. D is eight from the left end of the row. E is sitting forth to left of B. Only two persons are sitting between B and A. G is sitting second to the right of F. Six persons are sitting between H and G. H is third from any of the end. C is sitting forth to the left of D. F is sitting between D and E. How many persons sitting in a row?

Ans
- ✘ 1. 19
- ✔ 2. 20
- ✘ 3. 17
- ✘ 4. 18

Question ID : **8401604938**
Status : **Answered**
Chosen Option : **3**

Q.12 If the digits given below are arranged in ascending order, then what is the sum of the number third from the right and second from the left?
38, 42, 65, 19, 83, 34, 47, 13, 21, 89

Ans
- ✘ 1. 86
- ✔ 2. 84
- ✘ 3. 66
- ✘ 4. 68

Question ID : **8401604963**
Status : **Answered**
Chosen Option : **2**

Q.13 Siya is Dhanvi's daughter. Baadal is Ragish's son-in-law. Navya is Tashvi's mother and Dhanvi is married to Ragish. Baadal is Kartik's father and Siya is Garvit's sister. Ragish is Tashvi's paternal grandfather. If Dhanvi has only 2 children, then how is Dhanvi related to Kartik?

Ans
- ✔ 1. Maternal grandmother
- ✘ 2. Paternal grandmother
- ✘ 3. Paternal aunt
- ✘ 4. Maternal aunt

Question ID : **8401604955**
Status : **Answered**
Chosen Option : **1**

Q.14 **If a day before yesterday was Friday, then what day of the week will it be on a day after tomorrow?**

Ans
✗ 1. Sunday
✗ 2. Monday
✓ 3. Tuesday
✗ 4. Saturday

Question ID : **8401604936**
Status : **Answered**
Chosen Option : **3**

Q.15 **Relationship between different elements is shown in the statements. Find if the conclusions also follow the same or not.**

Statements: P≥Q≥R = S, T≥U>P

Conclusions:
I. U>R
II. T>S
III. P<R
IV. T<P

Ans
✗ 1. If only conclusion II is valid.
✗ 2. If only conclusion I is valid.
✗ 3. If either conclusion I or II is valid.
✓ 4. If both the conclusion I and II are valid.

Question ID : **8401604943**
Status : **Answered**
Chosen Option : **4**

Q.16 **Eight friends Ganesh, Naveen, Tanya, Vaishali, Ravi, Lavanya, Bhanu and Ishaan are sitting around a circular table facing the centre, not necessarily in the same order. Tanya is not an immediate neighbour of Bhanu. Naveen is third to the left of Ravi. Bhanu is second to the left of Lavanya. Ganesh is not an immediate neighbour of either Ravi or Naveen. Bhanu is to the immediate left of Ganesh. Ishaan is third to the right of Ganesh. Who is sitting second to the right of Tanya?**

Ans
✗ 1. Ravi
✗ 2. Naveen
✓ 3. Vaishali
✗ 4. Ishaan

Question ID : **8401604934**
Status : **Answered**
Chosen Option : **3**

Q.17 **Relationship between different elements is shown in the statements. Find if the conclusions also follow the same or not.**

Statements: A≥B = C>D≥E≤F

Conclusions:
I. B>F
II. E<A
III. C<D
IV. A<C

Ans
✗ 1. If only conclusion I is valid.
✗ 2. If neither conclusion I or II is valid.
✗ 3. If either conclusion I or II is valid.
✓ 4. If only conclusion II is valid.

Question ID : **8401604942**
Status : **Answered**
Chosen Option : **4**

Q.18 **Select the letter-cluster from among the given options that can replace the question mark (?) in the following series.**
TKH, ORB, JYV, EFP, ZMJ,?

Ans
✗ 1. TUC
✗ 2. UUD
✓ 3. UTD
✗ 4. TTC

Question ID : **8401604946**
Status : **Answered**
Chosen Option : **3**

Q.19 **In a coding language if M = 13 and CAT = 24, then BAT will be equal to**

Ans
✓ 1. 23
✗ 2. 26
✗ 3. 18
✗ 4. 22

Question ID : **8401604966**
Status : **Answered**
Chosen Option : **1**

Q.20 **If TEST is coded as 6826, MORE is coded as 7318 and MOST is coded as 7326, what will be the code for MOTOR ?**

Ans
✗ 1. 68731
✗ 2. 86725
✓ 3. 73631
✗ 4. 88731

Question ID : **8401604962**
Status : **Answered**
Chosen Option : **3**

Q.21 **Select the option that is related to the third term in the same way as the second term is related to the first term.**

TG4 : KL12 :: PX7 : ?

Ans
✗ 1. GD21
✓ 2. GC21
✗ 3. HD16
✗ 4. HC16

Question ID : **8401604957**
Status : **Answered**
Chosen Option : **2**

Q.22 **In the question, # means 'is the wife of', & means 'is the mother of', % means 'is the husband of', @ means 'is the brother of', ? means 'is the father of'. Assuming the following coded statement to be true, find which of the conclusion given in the options below is definitely true.**
C % V & D @ Y # R ? T

Ans
✗ 1. C ? R
✗ 2. T % D
✗ 3. R @ D
✓ 4. V # C

Question ID : **8401604954**
Status : **Answered**
Chosen Option : **4**

Q.23 **Two statements are followed by two conclusions numbered I and II. You have to consider these statements to be true, even if they seem to be at variance with commonly known facts. Decide which of the given conclusions logically follow/s from the given statements.**

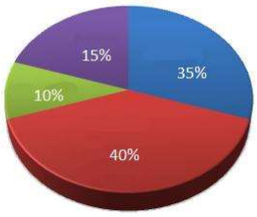
Statement
1. skilling is a necessity for the performance on the jobs.
2. National Education Policy (NEP) is introduced to skill, reskill and upskill people

Conclusions
I. Unskilled people can also get the job.
II. NEP will skill the manpower.

Ans
✗ 1. Only conclusion I follows.
✗ 2. Either conclusion I or II follows.
✗ 3. Neither conclusion I nor II follows.
✓ 4. Only conclusion II follows.

Question ID : **8401604940**
Status : **Answered**
Chosen Option : **4**

Q.24 According to a survey the percentage of people liking different design patterns is shown in the following pie-chart. Blue represents people who like checked design, Red represents people who like floral design, Green represents people who like polka dot design and Purple represents people who like animal print design. Study the graph and answer the question.



The survey was to be conducted on 28,500 people. If only one-third of the total people took the survey, then how many people like animal print and polka dots design?

Ans
✗ 1. 1975
✗ 2. 2576
✗ 3. 2186
✓ 4. 2375

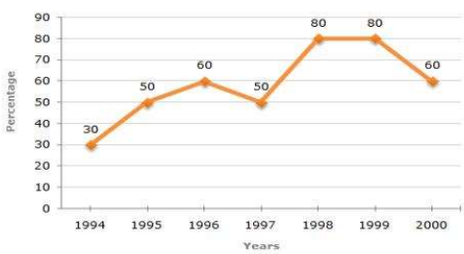
Question ID : **8401604965**
Status : **Answered**
Chosen Option : **4**

Q.25 **Four letter-cluster have been given, out of which three are alike in some manner and one is different. Select the one that is different.**

Ans
✓ 1. CVRD : XCIV
✗ 2. QMYA : JUBT
✗ 3. TEWX : GMDQ
✗ 4. JPKS : QXPL

Question ID : **8401604958**
Status : **Answered**
Chosen Option : **2**

Q.26 The percentages of people who got US visa in different years is shown in the following graph. Study the graph and answer the question.



If 54,000 people got the US visa, then how many people applied for the visa in the year 1996?

Ans
✓ 1. 90,000
✗ 2. 58,000
✗ 3. 18,000
✗ 4. 34,000

Question ID : **8401604964**
Status : **Answered**
Chosen Option : **4**

Q.27 **Study the following arrangement of letters and answer the question that follows:**
Y N O E X K Q U N L A O Z I M E G O F U A K O W
How many vowels are there in this arrangement which are placed between two consonants?

Ans
✗ 1. 4
✗ 2. 3
✓ 3. 5
✗ 4. 2

Question ID : **8401604948**
Status : **Answered**
Chosen Option : **3**

Q.28 **Read the given information and solve the question given at the end.**

D, E, F, G, H, I, J and K are eight friends sitting around a circular table by facing its centre. H is third to the right of J who is not an immediate neighbor of either F or K. F is second to the left of K who is third to the left of D. E is fourth to the right of K. Who is sitting immediate Left of D?

Ans
✗ 1. E
✗ 2. I
✗ 3. F
✓ 4. J

Question ID : **8401604933**
Status : **Answered**
Chosen Option : **2**

Q.29 **Relationship between different elements is shown in the statements. Find if the conclusions also follow the same or not.**

Statements: G>H<I≥J = K≥L>M

Conclusions:
I. I>L
II. I = L
III. I<J
IV. K<M

Ans
✗ 1. If neither conclusion I or II is valid.
✓ 2. If either conclusion I or II is valid.
✗ 3. If only conclusion II is valid.
✗ 4. If only conclusion I is valid.

Question ID : **8401604945**
Status : **Answered**
Chosen Option : **4**

Q.30 Select the number from among the given options that can replace the question mark (?) in the following series.
107, 115, 131, 155, 187, ?

Ans
✔ 1. 227
✘ 2. 225
✘ 3. 215
✘ 4. 219

Question ID : **8401604959**
Status : **Answered**
Chosen Option : **1**

Q.31 Tara is ranked 5th from the top and Sugandha is ranked 7th from the bottom in an exam. In the next exam, their position got exchanged and Sugandha was ranked 16th from the bottom. How many students in total take the exams?

Ans
✘ 1. 23 students
✘ 2. 22 students
✘ 3. 21 students
✔ 4. 20 students

Question ID : **8401604937**
Status : **Answered**
Chosen Option : **3**

Q.32 Six friends Yasir, Lalit, Chandra, Ekaja, Varsha and Jagriti are sitting in a park. Ekaja is not younger than Lalit. Chandra is not older than Varsha. Jagriti is older than Ekaja. Lalit and Varsha are the same age. Yasir is not younger than Chandra. Study the above information and choose the option that is definitely INCORRECT.

Ans
✘ 1. Yasir is not older than Varsha.
✘ 2. Jagriti is older than Lalit.
✔ 3. Lalit is younger than Chandra.
✘ 4. Ekaja is not younger than Lalit.

Question ID : **8401604944**
Status : **Answered**
Chosen Option : **3**

Q.33 Four letter-cluster have been given, out of which three are alike in some manner and one is different. Select the one that is different.

Ans
✔ 1. PMXJ
✘ 2. XUES
✘ 3. ROYM
✘ 4. HEOC

Question ID : **8401604949**
Status : **Answered**
Chosen Option : **2**

Q.34 **Eight persons Gitika, Urvika, Vaibhav, Payal, Tanmay, Leena, Arihant and Suraj live on eight different floors in a building. The floor is numbered from the bottom as first, second and so on till eighth. Gitika lives in the floor between Urvika and Vaibhav. Payal lives two floors below Tanmay. No one lives above Leena who lives five floors above Arihant. Suraj lives on the floor immediately below Payal. Vaibhav lives on some floor above Urvika. Who lives two floors below Arihant?**

Ans
✗ 1. Tanmay
✓ 2. Suraj
✗ 3. Urvika
✗ 4. Payal

Question ID : **8401604939**
Status : **Answered**
Chosen Option : **2**

Section : **Domain Knowledge**

Q.1 Which of the following options gives the correct correlation between the variables of rectangular and cylindrical coordinate systems, if x, y, z are variables in a rectangular coordinate system and p,ϕ, z are the variables in a cylindrical system?

Ans
✓ 1. $x = p\cos\phi,\ y = p\sin\phi$ and $z = z$
✗ 2. $x = p,\ y = p\cos\phi$ and $z = p\sin\phi$
✗ 3. $x = p\sin\phi,\ y = p\cos\phi$ and $z = z$
✗ 4. $x = p\cos\phi,\ y = p\sin\phi$ and $z = z\tan\phi$

Question ID : **8401605038**
Status : **Answered**
Chosen Option : **1**

Q.2 With the help of a $4\frac{1}{2}$ digit voltmeter, the largest possible reading is:

Ans
✗ 1. 99999
✗ 2. 49999
✓ 3. 19999
✗ 4. 10000

Question ID : **8401605035**
Status : **Answered**
Chosen Option : **3**

Q.3 **Polarisation is defined as the _____.**

Ans
✗ 1. Dipole moment per unit area
✗ 2. Dipole moment per ampere
✓ 3. Dipole moment per unit volume
✗ 4. Dipole moment per unit length

Question ID : **8401605048**
Status : **Answered**
Chosen Option : **3**

Q.4 **Infinite uniform line charges of 5 $_{n}$C/m lie along the positive and negative x and y axes in free space. Find electric field intensity (E) at P_A (0,0, 4).**

Ans
- ✔ 1. $45a_z$ V/m
- ✘ 2. $65a_z$ V/m
- ✘ 3. $85a_z$ V/m
- ✘ 4. $25a_z$ V/m

Question ID : **8401605041**
Status : **Answered**
Chosen Option : **2**

Q.5 **In a single-phase semi-converter, for continuous conduction, free-wheeling diode conducts for _____, if firing angle is α.**

Ans
- ✘ 1. π - α
- ✘ 2. π + α
- ✔ 3. α
- ✘ 4. π

Question ID : **8401605019**
Status : **Answered**
Chosen Option : **1**

Q.6 **If the percentage reactance of an element is 20% and the full load current is 40 A, then short circuit current will be _____, when only that element is in the circuit.**

Ans
- ✘ 1. 80 A
- ✔ 2. 200 A
- ✘ 3. 100 A
- ✘ 4. 40 A

Question ID : **8401605000**
Status : **Answered**
Chosen Option : **2**

Q.7 **Which of the following types of instruments is used for the standardisation of polar-type AC potentiometer?**

Ans
- ✘ 1. A moving coil instrument
- ✘ 2. An electrostatic instrument
- ✘ 3. A dynamometer instrument
- ✔ 4. A thermal instrument

Question ID : **8401605028**
Status : **Answered**
Chosen Option : **3**

Q.8 **In the field flux control method of DC motor speed control, _____ power and _____ torque is obtained for speeds above base speed.**

Ans
✗ 1. constant, constant
✗ 2. variable, variable
✗ 3. variable, constant
✓ 4. constant, variable

Question ID : **8401604993**
Status : **Answered**
Chosen Option : **3**

Q.9 **A synchronous generator is rated at 40 MVA, 10 kV and 50 Hz. The base impedance of the generator will be:**

Ans
✗ 1. 10 Ω
✗ 2. 5 Ω
✗ 3. 7.5 Ω
✓ 4. 2.5 Ω

Question ID : **8401605004**
Status : **Answered**
Chosen Option : **4**

Q.10 **In DC machines, the method of achieving good commutation with the help of interpoles is called _____.**

Ans
✗ 1. resistance commutation
✓ 2. voltage commutation
✗ 3. natural commutation
✗ 4. delayed commutation

Question ID : **8401604995**
Status : **Answered**
Chosen Option : **2**

Q.11 **Which of the following materials offers the largest value of dielectric constant?**

Ans
✗ 1. Air
✗ 2. Paper
✗ 3. Teflon
✓ 4. Silicon

Question ID : **8401605050**
Status : **Answered**
Chosen Option : **1**

Q.12 How many parallel circuits are formed in a four-point starter?

Ans
✗ 1. Four
✗ 2. Two
✓ 3. Three
✗ 4. One

Question ID : **8401604992**
Status : **Answered**
Chosen Option : **3**

Q.13 If the flux produced by one coil does not link the other coil, then the value of the coefficient of coupling will be _____.

Ans
✗ 1. infinity
✗ 2. between 0.5 and 1
✗ 3. unity
✓ 4. zero

Question ID : **8401604982**
Status : **Answered**
Chosen Option : **4**

Q.14 Identify whether the given statements are true or false.
1. Electric susceptibility is unitless.
2. In ferromagnetic materials, the relationship between polarisation and electric field intensity is nonlinear.

Ans
✗ 1. 1-False, 2-false
✓ 2. 1-True, 2-true
✗ 3. 1-True, 2-False
✗ 4. 1-False, 2-True

Question ID : **8401605049**
Status : **Answered**
Chosen Option : **2**

Q.15 In a simple coplanar network, there are 7 branches and 4 junctions. How many mesh currents are required for the solution of the network?

Ans
✗ 1. Six
✗ 2. Three
✓ 3. Four
✗ 4. Five

Question ID : **8401604971**
Status : **Answered**
Chosen Option : **3**

Q.16 **With reference to the skewing of the cage rotor of an induction motor, identify whether the given statements are true or false.**

1. Due to skewing noise is reduced during operation.
2. The locking tendency of the rotor is reduced.

Ans
✗ 1. 1-False, 2-False
✗ 2. 1-True, 2-False
✗ 3. 1-False, 2-True
✓ 4. 1-True, 2-True

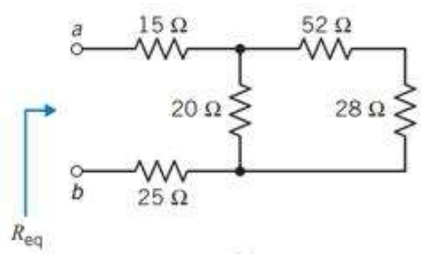
Question ID : **8401604988**
Status : **Answered**
Chosen Option : **3**

Q.17 **A single-phase full converter bridge has _____ SCRs.**

Ans
✗ 1. two
✗ 2. eight
✓ 3. four
✗ 4. one

Question ID : **8401605018**
Status : **Answered**
Chosen Option : **3**

Q.18 Find 'R_{eq}' in the given circuit.



Ans
✗ 1. 80 Ω
✗ 2. 140 Ω
✓ 3. 56 Ω
✗ 4. 60 Ω

Question ID : **8401604970**
Status : **Answered**
Chosen Option : **3**

Q.19 **In a single-phase transformer, the ratio of transformation is 2 and the secondary resistance is 0.24 Ω. Find the resistance of secondary in terms of primary.**

Ans
✗ 1. 0.6 Ω
✗ 2. 0.48 Ω
✗ 3. 0.12 Ω
✓ 4. 0.06 Ω

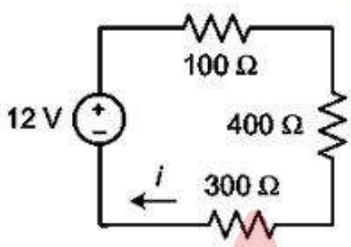
Question ID : **8401604986**
Status : **Answered**
Chosen Option : **4**

Q.20 **Mesh CANNOT be defined for _____ network.**

Ans
✗ 1. time invariant
✗ 2. time variant
✗ 3. planar
✓ 4. nonplanar

Question ID : **8401604972**
Status : **Answered**
Chosen Option : **4**

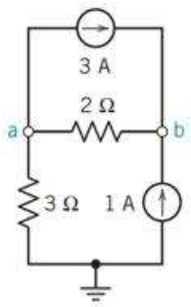
Q.21 Find current '*i*' in the given circuit.



Ans
✓ 1. 0.015 A
✗ 2. 0.15 A
✗ 3. 1.5 A
✗ 4. 15 A

Question ID : **8401604968**
Status : **Answered**
Chosen Option : **1**

Q.22 Determine the voltages at the node 'a' and node 'b' in the given network.



Ans
✗ 1. $V_a = 3$ V, $V_b = 3$ V
✗ 2. $V_a = 11$ V, $V_b = 3$ V
✗ 3. $V_a = 11$ V, $V_b = 11$ V
✓ 4. $V_a = 3$ V, $V_b = 11$ V

Question ID : **8401604976**
Status : **Answered**
Chosen Option : **4**

Q.23 **Modified McMurray half-bridge inverter is a _____ commutated, _____ source inverter.**

Ans
✗ 1. voltage, current
✓ 2. current, voltage
✗ 3. voltage, voltage
✗ 4. current, current

Question ID : **8401605024**
Status : **Answered**
Chosen Option : **2**

Q.24 **The volume charge density is measured in terms of _____.**

Ans
✗ 1. Coulombs per square meter
✓ 2. Coulombs per cubic meter
✗ 3. Coulombs per volt
✗ 4. Coulombs per meter

Question ID : **8401605040**
Status : **Answered**
Chosen Option : **2**

Q.25 **In a DC machine, the hysteresis losses are covered under the category of:**

Ans
✗ 1. brush losses
✓ 2. iron losses
✗ 3. mechanical losses
✗ 4. electrical losses

Question ID : **8401604991**
Status : **Answered**
Chosen Option : **2**

Q.26 **Which of the following statements about DC series motor is INCORRECT?**

Ans
- ✗ 1. It is a variable flux machine.
- ✓ 2. Its speed vs. armature current characteristic is a straight line.
- ✗ 3. Its speed is inversely proportional to the load current.
- ✗ 4. It must never run unloaded.

Question ID : **8401604994**
Status : **Answered**
Chosen Option : **2**

Q.27 **A conductor that connects the distribution sub-station to the area where power is to be distributed is known as _____.**

Ans
- ✓ 1. feeder
- ✗ 2. distributor
- ✗ 3. earth conductor
- ✗ 4. service mains

Question ID : **8401605007**
Status : **Answered**
Chosen Option : **1**

Q.28 **In a DC 2-wire feeder, the drop per feeder conductor is 2%. Find the transmission efficiency of the feeder.**

Ans
- ✗ 1. 99%
- ✗ 2. 98%
- ✓ 3. 96%
- ✗ 4. 94%

Question ID : **8401605010**
Status : **Answered**
Chosen Option : **2**

Q.29 **Which of the following is an example of symmetrical fault?**

Ans
- ✓ 1. L – L – L
- ✗ 2. L – L – G
- ✗ 3. L – G
- ✗ 4. L – L

Question ID : **8401604999**
Status : **Answered**
Chosen Option : **1**

Q.30 **For a series RLC resonance circuit, two half power frequencies are 36 kHz and 25 kHz, respectively. Find the resonant frequency.**

Ans
- ✔ 1. 30 kHz
- ✘ 2. 11 kHz
- ✘ 3. 36 kHz
- ✘ 4. 25 kHz

Question ID : **8401604978**
Status : **Answered**
Chosen Option : **1**

Q.31 **Identify whether the given statements related to choppers are true or false.**
1. Class A chopper is a step up/down chopper.
2. Saturable reactor is used in Morgan's chopper.

Ans
- ✔ 1. 1-False, 2-True
- ✘ 2. 1-False, 2-False
- ✘ 3. 1-True, 2-True
- ✘ 4. 1-True, 2-False

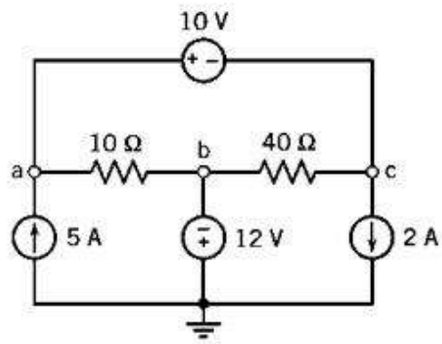
Question ID : **8401605023**
Status : **Answered**
Chosen Option : **2**

Q.32 **In case of a slip ring induction motor, external resistors are connected in the rotor circuit to _____ the starting torque and to _____ the starting current form the supply, respectively.**

Ans
- ✘ 1. decrease, decrease
- ✔ 2. increase, decrease
- ✘ 3. decrease, increase
- ✘ 4. increase, increase

Question ID : **8401604989**
Status : **Answered**
Chosen Option : **2**

Q.33 Find the voltage at node 'b' in the given circuit.



Ans

✗ 1. 2 V

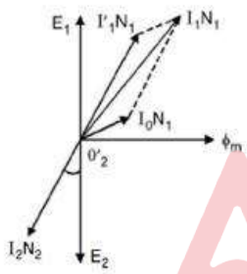
✗ 2. 10 V

✓ 3. −12 V

✗ 4. 12 V

Question ID : **8401604974**
Status : **Answered**
Chosen Option : **3**

Q.34 With reference to the given phasor diagram, current I_1 is the phasor sum of:



Ans

✗ 1. I'_1 and I_2

✗ 2. I_0 , I'_1 and I_2

✓ 3. I'_1 and I_0

✗ 4. I_0 and I_2

Question ID : **8401604985**
Status : **Answered**
Chosen Option : **3**

Q.35 **The equipotential surfaces in the potential field of a point charge are _____ centred at the point charge.**

Ans
✗ 1. circles
✗ 2. cones
✗ 3. squares
✓ 4. spheres

Question ID : **8401605045**
Status : **Answered**
Chosen Option : **4**

Q.36 **Which of the following statements related to basic series inverter is INCORRECT?**

Ans
✓ 1. Only one SCR is required for the entire operation.
✗ 2. Ratings of commutating components are higher as compared to parallel inverter.
✗ 3. The size of commutating components is higher as compared to parallel inverter.
✗ 4. Commutating components are connected in series with load.

Question ID : **8401605025**
Status : **Answered**
Chosen Option : **2**

Q.37 **The peak reverse recovery current of a power diode depends on _____.**

Ans
✗ 1. peak inverse voltage
✗ 2. temperature
✓ 3. rate of current flow and storage charge
✗ 4. storage charge

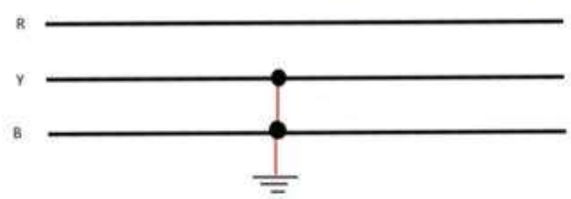
Question ID : **8401605013**
Status : **Answered**
Chosen Option : **4**

Q.38 **A 1 mA ammeter has a resistance of 100 Ω. Calculate the shunt resistance required to convert it into a 1 A ammeter.**

Ans
✗ 1. 10000 Ω
✓ 2. 0.1001 Ω
✗ 3. 0.01 Ω
✗ 4. 1000 Ω

Question ID : **8401605034**
Status : **Answered**
Chosen Option : **2**

Q.39 Which fault is indicated in the given diagram?



Ans
✗ 1. Three-phase to ground fault
✗ 2. Line to ground fault
✗ 3. Line to line fault
✓ 4. Double line to ground fault

Question ID : **8401605001**
Status : **Answered**
Chosen Option : **4**

Q.40 **A 350 km line is considered as a:**

Ans
✗ 1. short line
✗ 2. medium line
✓ 3. long line
✗ 4. ground line

Question ID : **8401605006**
Status : **Answered**
Chosen Option : **3**

Q.41 Find div D at the origin, if $D = e^{-x} \sin y \, \boldsymbol{a}_x - e^{-x} \cos y \, \boldsymbol{a}_y + 2z \, \boldsymbol{a}_z$.

Ans
✓ 1. 2
✗ 2. 0
✗ 3. 4
✗ 4. 1

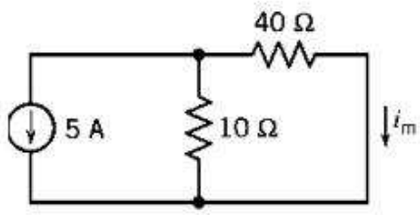
Question ID : **8401605044**
Status : **Answered**
Chosen Option : **1**

Q.42 **Which of the following is a 3-layer, 2-terminal device?**

Ans
✗ 1. TRIAC
✗ 2. SCR
✗ 3. GTO
✓ 4. Power diode

Question ID : **8401605012**
Status : **Answered**
Chosen Option : **4**

Q.43 Find the current 'i_m' in the given circuit.



Ans
- ✗ 1. 4 A
- ✓ 2. −1 A
- ✗ 3. −4 A
- ✗ 4. 1 A

Question ID : **8401604969**
Status : **Answered**
Chosen Option : **2**

Q.44 **Identify whether the given statements are true or false.**
1. The curl of any vector is a scalar.
2. While using paddle wheel as a curl meter, no rotation of wheel means no curl.

Ans
- ✗ 1. 1-True, 2-True
- ✗ 2. 1-True, 2-False
- ✗ 3. 1-False, 2-False
- ✓ 4. 1-False, 2-True

Question ID : **8401605046**
Status : **Answered**
Chosen Option : **4**

Q.45 **How many coordinate axes, mutually at right angles to each other, are set up in the Cartesian coordinate system?**

Ans
- ✗ 1. One
- ✗ 2. Four
- ✓ 3. Three
- ✗ 4. Two

Question ID : **8401605037**
Status : **Answered**
Chosen Option : **3**

Q.46 A step-up chopper is supplied through a source of 200 V and operated at a duty cycle of 50%. Find the average output voltage of the chopper.

Ans
✔ 1. 400 V
✘ 2. 300 V
✘ 3. 600 V
✘ 4. 800 V

Question ID : **8401605022**
Status : **Answered**
Chosen Option : **1**

Q.47 The divergence of the vector flux density A is the outflow of flux from a small _____ surface per unit volume as the volume _____.

Ans
✔ 1. closed, shrinks to zero
✘ 2. open, shrinks to zero
✘ 3. closed, expands to infinity
✘ 4. open, expands to infinity

Question ID : **8401605042**
Status : **Answered**
Chosen Option : **4**

Q.48 What is the full form of RBSOA with reference to IGBT?

Ans
✘ 1. Reverse breakdown static operation area
✘ 2. Reverse blocking state of amplification
✘ 3. Reverse bias saturation of current
✔ 4. Reverse bias safe operating area

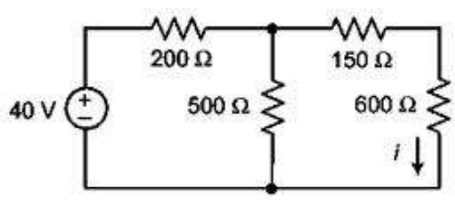
Question ID : **8401605016**
Status : **Answered**
Chosen Option : **4**

Q.49 Calculate the sensitivity of a 0-1 mA meter.

Ans
✘ 1. 1 Ω/V
✘ 2. 100 Ω/V
✘ 3. 10 Ω/V
✔ 4. 1 kΩ/V

Question ID : **8401605036**
Status : **Answered**
Chosen Option : **4**

Q.50 Find the current 'i' in the given circuit.



Ans
✗ 1. 80 mA
✗ 2. 8 mA
✓ 3. 32 mA
✗ 4. 16 mA

Question ID : **8401604975**
Status : **Answered**
Chosen Option : **4**

Q.51 **Which of the following methods of speed control CANNOT be used for squirrel cage induction motor?**

Ans
✗ 1. Stator voltage and stator frequency control
✗ 2. Stator voltage control
✗ 3. Stator frequency control
✓ 4. Slip power recovery control

Question ID : **8401604997**
Status : **Answered**
Chosen Option : **3**

Q.52 **Which of the following types of instruments is used only for AC measurements?**

Ans
✗ 1. Hot wire type
✗ 2. Thermocouple type
✗ 3. PMMC type
✓ 4. Induction type

Question ID : **8401605032**
Status : **Answered**
Chosen Option : **4**

Q.53 **Type C chopper is a combination of _____ choppers.**

Ans
✗ 1. Type B and Type D
✓ 2. Type A and Type B
✗ 3. Type D and Type A
✗ 4. Type D and Type E

Question ID : **8401605021**
Status : **Answered**
Chosen Option : **2**

Q.54 **What will be the effect on the force between two charged particles, if the distance between them is halved and the charge on both particles is kept constant?**

Ans
- ✗ 1. Force will be doubled
- ✓ 2. Force will be four times
- ✗ 3. Force will remain same
- ✗ 4. Force will be halved

Question ID : **8401605039**
Status : **Answered**
Chosen Option : **2**

Q.55 **A 20 mH coil is coupled with a coil of 5 mH. What could be the maximum possible value of mutual inductance?**

Ans
- ✓ 1. 10 mH
- ✗ 2. 15 mH
- ✗ 3. 5 mH
- ✗ 4. 20 mH

Question ID : **8401604981**
Status : **Answered**
Chosen Option : **1**

Q.56 **The transfer characteristics of IGBT is a plot of _____ versus _____.**

Ans
- ✗ 1. emitter current, collector-gate voltage
- ✗ 2. gate current, collector-gate voltage
- ✗ 3. collector-emitter voltage, gate current
- ✓ 4. collector current, gate-emitter voltage

Question ID : **8401605017**
Status : **Answered**
Chosen Option : **2**

Q.57 **In a magnetic circuit, for a coil having a single turn, the flux linkage is equal to _____.**

Ans
- ✓ 1. total flux
- ✗ 2. twice the total flux
- ✗ 3. half of the total flux
- ✗ 4. zero

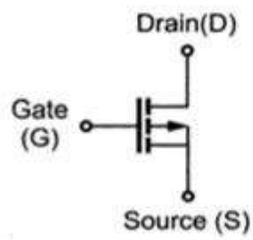
Question ID : **8401605051**
Status : **Answered**
Chosen Option : **1**

Q.58 **'The electric flux passing through any closed surface is equal to the total charge enclosed by the surface.'**
This statement is known as _____.

Ans
✗ 1. Biot-Savart's law
✗ 2. Coulomb's law
✗ 3. Faraday's law
✓ 4. Gauss's law

Question ID : **8401605043**
Status : **Answered**
Chosen Option : **4**

Q.59 For which power device is the given symbol used?



Ans
✓ 1. p-channel MOSFET
✗ 2. n-channel MOSFET
✗ 3. n-channel IGBT
✗ 4. p-channel IGBT

Question ID : **8401605014**
Status : **Answered**
Chosen Option : **1**

Q.60 **A 1-phase transformer has 400 primary and 1000 secondary turns. If the primary is connected to a 500 V, 50 Hz supply, find the secondary voltage.**

Ans
✗ 1. 250 V
✗ 2. 2000 V
✗ 3. 200 V
✓ 4. 1250 V

Question ID : **8401604984**
Status : **Answered**
Chosen Option : **4**

Q.61 **Ampere's circuital law involves finding the _____.**

Ans
✗ 1. total voltage enclosed by a closed path
✓ 2. total current enclosed by a closed path
✗ 3. total flux in a magnetic circuit
✗ 4. total charge enclosed by a closed surface

Question ID : **8401605047**
Status : **Answered**
Chosen Option : **2**

Q.62 **A uniform 2-wire DC distributor is 200 m long, and it is loaded with 2 A/m. The resistance of a single wire is 0.3 Ω/km. Calculate the maximum voltage drop if the distributor is fed from one end.**

Ans
✗ 1. 2 V
✓ 2. 12 V
✗ 3. 8 V
✗ 4. 4 V

Question ID : **8401605011**
Status : **Answered**
Chosen Option : **2**

Q.63 **In a single-phase full converter, for discontinuous load current and extinction angle β > π, each SCR conducts for _____, if firing angle is α.**

Ans
✗ 1. β + α
✗ 2. β
✗ 3. A
✓ 4. β - α

Question ID : **8401605020**
Status : **Answered**
Chosen Option : **4**

Q.64 **PMMC instrument can be used as a DC voltmeter without series resistance in the range of _____.**

Ans
✗ 1. 0 to 100 V
✗ 2. 0 to 10 mV
✓ 3. 0 to 100 mV
✗ 4. 0 to 10 V

Question ID : **8401605033**
Status : **Answered**
Chosen Option : **3**

Q.65 **If the percentage reactance of the system up to the fault point is 20% and the base kVA is 10000, then short-circuit kVA is _____.**

Ans
✗ 1. 20000
✓ 2. 50000
✗ 3. 10000
✗ 4. 40000

Question ID : **8401605002**
Status : **Answered**
Chosen Option : **2**

Q.66 Super node is considered when there is a _____ between two nodes.

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

Question ID : **8401604973**
Status : **Answered**
Chosen Option : **2**

Q.67 Per unit value for any quantity =

Ans
✗ 1. Actual value − Base value
✗ 2. Actual value × Base value
✗ 3. Actual value + Base value
✓ 4. Actual value ÷ Base value

Question ID : **8401605005**
Status : **Answered**
Chosen Option : **4**

Q.68 A DC 2-wire feeder supplies a constant load with a sending-end voltage of 220 V. Calculate the saving in copper if this voltage is doubled with power transmitted remaining the same.

Ans
✗ 1. 75%
✗ 2. 100%
✓ 3. 50%
✗ 4. 25%

Question ID : **8401605009**
Status : **Answered**
Chosen Option : **4**

Q.69 Which of the following is NOT a valid voltage level for primary distribution?

Ans
✗ 1. 6.6 kV
✗ 2. 11 kV
✓ 3. 66 kV
✗ 4. 3.3 kV

Question ID : **8401605008**
Status : **Answered**
Chosen Option : **3**

Q.70 **A power MOSFET is a _____, _____ controlled and _____carrier device.**

Ans
✗ 1. bipolar, current, majority
✓ 2. unipolar, voltage, majority
✗ 3. bipolar, current, minority
✗ 4. unipolar, voltage, minority

Question ID : **8401605015**
Status : **Answered**
Chosen Option : **2**

Q.71 **In a transmission system, the cost of the conductor is proportional to the _____ of the conductor.**

Ans
✓ 1. area
✗ 2. colour
✗ 3. smoothness of the surface
✗ 4. temperature

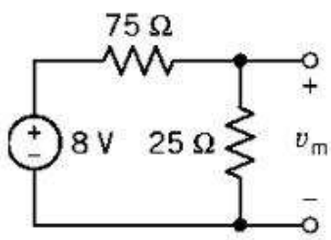
Question ID : **8401604998**
Status : **Answered**
Chosen Option : **1**

Q.72 **An inductor of 0.1 H is connected in series with an inductor of 0.4 H. If the coefficient of coupling is 0.6, then find the mutual inductance between them.**

Ans
✓ 1. 0.12 H
✗ 2. 0.5 H
✗ 3. 0.6 H
✗ 4. 0.3 H

Question ID : **8401604979**
Status : **Answered**
Chosen Option : **1**

Q.73 Find 'V_m' in the given circuit.



Ans
✗ 1. 8 V
✓ 2. 2 V
✗ 3. 4 V
✗ 4. 6 V

Question ID : **8401604967**
Status : **Answered**
Chosen Option : **2**

Q.74 **A single-phase full bridge inverter has a DC voltage source of 230 V. Find the rms value of the fundamental component of output voltage.**

Ans
✗ 1. 290 V
✓ 2. 207 V
✗ 3. 230 V
✗ 4. 103 V

Question ID : **8401605026**
Status : **Answered**
Chosen Option : **4**

Q.75 **A voltmeter used for measurement of line voltage of 230 V indicates 232 V. Find the static error.**

Ans
✗ 1. -2 V
✗ 2. 1 V
✗ 3. -1 V
✓ 4. 2 V

Question ID : **8401605031**
Status : **Answered**
Chosen Option : **4**

Q.76 **Identify whether the given statements with reference to DC machines are true or false.**

1. Swinburne's test cannot be performed on a DC series motor.
2. Swinburne's test is a non-loading test.

Ans
✗ 1. 1-False, 2-True
✗ 2. 1-False, 2-False
✓ 3. 1-True, 2-True
✗ 4. 1-True, 2-False

Question ID : **8401604996**
Status : **Answered**
Chosen Option : **1**

Q.77 **In a 3-phase, 4-wire unbalanced system, the magnitude of zero sequence current is _____ the current in the neutral wire.**

Ans
✗ 1. half of
✓ 2. one-third
✗ 3. twice
✗ 4. three times

Question ID : **8401605003**
Status : **Answered**
Chosen Option : **4**

Q.78 **In a potentiometer circuit, a cell of 1.5 V EMF gives balance point at 30 cm length of wire. If another cell of 2.5 V EMF replaces the first cell, then at what length of the wire will the balance point occur?**

Ans
✔ 1. 50 cm
✘ 2. 30 cm
✘ 3. 60 cm
✘ 4. 40 cm

Question ID : **8401605029**
Status : **Answered**
Chosen Option : **1**

Q.79 **In a series RLC resonance circuit, at resonance the current drawn by the circuit is _____.**

Ans
✘ 1. zero
✘ 2. undefined
✘ 3. minimum
✔ 4. maximum

Question ID : **8401604977**
Status : **Answered**
Chosen Option : **4**

Q.80 **Determine the regulation of a transformer in which ohmic loss is 1% of the output and the reactance drop is 5% of the voltage when power factor is unity.**

Ans
✔ 1. 1%
✘ 2. 3%
✘ 3. 4%
✘ 4. 2%

Question ID : **8401604987**
Status : **Answered**
Chosen Option : **1**

Q.81 **A slide wire is used for the measurement of current in a circuit. The voltage across a standard resistance of 1.0 Ω is balanced at 75 cm. Find the magnitude of the current if the standard cell having an EMF of 2 V is balanced at 50 cm.**

Ans
✘ 1. 5 A
✘ 2. 2 A
✘ 3. 4 A
✔ 4. 3 A

Question ID : **8401605030**
Status : **Answered**
Chosen Option : **4**

Q.82 **Two inductors, each having self-inductance of 1 H, are connected in parallel in such a way that their fluxes act in the same direction. If the mutual inductance is 0.5 H, then find the equivalent inductance of the parallel connection.**

Ans
✗ 1. 2.25 H
✓ 2. 0.75 H
✗ 3. 1.75 H
✗ 4. 1.25 H

Question ID : **8401604980**
Status : **Answered**
Chosen Option : **2**

Q.83 **A 746 kW, 3-phase, 50 Hz, 16-pole induction motor has a rotor impedance of (0.02 + j 0.15) Ω at standstill. Full load torque is obtained at 360 rpm. Calculate the speed at which maximum torque occurs.**

Ans
✗ 1. 375 rpm
✗ 2. 350 rpm
✓ 3. 325 rpm
✗ 4. 360 rpm

Question ID : **8401604990**
Status : **Answered**
Chosen Option : **3**

Q.84 **Which of the following is NOT an application of DC potentiometer?**

Ans
✗ 1. Measurement of resistance
✗ 2. Measurement of current
✗ 3. Measurement of power
✓ 4. Measurement of self-inductance

Question ID : **8401605027**
Status : **Answered**
Chosen Option : **3**

Q.85 **If a circuit load impedance is (25 – j25), find the power factor.**

Ans
✗ 1. 1
✗ 2. 0
✓ 3. 0.707
✗ 4. 0.5

Question ID : **8401604983**
Status : **Answered**
Chosen Option : **3**