



# हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड

रजिस्टर्ड ऑफिस : 17, जमशेदजी टाटा रोड, मुंबई - 400 020.

## HINDUSTAN PETROLEUM CORPORATION LIMITED

REGISTERED OFFICE : 17, JAMSHEDJI TATA ROAD, MUMBAI - 400 020.

Participant ID	
Participant Name	
Test Center Name	
Test Date	11/08/2021
Test Time	2:00 PM - 4:30 PM
Subject	ELECTRICAL ENGINEER

### Section : English Language

Q.1 Which part of the sentence contains an error?

I did not want India to loose the match that day.

- Ans
- 1. want India to
  - 2. loose the match
  - 3. I did not
  - 4. that day

Question ID : 50389010969  
Status : Answered  
Chosen Option : 4

Q.2 Choose the correct preposition. You must cover your face \_\_\_\_\_ a mask when you step out.

- Ans
- 1. through
  - 2. Of
  - 3. with
  - 4. in

Question ID : 50389010955  
Status : Answered  
Chosen Option : 3

Q.3 Choose the sentence which is grammatically correct.

- Ans
- 1. many tourists go to winters in Goa
  - 2. in many winters tourists go to Goa
  - 3. many Goa go to tourists in winters
  - 4. many tourists go to Goa in winters

Question ID : 50389010971  
Status : Answered  
Chosen Option : 4

Q.4 Choose the word which can be used in place of the words underlined.

I avoid lifts because of my fear of closed and confined spaces.

- Ans  1. Claustrophobia  
 2. Cynophobia  
 3. Xenophobia  
 4. Acrophobia

Question ID : 50389010964  
Status : Answered  
Chosen Option : 3

Q.5 Select the misspelt word.

- Ans  1. Decorator  
 2. mentor  
 3. Janiter  
 4. Calendar

Question ID : 50389010966  
Status : Answered  
Chosen Option : 4

Q.6 Pick the most appropriate synonym of:

fundamental

- Ans  1. Basic  
 2. transparent  
 3. minor  
 4. advanced

Question ID : 50389010961  
Status : Answered  
Chosen Option : 1

Q.7 Which pair of conjunctions can be used for this sentence?

\_\_\_\_\_ it rains, the weather will remain hot.

- Ans  1. so  
 2. Unless  
 3. from  
 4. whereas

Question ID : 50389010957  
Status : Answered  
Chosen Option : 2

Q.8 Choose the most appropriate option to complete the sentence.

Messages are passed \_\_\_\_\_ the brain and rest of the body through the spinal cord.

- Ans
- 1. Among
  - 2. between
  - 3. at
  - 4. with

Question ID : 50389010956  
Status : Answered  
Chosen Option : 2

Q.9 Fill in the blank using the most appropriate phrase.

Apple company keeps \_\_\_\_\_ new models of phones in the global market every now and then.

- Ans
- 1. Bringing down
  - 2. Bringing out
  - 3. Bringing off
  - 4. Bringing with

Question ID : 50389010968  
Status : Answered  
Chosen Option : 2

Q.10 Select the most appropriate option to complete the sentence.

My mother \_\_\_\_\_ in 1990.

- Ans
- 1. Had being graduated
  - 2. Was being graduated
  - 3. Has had graduated
  - 4. Graduated

Question ID : 50389010959  
Status : Answered  
Chosen Option : 4

Q.11 Select the most appropriate option to complete the sentence. I have \_\_\_\_\_ homework to do than my sister.

- Ans
- 1. Least
  - 2. Little
  - 3. Less
  - 4. More less

Question ID : 50389010958  
Status : Answered  
Chosen Option : 1

Q.12 Which part of the sentence contains an error?

Each and every person attending the meeting want to give a feedback.

- Ans
- 1. attending the meeting
  - 2. give a feedback
  - 3. Each and every person
  - 4. want to

Question ID : 50389010970  
Status : Answered  
Chosen Option : 4

Q.13 Choose the appropriate words to complete the phrase. Very soon, I am going to run \_\_\_\_\_ money.

- Ans
- 1. Short for
  - 2. Short to
  - 3. Short in
  - 4. short of

Question ID : 50389010967  
Status : Answered  
Chosen Option : 4

Q.14 Pick the most appropriate antonym of:

blessing

- Ans
- 1. blight
  - 2. Grace
  - 3. boon
  - 4. godsend

Question ID : 50389010963  
Status : Answered  
Chosen Option : 2

Q.15 Select the most appropriate option to complete the sentence.

This is \_\_\_\_\_ car and you should park it over \_\_\_\_\_.

- Ans
- 1. There, there
  - 2. Their, their
  - 3. Their, there
  - 4. There, their

Question ID : 50389010960  
Status : Answered  
Chosen Option : 3

Q.16 Select the misspelt word.

- Ans  1. friend  
 2. mischief  
 3. Vein  
 4. Sliegh

Question ID : 50389010965  
Status : Answered  
Chosen Option : 4

Q.17 Pick the most appropriate synonym of:

despise

- Ans  1. hate  
 2. Cherish  
 3. Condone  
 4. appreciate

Question ID : 50389010962  
Status : Answered  
Chosen Option : 1

Section : Quantitative Aptitude

Q.1 Simplify the following expression.

$$\frac{{}^3\sqrt{\frac{729}{2197}} \times {}^3\sqrt{\frac{512}{1331}}}{{}^3\sqrt{343}}$$

- Ans  1.  $9\frac{27}{143}$   
 2.  $\frac{72}{1001}$   
 3.  $3\frac{75}{143}$   
 4.  $\frac{216}{1001}$

Question ID : 50389010976  
Status : Answered  
Chosen Option : 1

Q.2 A sum of Rs. 64800 was invested by Ramesh and Karan together to start a small business. They earned a profit of Rs. 13500 at the end of the year. Ramesh received Rs. 7500 as his share in the profit. If profit was divided in the ratio of the sums invested, how much money (in Rs.) was invested by Karan?

- Ans
- 1. 28000
  - 2. 36000
  - 3. 28800
  - 4. 32400

Question ID : 50389010982

Status : Answered

Chosen Option : 3

Q.3 Sum of the squares of two natural numbers is 97. If numbers differ by 5, then what is the positive difference in their squares?

- Ans
- 1. 75
  - 2. 85
  - 3. 65
  - 4. 55

Question ID : 50389011004

Status : Answered

Chosen Option : 3

Q.4 If  $p = 4$  and  $q = 3$ , then find the value of  $(2p - 3q)^{2p-q} \div (3p - 2q)^{p-2q}$ .

- Ans
- 1.  $\frac{5}{12}$
  - 2.  $-\frac{5}{36}$
  - 3. 36
  - 4. -36

Question ID : 50389010974

Status : Answered

Chosen Option : 4

Q.5 Simplify the following expression.

$$\frac{9(12+x)(12-x)^3}{144-x^2} - 2\sqrt{\frac{4x-28}{x-7}}$$

- Ans
- 1.  $40 + 3x$
  - 2.  $32 - 3x$
  - 3.  $40 - 3x$
  - 4.  $34 - 3x$

Question ID : 50389010977

Status : Answered

Chosen Option : 3

Q.6 A can do a work in 6 days, B and C working together can do it in 4 days, A and C working together can do it in 3 days. In how many days B alone can do the work?

- Ans
- 1. 14
  - 2. 12
  - 3. 10
  - 4. 13

Question ID : 50389010990

Status : Answered

Chosen Option : 2

Q.7 The average monthly salary of a group of 15 persons is Rs. 62500. Three new persons join the group whose monthly salaries are Rs. 2000, Rs. 1200 and Rs. 1300 respectively more than the average salary of the initial group. What is the average monthly salary of the new group (in Rs.)?

- Ans
- 1. 63700
  - 2. 64500
  - 3. 63800
  - 4. 62750

Question ID : 50389010996

Status : Answered

Chosen Option : 2

Q.8 The selling price of an article is  $\frac{8}{5}$  times of its cost price. Find the profit percentage.

- Ans
- 1. 45
  - 2. 55
  - 3. 65
  - 4. 60

Question ID : 50389010991  
Status : Answered  
Chosen Option : 4

Q.9 Two trains take 2 minutes to cross each other when running in the same direction. They take 30 seconds to cross each other when running in opposite directions. Find the ratio of the speed of the faster train to that of the slower train.

- Ans
- 1. 3:2
  - 2. 5:3
  - 3. 5:4
  - 4. 4:3

Question ID : 50389010987  
Status : Answered  
Chosen Option : 3

Q.10 Sum of the digits of a 2-digit number is 7. If number obtained by interchanging the digits is 9 more than the original number, then what is the sum of the squares of the digits of the number?

- Ans
- 1. 49
  - 2. 37
  - 3. 25
  - 4. 29

Question ID : 50389011003  
Status : Answered  
Chosen Option : 3

Q.11 Subtract the reciprocal of the product of the numbers  $2\frac{1}{3}$ ,  $1\frac{1}{5}$ ,  $\frac{3}{8}$ ,  $1\frac{2}{7}$ ,  $4\frac{2}{7}$ , 9 from  $\frac{1}{5}$ .

- Ans
- 1.  $\frac{5}{27}$
  - 2.  $\frac{2}{135}$
  - 3.  $\frac{27}{5}$
  - 4.  $-67\frac{3}{10}$

Question ID : 50389010980  
Status : Answered  
Chosen Option : 1



Q.12 Sunayana spent 0.05 part of her savings in Stocks, 0.4 part in Fixed Deposits, 0.4 part amounting to Rs. 36000 in gold ornaments and remaining she kept as cash. How much cash (in Rs.) has she kept?

- Ans
- 1. 13850
  - 2. 12745
  - 3. 13500
  - 4. 13000

Question ID : 50389010979  
Status : Answered  
Chosen Option : 3

Q.13 A trader usually sells his goods at 40 percent profit. However, during off season, he reduces his selling price by 20 percent. What is his reduced profit percentage?

- Ans
- 1. 15
  - 2. 18
  - 3. 12
  - 4. 16

Question ID : 50389010993  
Status : Answered  
Chosen Option : 3

Q.14 Sumit borrowed certain sum on simple interest at 6 percent per annum for the first 1st year, at 7 percent for the next 2 years, at 8 percent for the next 3 years and at 10 percent for the period beyond 6 years. If he pays Rs. 3200 as total interest at the end of 8 years, then what was the sum (in Rs.) that he borrowed?

- Ans
- 1. 4800
  - 2. 5000
  - 3. 5200
  - 4. 4850

Question ID : 50389010997  
Status : Answered  
Chosen Option : 1

Q.15 A sum of Rs. 34000 is given to A and B in such a way that three-fifth of share of A is equal to one-fourth of share of B. How much more money (in Rs.) B receives in comparison to A?

- Ans
- 1. 24000
  - 2. 10000
  - 3. 14000
  - 4. 17000

Question ID : 50389010981  
Status : Answered  
Chosen Option : 3

Q.16 Length and breadth of a rectangle are 5 cm and 3 cm. What is the area of that square (in sq. cm) which has the perimeter same as that of the rectangle?

- Ans
- 1. 9
  - 2. 16
  - 3. 10.24
  - 4. 12.25

Question ID : 50389010999

Status : Answered

Chosen Option : 2

Q.17 On a certain sum, difference between the interests when interest is compounded 4-monthly and when compounded semi-annually at 12 percent per annum in 1 year is Rs. 632. What is the sum (in Rs.)?

- Ans
- 1. 520000
  - 2. 505000
  - 3. 480000
  - 4. 500000

Question ID : 50389010998

Status : Answered

Chosen Option : 3

Q.18 A can do a work in 8 days working 10 hours a day. B can do the same work in 10 days working 7 hours a day. How many days will they take to complete the work if they work together for 8 hours a day?

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

Question ID : 50389010989

Status : Answered

Chosen Option : 1

Q.19 Find the smallest number which when divided by 8, 7 and 6 leave remainders 6, 5 and 4 respectively.

- Ans
- 1. 166
  - 2. 163
  - 3. 162
  - 4. 170

Question ID : 50389010975

Status : Answered

Chosen Option : 1

**Q.20** Following table shows the earning (in Rs. 1000) of 5 persons A, B, C, D and E over the months.  
What was the average earning (in Rs.) of D over the months?

Month/ Persons	March	April	May	June	July
A	24.2	25.5	25.8	26	26.5
B	23.5	24.2	25.5	27	26.8
C	25.5	24.8	26.5	24	28.2
D	24.3	24.7	25.2	27	28.8
E	25	26.9	27.6	27.5	26.2

- Ans
- 1. 26100
  - 2. 25200
  - 3. 25750
  - 4. 26000

Question ID : 50389011005  
Status : Answered  
Chosen Option : 4

**Q.21** Total monthly salary of A and B is Rs. 73500. If A gets 80 percent more than B, then how much (in Rs.) is A paid monthly?

- Ans
- 1. 66150
  - 2. 26250
  - 3. 47250
  - 4. 52000

Question ID : 50389010985  
Status : Answered  
Chosen Option : 4

**Q.22** A 250 m long train crosses a platform of equal length as of the train in 30 seconds. What is the speed of the train in km/h?

- Ans
- 1. 50
  - 2. 60
  - 3. 30
  - 4. 54

Question ID : 50389010986  
Status : Answered  
Chosen Option : 3

Q.23 The average weight of some students in a group is 42 kg. If 8 students having average weight 44 kg leave the group and 3 students having average weight 48.25 kg join the group, the average weight of the new group is 50 g more than that of the original group. How many students were there in the group initially?

- Ans
- 1. 54
  - 2. 60
  - 3. 55
  - 4. 58

Question ID : 50389010995  
Status : Answered  
Chosen Option : 4

Q.24 Six men can do a work in 6 days. How many days will 4 men take to do one-third of the work?

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

Question ID : 50389010988  
Status : Answered  
Chosen Option : 2

Q.25 A wall with dimensions 30 m × 0.4 m × 4 m is built with bricks of dimensions 25 cm × 16 cm × 10 cm. If one-eighth of the wall is mortar, then what is the cost of bricks used (in Rs.) at the rate of Rs. 6 per brick?

- Ans
- 1. 60000
  - 2. 52500
  - 3. 63000
  - 4. 62000

Question ID : 50389011000  
Status : Answered  
Chosen Option : 3

Q.26 Simplify the following expression.

$$\frac{(0.235+0.325+7.05-0.401)}{0.5-0.05}$$

- Ans
- 1. 160.2
  - 2. 16.55
  - 3. 16.02
  - 4. 16.04

Question ID : 50389010978  
Status : Answered  
Chosen Option : 3

Q.27 A shopkeeper earns a profit of 25 percent after allowing 25 percent discount. Find his profit percentage if he allows only 16 percent discount.

- Ans
- 1. 32
  - 2. 42
  - 3. 40
  - 4.  $28\frac{4}{7}$

Question ID : 50389010992  
Status : Answered  
Chosen Option : 2

Q.28 If  $x^4 - 1 = 2400, y^4 + 1 = 4097, x, y > 0$  find the value of  $y^3 - x^3$ .

- Ans
- 1. 169
  - 2. 195
  - 3. 15
  - 4. 855

Question ID : 50389010973  
Status : Answered  
Chosen Option : 1

Q.29 Sum of two numbers is 53. If the numbers differ by 7, then what is the product of these two numbers?

- Ans
- 1. 690
  - 2. 638
  - 3. 696
  - 4. 744

Question ID : 50389011002  
Status : Answered  
Chosen Option : 3

**Q.30** If two numbers are in the ratio  $\frac{1}{4}:\frac{1}{5}$ , then by what percentage is the second number less than the first number?

- Ans**
- 1. 28
  - 2. 25
  - 3. 30
  - 4. 20

Question ID : 50389010984  
Status : Answered  
Chosen Option : 2

**Q.31** The average of 32 numbers is 29. If two numbers 24 and 16 are removed, then what is the average of the remaining numbers?

- Ans**
- 1. 29.6
  - 2. 27
  - 3. 29
  - 4. 29.8

Question ID : 50389010994  
Status : Answered  
Chosen Option : 1

**Q.32** How many numbers are there between 20 and 50 which are divisible by 3 or have 3 as its digit?

- Ans**
- 1. 10
  - 2. 16
  - 3. 18
  - 4. 11

Question ID : 50389010972  
Status : Answered  
Chosen Option : 2

**Q.33** Curved surface area and volume of a cylinder are 3168 sq. cm and 22176 cu. cm. What is the height of the cylinder (in cm)?

Use  $\pi = \frac{22}{7}$

- Ans**
- 1. 32
  - 2. 32.5
  - 3. 36
  - 4. 34

Question ID : 50389011001  
Status : Answered  
Chosen Option : 2

Q.34 A box contains 50 sweets (Laddu). For 600 sweets (Laddu) how many boxes are required?

- Ans
- 1. 15
  - 2. 10
  - 3. 12
  - 4. 11

Question ID : 50389010983  
Status : Answered  
Chosen Option : 3

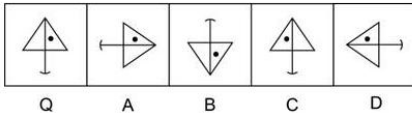
Section : Intellectual Potential Test

Q.1 माया, बाबू की पत्नी है। जया और दया सगी बहनें हैं। अजय, दया के पति का भाई (जेठ/देवर) है। सुजय, बाबू का बेटा और अजय का इकलौता भाई है। दया का माया से क्या संबंध है?

- Ans
- 1. साली/भाभी/देवरानी/ननद/सलहज/पतोहू
  - 2. सास
  - 3. बहू
  - 4. बेटी

Question ID : 50389011025  
Status : Answered  
Chosen Option : 3

Q.2 Three out of the following figures (A, B, C and D) are different from the question figure Q. Select the option that is similar to the question figure Q.



- Ans
- 1. B
  - 2. C
  - 3. D
  - 4. A

Question ID : 50389011039  
Status : Answered  
Chosen Option : 3

Q.3 Select the option that is related to the third term in the same way as the second term is related to the first term.

Cow : Calf :: Lion : ?

- Ans
- 1. Puppy
  - 2. Lioness
  - 3. Simba
  - 4. Cub

Question ID : 50389011006  
Status : Answered  
Chosen Option : 4

Q.4 Mary and Lily are sisters. David is Mary's son. Patricia is David's only daughter. How is Mary related to Patricia?

- Ans  1. Grandmother  
 2. Granddaughter  
 3. Daughter  
 4. Mother

Question ID : 50389011023  
Status : Answered  
Chosen Option : 1

Q.5 उस विकल्प का चयन करें जो नीचे दिए गए युग्म के समान है।

कार : फ़ॉर्मूला वन (Car : Formula One)

- Ans  1. विश्व कप : साइकिल (World Cup : Bicycle)  
 2. घोड़ा : डर्बी (Horse : Derby)  
 3. नौका : पाल-नौका (Boat : Yacht)  
 4. शौकिया मोटरसाइकिल चालन : मोटरसाइकिल (Leisure biking : Motorcycle)

Question ID : 50389011022  
Status : Answered  
Chosen Option : 2

Q.6 Select the number that will come next in the number series.

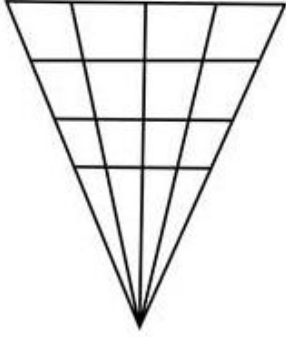
2, 3, 6, 11, 18, ?

- Ans  1. 21  
 2. 24  
 3. 27  
 4. 30

Question ID : 50389011027  
Status : Answered  
Chosen Option : 3



Q.7 What is the maximum number of triangles in this image?



- Ans
- 1. 36
  - 2. 40
  - 3. 56
  - 4. 21

Question ID : 50389011034  
Status : Answered  
Chosen Option : 1

Q.8 उस विकल्प का चयन करें जो नीचे दिए गए संकेत-शब्द (key word) के समान है।

आम

- Ans
- 1. शलजम
  - 2. लीची
  - 3. लहसुन
  - 4. गुलाब

Question ID : 50389011019  
Status : Answered  
Chosen Option : 2

Q.9 Select the number that will come next in the number series.

3, 5, 8, 10, 13, 15, ?

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

Question ID : 50389011026  
Status : Answered  
Chosen Option : 4

Q.10 Select the option that is related to the third term in the same way as the second term is related to the first term.

25 : 49 :: 121 : ?

- Ans
- 1. 144
  - 2. 122
  - 3. 169
  - 4. 196

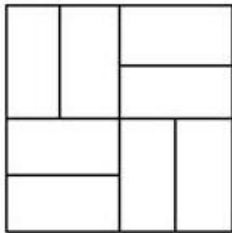
Question ID : 50389011008  
Status : Answered  
Chosen Option : 3

Q.11 In a code language, BED is coded as 254; GAB is coded as 712; and HID is coded as 894. Then, how would FIG be coded in that language?

- Ans
- 1. 687
  - 2. 677
  - 3. 798
  - 4. 697

Question ID : 50389011016  
Status : Answered  
Chosen Option : 4

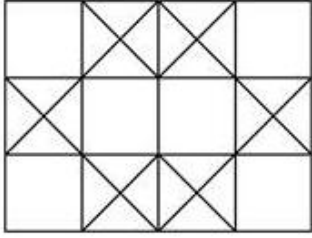
Q.12 What is the maximum number of squares and rectangles in this image?



- Ans
- 1. 13
  - 2. 21
  - 3. 22
  - 4. 17

Question ID : 50389011035  
Status : Answered  
Chosen Option : 1

Q.13 What is the maximum number of squares in this image?



- Ans
- 1. 19
  - 2. 24
  - 3. 23
  - 4. 20

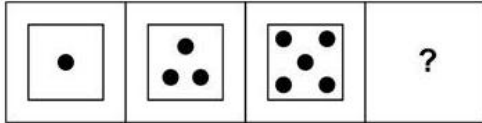
Question ID : 50389011036  
Status : Answered  
Chosen Option : 4

Q.14 In a code language, TRAIN is coded as SSCLM; PLEAD is coded as OMGDC; and STOCK is coded as RUQFJ. Then, how would WHOLE be coded in that language?

- Ans
- 1. VIPND
  - 2. VJQND
  - 3. VIQOD
  - 4. VIQPMF

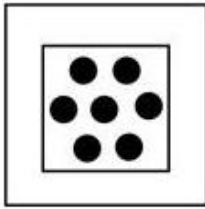
Question ID : 50389011018  
Status : Answered  
Chosen Option : 3

Q.15 Select the option that will replace the question mark and complete the series correctly.

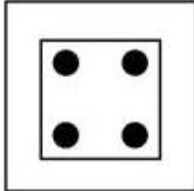


Ans

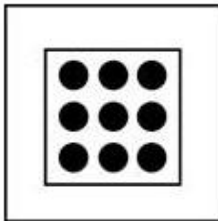
✓ 1.



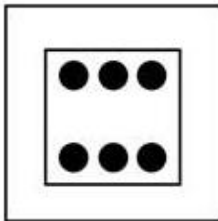
✗ 2.



✗ 3.



✗ 4.



Question ID : 50389011037

Status : Answered

Chosen Option : 1

Q.16 If  $x\%$  of  $x$  is 49, what is the value of  $x$ ?

Ans ✓ 1. 70

✗ 2. 77

✗ 3. 60

✗ 4. 51

Question ID : 50389011030

Status : Answered

Chosen Option : 1

Q.17 The sum of two numbers is 99; and their difference is 27. Which is the smaller number among them?

- Ans
- 1. 27
  - 2. 72
  - 3. 63
  - 4. 36

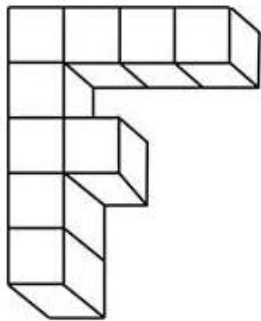
Question ID : 50389011029  
Status : Answered  
Chosen Option : 1

Q.18 Three out of the following four options share a similarity. Select the option that is different from the others.

- Ans
- 1. APPLE : PAELP
  - 2. BERRY : EBRYR
  - 3. GUAVA : UGAVA
  - 4. GRAPE : RGEPA

Question ID : 50389011014  
Status : Answered  
Chosen Option : 1

Q.19 What is the total number of cubes in the 3-D figure given below?



- Ans
- 1. 9
  - 2. 12
  - 3. 8
  - 4. 14

Question ID : 50389011033  
Status : Answered  
Chosen Option : 2

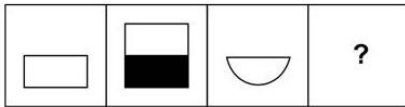
Q.20 Select the option that is similar to the pair given below:

Car : Garage

- Ans
- ✗ 1. Bus : Shore
  - ✗ 2. Aeroplane : Airport
  - ✗ 3. Auto rickshaw : Footpath
  - ✓ 4. Train : Yard

Question ID : 50389011021  
Status : Answered  
Chosen Option : 2

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.



Ans

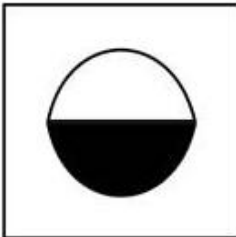
✗ 1.



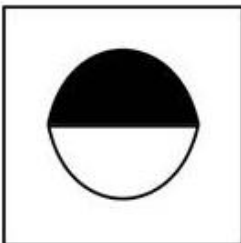
✗ 2.



✓ 3.



✗ 4.



Question ID : 50389011038  
Status : Answered  
Chosen Option : 3

Q.22 Select the option that is related to the third term in the same way as the second term is related to the first term.

27 : 256 :: 3125 : ?

- Ans
- 1. 7776
  - 2. 279936
  - 3. 46656
  - 4. 259824

Question ID : 50389011010  
Status : Answered  
Chosen Option : 4

Q.23 उस विकल्प का चयन करें जो तीसरे शब्द से उसी प्रकार संबंधित है जिस प्रकार दूसरा शब्द पहले शब्द से संबंधित है।

पहाड़ी : पर्वत :: सागर : ?

- Ans
- 1. खाड़ी
  - 2. झील
  - 3. महासागर
  - 4. द्वीप

Question ID : 50389011011  
Status : Answered  
Chosen Option : 3

Q.24 In a code language, MAP is coded as LBQ; PEN is coded as OFO; and NOT is coded as MPU. Then, how would TUB be coded in that language?

- Ans
- 1. SWC
  - 2. STC
  - 3. TVC
  - 4. SVC

Question ID : 50389011015  
Status : Answered  
Chosen Option : 4

Q.25 Select the option that is related to the third term in the same way as the second term is related to the first term.

AK : CM :: HR : ?

- Ans
- 1. KT
  - 2. JS
  - 3. JT
  - 4. PM

Question ID : 50389011007  
Status : Answered  
Chosen Option : 3

Q.26 Select the number that will replace the blanks (\_\_\_) and complete the number series correctly.

3, 7, 13, 31, 43, 57, ?

- Ans
- 1. 63
  - 2. 73
  - 3. 64
  - 4. 72

Question ID : 50389011028  
Status : Answered  
Chosen Option : 3

Q.27 Three out of the following four options share a similarity. Select the option that is different from the others.

- Ans
- 1. One
  - 2. Ten
  - 3. Six
  - 4. Two

Question ID : 50389011012  
Status : Answered  
Chosen Option : 1

Q.28 Select the option that is related to the third term in the same way as the second term is related to the first term.

Zoology : Animals :: Ornithology : ?

- Ans
- 1. Birds
  - 2. Snakes
  - 3. Virus
  - 4. Plants

Question ID : 50389011009  
Status : Answered  
Chosen Option : 1

Q.29 In a code language, mango is called milk; milk is called tomato; tomato is called kiwi; and kiwi is called beet. Then, which one of the following will definitely be white in colour?

- Ans
- 1. Beet
  - 2. Mango
  - 3. Tomato
  - 4. Kiwi

Question ID : 50389011017  
Status : Answered  
Chosen Option : 3



Q.30 Neel is Deepa's only brother. Heera is Neel's mother. Anuj is Heera's only son-in-law. How is Anuj related to Neel?

- Ans
- 1. Brother
  - 2. Father-in-law
  - 3. Sister's husband
  - 4. Wife's brother

Question ID : 50389011024  
Status : Answered  
Chosen Option : 3

Q.31 उस विकल्प का चयन करें जो नीचे दिए गए संकेत-शब्द (key word) के समान है।

तेंदुआ

- Ans
- 1. मेंडा
  - 2. रीछ
  - 3. बाघ
  - 4. लोमड़ी

Question ID : 50389011020  
Status : Answered  
Chosen Option : 3

Q.32 What is the difference between the place value and the face value of 6 in 756954?

- Ans
- 1. 994
  - 2. 5994
  - 3. 594
  - 4. 5694

Question ID : 50389011031  
Status : Answered  
Chosen Option : 2

Q.33 निम्नलिखित चार विकल्पों में से तीन में एक समानता है। उस विकल्प का चयन करें जो अन्य विकल्पों से असंगत है।

- Ans
- 1. एंडीज़ : पर्वत-श्रृंखला
  - 2. सहारा : पठार
  - 3. अटलांटिक : महासागर
  - 4. टेम्स : नदी

Question ID : 50389011013  
Status : Answered  
Chosen Option : 2

Q.34 If x is the sum of the smallest and the largest 2-digit prime numbers, what is the value of x?

- Ans
- 1. 112
  - 2. 99
  - 3. 108
  - 4. 102

Question ID : 50389011032  
Status : Answered  
Chosen Option : 2

Section : Domain Knowledge

Q.1 In DC motor, the difference between armature torque and shaft torque is called \_\_\_\_\_ and is due to \_\_\_\_\_.

- Ans
- 1. Breakaway torque, copper losses
  - 2. Lost torque, iron and friction losses
  - 3. Breakaway torque, friction losses
  - 4. Lost torque, copper losses

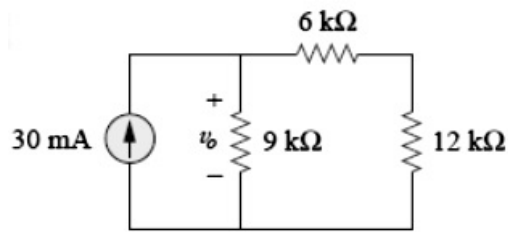
Question ID : 50389011124  
Status : Answered  
Chosen Option : 3

Q.2 Two equal resistors of  $10\ \Omega$  each are connected in series with a 20 V dc supply. Find the current through each resistor.

- Ans
- 1. 4 A
  - 2. 8 A
  - 3. 1 A
  - 4. 2 A

Question ID : 50389011040  
Status : Answered  
Chosen Option : 3

Q.3 Calculate the power absorbed by the  $9\text{ k}\Omega$  resistor in following network.



- Ans
- 1. 5.4 W
  - 2. 1.8 W
  - 3. 2.7 W
  - 4. 3.6 W

Question ID : 50389011044  
Status : Answered  
Chosen Option : 2

Q.4 If a voltage  $v = 10 \cos(100t + 30^\circ)$  is applied to a  $50\ \mu\text{F}$  capacitor, calculate the current through the capacitor.

- Ans
- 1.  $50 \cos(100t - 120^\circ)$  mA
  - 2.  $50 \cos(100t + 30^\circ)$  mA
  - 3.  $50 \cos(100t + 120^\circ)$  mA
  - 4.  $50 \cos(100t - 30^\circ)$  mA

Question ID : 50389011047  
Status : Answered  
Chosen Option : 3

Q.5 Which of the following operation of the discrete time system is NOT memoryless?

- Ans
- 1. Signal multiplier
  - 2. Constant multiplier
  - 3. Adder
  - 4. Unit delay

Question ID : 50389011062  
Status : Answered  
Chosen Option : 2

Q.6 For series connected SCRs, static equalization is obtained with the help of \_\_\_\_\_.

- Ans
- 1. Resistors and capacitors
  - 2. Resistors, capacitors and diodes
  - 3. Resistors only
  - 4. Capacitors only

Question ID : 50389011081  
Status : Answered  
Chosen Option : 2

Q.7 The \_\_\_\_\_ states that, "The line integral of magnetic field intensity  $\vec{H}$  around a closed path is exactly is equal to the direct current enclosed by the path."

- Ans  1. Ampere's circuital law  
 2. Gauss's law  
 3. Biot-Savart law  
 4. Poisson's law

Question ID : 50389011057  
Status : Answered  
Chosen Option : 1

Q.8 A single phase full bridge inverter has a supply voltage of 100 V dc. What will be the peak reverse blocking voltage of each thyristor?

- Ans  1. 50 V  
 2. 100 V  
 3. 200 V  
 4. 400 V

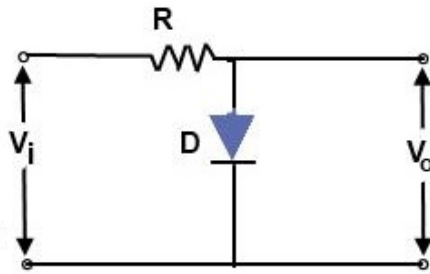
Question ID : 50389011082  
Status : Answered  
Chosen Option : 1

Q.9 A continuous time signal is said to be periodic if  $x(t) = x(t + T_0)$ . Here,  $T_0$  is called

- Ans  1. Fundamental period  
 2. Dummy period  
 3. Sampling period  
 4. Starting period

Question ID : 50389011058  
Status : Answered  
Chosen Option : 3

Q.10 Following circuit is \_\_\_\_\_ clipper.



- Ans
- 1. Series negative
  - 2. Series positive
  - 3. Shunt positive
  - 4. Shunt negative

Question ID : 50389011088

Status : Answered

Chosen Option : 3

Q.11 A single phase half wave controlled rectifier is supplied through a 230 V, 50 Hz supply. What will be the maximum output voltage possible?

- Ans
- 1.  $\frac{\sqrt{2} \times 230}{\pi}$
  - 2.  $\frac{230}{2\pi}$
  - 3.  $\frac{230}{\pi}$
  - 4.  $\frac{\sqrt{2} \times 230}{2\pi}$

Question ID : 50389011084

Status : Answered

Chosen Option : 1

Q.12 A power plant has the annual factors given as: load factor = 70 percent, Capacity factor = 50 percent, Use factor = 60 percent. If maximum demand is 20 MW, find the reserve capacity over and above the peak load.

- Ans
- 1. 6 MW
  - 2. 8 MW
  - 3. 14 MW
  - 4. 28 MW

Question ID : 50389011070

Status : Answered

Chosen Option : 1

**Q.13** A 200 kVA single phase transformer with a voltage ratio of 6600/660 V has following winding resistances:

$$R_1 = 1.75 \, \Omega \text{ and } R_2 = 0.015 \, \Omega.$$

Find the resistance referred to the high voltage winding.

- Ans**
- 1. 3.25  $\Omega$
  - 2. 16.75  $\Omega$
  - 3. 1.60  $\Omega$
  - 4. 1.90  $\Omega$

Question ID : 50389011123  
Status : Answered  
Chosen Option : 2

**Q.14** Identify the non-renewable source of energy among the given option.

- Ans**
- 1. Nuclear energy
  - 2. Geothermal energy
  - 3. Solar energy
  - 4. Biomass energy

Question ID : 50389011067  
Status : Answered  
Chosen Option : 1

**Q.15** In case of scaling of vector, let  $\alpha$  be the scalar with which the vector is multiplied.  
If  $\alpha = -1$ . It means

- Ans**
- 1. Magnitude becomes zero and direction of the vector reverses
  - 2. Magnitude and direction of the vector, both remain same
  - 3. Magnitude changes and direction of the vector remains same
  - 4. Magnitude remains same and direction of the vector reverses

Question ID : 50389011053  
Status : Answered  
Chosen Option : 4

**Q.16** The directional element in the reactance relay is so designed that its maximum torque angle is \_\_\_\_\_.

- Ans**
- 1. 90°
  - 2. 0°
  - 3. 60°
  - 4. 120°

Question ID : 50389011074  
Status : Answered  
Chosen Option : 2

Q.17 An RC phase shift oscillator uses capacitors of  $(\frac{1}{\sqrt{6}\pi})$  pf. Find the value of resistance 'R' to produce frequency of 1000 kHz.

- Ans
- 1. 250 k $\Omega$
  - 2. 500 k $\Omega$
  - 3. 25 k $\Omega$
  - 4. 50 k $\Omega$

Question ID : 50389011092  
Status : Answered  
Chosen Option : 3

Q.18 A power amplifier supplies 50 W to an 8  $\Omega$  speaker. Find ac output voltage and ac output current.

- Ans
- 1. 12.5 V, 4 A
  - 2. 25 V, 2 A
  - 3. 50 V, 1 A
  - 4. 20 V, 2.5 A

Question ID : 50389011091  
Status : Answered  
Chosen Option : 4

Q.19 Which of the following is not an example of Vector quantity?

- Ans
- 1. Mass
  - 2. Magnetic field intensity
  - 3. Acceleration
  - 4. Electric field intensity

Question ID : 50389011051  
Status : Answered  
Chosen Option : 3

Q.20 A single phase half bridge inverter has a supply voltage of 100 V dc and a resistive load of 4  $\Omega$ . What will be the RMS output voltage?

- Ans
- 1. 70.71 V
  - 2. 90 V
  - 3. 45 V
  - 4. 50 V

Question ID : 50389011083  
Status : Answered  
Chosen Option : 3

Q.21 Two quadrant type B chopper operates in:

- Ans
- 1. 2<sup>nd</sup> and 4<sup>th</sup> quadrants
  - 2. 1<sup>st</sup> and 2<sup>nd</sup> quadrants
  - 3. 1<sup>st</sup> and 4<sup>th</sup> quadrants
  - 4. 3<sup>rd</sup> and 4<sup>th</sup> quadrants

Question ID : 50389011087

Status : Answered

Chosen Option : 2

Q.22 A 2k $\Omega$  resistor is connected across a 10 V battery. Calculate the power consumed by the resistor.

- Ans
- 1. 5.0 W
  - 2. 5 mW
  - 3. 0.5 W
  - 4. 50 mW

Question ID : 50389011042

Status : Answered

Chosen Option : 4

Q.23 Which of the following circuit is used to obtain pulse gate triggering?

- Ans
- 1. Resistive triggering circuit
  - 2. Resistance-capacitance triggering circuit
  - 3. UJT based relaxation oscillator circuit
  - 4. Diac-Triac circuit

Question ID : 50389011085

Status : Answered

Chosen Option : 2

Q.24 In an oil circuit breaker, due to heat the oil decomposes and the gases are liberated. Which of the following gas is usually NOT liberated in this process?

- Ans
- 1. Ammonia
  - 2. Methane
  - 3. Acetylene
  - 4. Hydrogen

Question ID : 50389011076

Status : Answered

Chosen Option : 1



Q.25 Electrostatic type instruments are primarily used as \_\_\_\_\_.

- Ans
- 1. Ohmmeter
  - 2. Voltmeters
  - 3. Ammeters
  - 4. Wattmeters

Question ID : 50389011106  
Status : Answered  
Chosen Option : 2

Q.26 A Thevenin's circuit has  $V_{TH} = 20\text{ V}$  and  $R_{TH} = 20\ \Omega$ . Find the maximum power transferred to a load resistance of  $20\ \Omega$ .

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

Question ID : 50389011048  
Status : Answered  
Chosen Option : 3

Q.27 Dual of Norton's theorem is \_\_\_\_\_.

- Ans
- 1. Superposition theorem
  - 2. Millman's theorem
  - 3. Maximum power transfer theorem
  - 4. Thevenin's theorem

Question ID : 50389011041  
Status : Answered  
Chosen Option : 4

Q.28 While incorporating lead-compensation network, the gain factor of the amplifier is given as \_\_\_\_\_.

- Ans
- 1.  $\alpha^2$
  - 2.  $\alpha$
  - 3.  $\frac{1}{\alpha}$
  - 4.  $\frac{1}{\alpha^2}$

Question ID : 50389011101  
Status : Answered  
Chosen Option : 3

Q.29 Which of the following characteristic is not desirable in measuring instrument?

- Ans
- 1. Repeatability
  - 2. Drift
  - 3. Linearity
  - 4. Accuracy

Question ID : 50389011105  
Status : Answered  
Chosen Option : 1

Q.30 With reference to wave windings used for DC generator, state whether the following statements are TRUE or FALSE.1. Wave winding is used for high current, low voltage machines2. The efficiency of wave winding is higher as compared to lap winding

- Ans
- 1. TRUE, TRUE
  - 2. FALSE, FALSE
  - 3. TRUE, FALSE
  - 4. FALSE, TRUE

Question ID : 50389011122  
Status : Answered  
Chosen Option : 4

Q.31 In a signal flow graph, \_\_\_\_\_ is the gain along any path from the input to the output, not passing through any node more than once.

- Ans
- 1. Feedback gain
  - 2. Closed loop gain
  - 3. Loop gain
  - 4. Forward path gain

Question ID : 50389011099  
Status : Answered  
Chosen Option : 4

Q.32 With the help of \_\_\_\_\_ the surface integral can be converted into a volume integral.

- Ans
- 1. Divergence theorem
  - 2. Maxwell's theorem
  - 3. Coulomb's law
  - 4. Gauss's law

Question ID : 50389011055  
Status : Answered  
Chosen Option : 2

Q.33 In a coal based thermal power plant, electrostatic precipitator is required for:

- Ans
- 1. Coal preparation
  - 2. Ash handling
  - 3. Coal firing
  - 4. Coal handling

Question ID : 50389011068  
Status : Answered  
Chosen Option : 4

Q.34 For a transistor  $\beta_{dc} = 49$ . Find the value of  $\alpha$ .

- Ans
- 1. 0.99
  - 2. 0.98
  - 3. 0.09
  - 4. 0.9

Question ID : 50389011090  
Status : Answered  
Chosen Option : 2

Q.35 Find the coefficient of coupling for two coils having  $L_1 = 2$  H,  $L_2 = 8$  H and  $M = 4$  H.

- Ans
- 1. 1.0
  - 2. 0.25
  - 3. 0.75
  - 4. 0.5

Question ID : 50389011052  
Status : Answered  
Chosen Option : 1

Q.36 For a 3-phase semiconverter, if the firing angle for thyristor is  $90^\circ$ , the free-wheeling diode will conduct for a period of \_\_\_\_\_.

- Ans
- 1.  $30^\circ$
  - 2.  $120^\circ$
  - 3.  $90^\circ$
  - 4.  $0^\circ$

Question ID : 50389011086  
Status : Answered  
Chosen Option : 1

Q.37 Which of the following statement is WRONG when underground cables are compared with overhead lines?

- Ans
- 1. The erection cost of overhead line is much higher
  - 2. For long distance transmission, overhead lines are used
  - 3. Underground cables give greater safety to the public
  - 4. The conductor in overhead lines are less expensive

Question ID : 50389011073  
Status : Answered  
Chosen Option : 1

Q.38 In the cathode ray tube, distance of \_\_\_\_\_ is minimum from the phosphor screen.

- Ans
- 1. Y-plates
  - 2. X- Plates
  - 3. Grid
  - 4. Cathode

Question ID : 50389011103  
Status : Answered  
Chosen Option : 3

Q.39 In a hollow tube, if the velocity of air is constant everywhere inside the tube then the divergence of the velocity field is \_\_\_\_\_.

- Ans
- 1. Negative
  - 2. Infinite
  - 3. Zero
  - 4. Unity

Question ID : 50389011054  
Status : Answered  
Chosen Option : 3

Q.40 For a synchronous generator supplying a balanced 3-phase load, the armature reaction flux is \_\_\_\_\_ in magnitude and rotates at \_\_\_\_\_ speed.

- Ans
- 1. Constant, Synchronous
  - 2. Constant, Sub-synchronous
  - 3. Variable, Super-synchronous
  - 4. Variable, Sub-synchronous

Question ID : 50389011120  
Status : Answered  
Chosen Option : 1

Q.41 Which of the following equation is sometimes referred to as the Ohm's law of magnetic circuit?

Ans

1.  $\mu = \frac{B}{H}$

2.  $\Phi = \frac{NI}{S}$

3.  $H = \frac{NI}{l}$

4.  $B = \frac{\Phi}{A}$

Question ID : 50389011050

Status : Answered

Chosen Option : 2

Q.42 Which of the following is an example of static system?

Ans

1.  $Y(n) = x(n^2)$

2.  $y(n) = 3x(n) - x(n - 2)$

3.  $y(n) = n x(n) + b x^2(n)$

4.  $Y(n) = x(-n)$

Question ID : 50389011063

Status : Answered

Chosen Option : 1

Q.43 Amplitude of antisymmetric signal is \_\_\_\_\_ at the origin.

Ans

1. Always negative

2. Always positive

3. Either positive or negative but not zero

4. Always zero

Question ID : 50389011059

Status : Answered

Chosen Option : 2

Q.44

Find the z-transform of  $x(n) = \left(\frac{1}{2}\right)^n u(-n)$

Ans

1.  $X(Z) = \frac{1}{1+2Z}$

2.  $X(Z) = \frac{1}{Z+2}$

3.  $X(Z) = \frac{1}{Z-2}$

4.  $X(Z) = \frac{1}{1-2Z}$

Question ID : 50389011065

Status : Answered

Chosen Option : 4

Q.45 Which of the following device does not belong to thyristor family?

Ans

1. UJT

2. RCT

3. GTO

4. SITH

Question ID : 50389011077

Status : Answered

Chosen Option : 2

Q.46 For a transistor, collector current is 100 times the base current. Find  $\beta_{dc}$ .

Ans

1. 100

2. 10

3. 90

4. 50

Question ID : 50389011089

Status : Answered

Chosen Option : 1

Q.47 Which of the following is not a deterministic signal?

Ans

1. Exponential wave

2. Sine wave

3. Cosine wave

4. Noise

Question ID : 50389011060

Status : Answered

Chosen Option : 4

Q.48 With reference to fault analysis, L-L fault is \_\_\_\_\_ fault and the L-L-L-G fault is \_\_\_\_\_ fault.

- Ans
- 1. Symmetrical, Symmetrical
  - 2. Symmetrical, Unsymmetrical
  - 3. Unsymmetrical, Unsymmetrical
  - 4. Unsymmetrical, Symmetrical

Question ID : 50389011071  
Status : Answered  
Chosen Option : 4

Q.49 Which of the following device is bidirectional?

- Ans
- 1. DIAC
  - 2. PUT
  - 3. SUS
  - 4. SCS

Question ID : 50389011078  
Status : Answered  
Chosen Option : 1

Q.50 With reference to the divergence, which of the following statement is WRONG?

- Ans
- 1. Divergence of a scalar has no meaning
  - 2. Expressions for divergence in different co-ordinate systems are different
  - 3. Divergence of a vector is a vector quantity
  - 4. Divergence operation can be represented by del operator

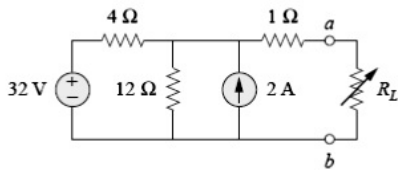
Question ID : 50389011056  
Status : Answered  
Chosen Option : 3

Q.51 In which of the following commutation technique, the triggering of one SCR commutates the already conducting SCR and vice versa?

- Ans
- 1. Class E commutation
  - 2. Class A commutation
  - 3. Class C commutation
  - 4. Class D commutation

Question ID : 50389011079  
Status : Answered  
Chosen Option : 3

Q.52 Find the value of the Thevenin's resistance  $R_{TH}$  for the circuit to the left of terminals a-b:



- Ans
- 1.  $12\ \Omega$
  - 2.  $4\ \Omega$
  - 3.  $6\ \Omega$
  - 4.  $14\ \Omega$

Question ID : 50389011046

Status : Answered

Chosen Option : 2

Q.53 Which of the following condition must be satisfied to measure the power delivered to a 3-phase load, using only 2 wattmeters?

- Ans
- 1. Load must be connected to the source through 4-wires
  - 2. Load must be unbalanced
  - 3. Load must be connected to the source through 3-wires
  - 4. Load must be balanced

Question ID : 50389011107

Status : Answered

Chosen Option : 3

Q.54 A properly shunted centre zero galvanometer is connected in the rotor circuit of a 6-pole, 50 Hz wound rotor induction motor. If the galvanometer makes 90 complete oscillations in one minute, calculate the rotor speed.

- Ans
- 1. 970 rpm
  - 2. 1030 rpm
  - 3. 1000 rpm
  - 4. 1470 rpm

Question ID : 50389011121

Status : Answered

Chosen Option : 1

Q.55 Which of the following system is an example of closed loop control system?

- Ans
- 1. TV remote control
  - 2. Traffic light control system
  - 3. Voltage stabilizer
  - 4. Bread toaster

Question ID : 50389011096

Status : Answered

Chosen Option : 3



Q.56 Convert  $(B68)_{16}$  in to equivalent octal number.

- Ans
- 1.  $(5050)_8$
  - 2.  $(5555)_8$
  - 3.  $(4550)_8$
  - 4.  $(5550)_8$

Question ID : 50389011094  
Status : Answered  
Chosen Option : 1

Q.57 The resultant transient voltage which appears across the breaker contacts at the instant of arc extinction is known as the \_\_\_\_\_.

- Ans
- 1. Recovery voltage
  - 2. Restriking voltage
  - 3. Active recovery voltage
  - 4. Source voltage

Question ID : 50389011075  
Status : Answered  
Chosen Option : 2

Q.58 Which of the following method of tariff was proposed by John Hopkinson?

- Ans
- 1. Two part tariff
  - 2. Flat demand rate
  - 3. Block meter rate
  - 4. Three part tariff

Question ID : 50389011069  
Status : Answered  
Chosen Option : 1

Q.59 As per force-voltage analogy, mass and viscous friction in mechanical translational system are analogous to \_\_\_\_\_ and \_\_\_\_\_ in electrical system, respectively.

- Ans
- 1. Capacitance, inductance
  - 2. Resistance, capacitance
  - 3. Inductance, capacitance
  - 4. Inductance, resistance

Question ID : 50389011098  
Status : Answered  
Chosen Option : 4

**Q.60** A 3-phase 4 pole induction motor is supplied from a 50 Hz source. Find the rotor frequency when the rotor runs at 600 rpm.

- Ans
- 1. 50 Hz
  - 2. 25 Hz
  - 3. 30 Hz
  - 4. 20 Hz

Question ID : 50389011118  
Status : Answered  
Chosen Option : 3

**Q.61** Which of the following is NOT a VALID advantage of shell type transformer over core type transformer?

- Ans
- 1. Losses are less
  - 2. Mechanical strength is high
  - 3. Copper requirement is less
  - 4. Maintenance is easy

Question ID : 50389011114  
Status : Answered  
Chosen Option : 4

**Q.62** Which of the Following is NOT a characteristic of PMMC instruments?

- Ans
- 1. Non-uniform scale
  - 2. Used for DC measurements only
  - 3. No hysteresis loss
  - 4. High accuracy

Question ID : 50389011104  
Status : Answered  
Chosen Option : 1

**Q.63** A 0 to 200 V voltmeter has a guaranteed accuracy of 0.5 percent of full scale deflection. The voltage measured by the instrument is 50 V. Find the limiting error.

- Ans
- 1. 0.5 percent
  - 2. 1 percent
  - 3. 2 percent
  - 4. 0.25 percent

Question ID : 50389011112  
Status : Answered  
Chosen Option : 2

Q.64 Output voltage wave shape of a basic series inverter is

- Ans
- 1. Continuous sinewave
  - 2. Discontinuous sinewave
  - 3. Square wave
  - 4. Trapezoidal wave

Question ID : 50389011080  
Status : Answered  
Chosen Option : 2

Q.65 A conventional oscilloscope has a bandwidth of 100 MHz. The rise of the CRO is approximately \_\_\_\_\_.

- Ans
- 1. 3.5 ns
  - 2. 0.35 ns
  - 3. 350 ns
  - 4. 35 ns

Question ID : 50389011113  
Status : Answered  
Chosen Option : 1

Q.66 If following Boolean expression is reduced, what will be the reduced result?

$$(B + BC)(B + \bar{B}C)(B + D)$$

- Ans
- 1. B
  - 2. D
  - 3. CD
  - 4. C

Question ID : 50389011095  
Status : Answered  
Chosen Option : 3

Q.67 A single-phase transformer has 200 primary and 700 secondary turns. If the primary voltage is 100 V, find the secondary voltage.

- Ans
- 1. 700 V
  - 2. 175 V
  - 3. 28.5 V
  - 4. 350 V

Question ID : 50389011115  
Status : Answered  
Chosen Option : 4

Q.68 For a second order system having its transfer function as:

$$H(s) = 25 / (s^2 + 8s + 25)$$

Find the damping factor.

- Ans
- 1. 0.6
  - 2. 0.5
  - 3. 0.4
  - 4. 0.8

Question ID : 50389011100  
Status : Answered  
Chosen Option : 4

Q.69 Which of the following system is linear?

- Ans
- 1.  $Y(n) = x(n) + n x(n+1)$
  - 2.  $Y(n) = |x(n)|$
  - 3.  $Y(n) = \cos x(n)$
  - 4.  $Y(n) = e^{x(n)}$

Question ID : 50389011064  
Status : Answered  
Chosen Option : 3

Q.70 In wire-wound standard resistor, the bifilar winding is adopted to reduce \_\_\_\_\_.

- Ans
- 1. Skin effect
  - 2. Self-inductive effect
  - 3. Stray capacitance
  - 4. Aging effect

Question ID : 50389011111  
Status : Answered  
Chosen Option : 2

Q.71 In induction type energy meter, \_\_\_\_\_ error is caused due to over compensation for friction.

- Ans
- 1. Creeping
  - 2. Phase angle error
  - 3. Breaking error
  - 4. Phantom loading

Question ID : 50389011108  
Status : Answered  
Chosen Option : 1

**Q.72** A 9 V battery supplies 1 mA current in a series circuit of three resistors  $R_1$ ,  $R_2$  and  $R_3$ . If the voltage drops across  $R_1$ ,  $R_2$  and  $R_3$  are 1 V, 2 V and 6 V respectively, find the values of  $R_1$ ,  $R_2$  and  $R_3$ .

- Ans
- 1.  $R_1 = 2 \text{ k}\Omega, R_2 = 3 \text{ k}\Omega$  and  $R_3 = 4 \text{ k}\Omega$
  - 2.  $R_1 = 1 \text{ k}\Omega, R_2 = 2 \text{ k}\Omega$  and  $R_3 = 6 \text{ k}\Omega$
  - 3.  $R_1 = 4 \text{ k}\Omega, R_2 = 2 \text{ k}\Omega$  and  $R_3 = 3 \text{ k}\Omega$
  - 4.  $R_1 = 6 \text{ k}\Omega, R_2 = 2 \text{ k}\Omega$  and  $R_3 = 1 \text{ k}\Omega$

Question ID : 50389011043

Status : Answered

Chosen Option : 2

**Q.73** The breakaway points of the root-loci of a polynomial equation can occur

- Ans
- 1. At origin only
  - 2. On real axis only
  - 3. On imaginary axis only
  - 4. Anywhere on the complex plane

Question ID : 50389011097

Status : Answered

Chosen Option : 4

**Q.74** Maxwell bridge is used for the measurement of \_\_\_\_\_ having the Q-factor in the range \_\_\_\_\_.

- Ans
- 1. Inductors,  $100 < Q < 1000$
  - 2. Capacitors and inductors,  $1 < Q < 100$
  - 3. capacitors,  $1 < Q < 100$
  - 4. Inductors,  $1 < Q < 10$

Question ID : 50389011110

Status : Answered

Chosen Option : 4

**Q.75** In 8085 microprocessor, when the PUSH instruction is executed the stack pointer register is \_\_\_\_\_ and when the POP instruction is executed the stack pointer is \_\_\_\_\_, respectively.

- Ans
- 1. Incremented by one, decremented by one
  - 2. Incremented by two, decremented by two
  - 3. Decrement by two, incremented by two
  - 4. Decrement by one, incremented by one

Question ID : 50389011093

Status : Answered

Chosen Option : 2

Q.76 For a DC motor, gross mechanical power developed by the motor is maximum and the motor is supplied through a 220 V source. What will be back emf?

- Ans
- 1. 55 V
  - 2. 110 V
  - 3. 220 V
  - 4. 27.5 V

Question ID : 50389011116  
Status : Answered  
Chosen Option : 2

Q.77 Exponential signal is an example of \_\_\_\_\_ signal.

- Ans
- 1. Deterministic and non-periodic
  - 2. Random and non-periodic
  - 3. Deterministic and periodic
  - 4. Random and periodic

Question ID : 50389011061  
Status : Answered  
Chosen Option : 2

Q.78 A 220 V DC shunt motor runs at 630 rpm when the armature current is 50 A. Find the speed if the torque is doubled. Assume armature resistance = 0.2  $\Omega$ .

- Ans
- 1. 600 rpm
  - 2. 315 rpm
  - 3. 157 rpm
  - 4. 630 rpm

Question ID : 50389011117  
Status : Answered  
Chosen Option : 3

Q.79 Which of the following is not a VALID advantage of digital filters over analog filters?

- Ans
- 1. Higher bandwidth
  - 2. Less maintenance
  - 3. Higher flexibility
  - 4. Linear phase response

Question ID : 50389011066  
Status : Answered  
Chosen Option : 1

Q.80 Calculate the resolution of a 3-digit 0 – 1 V digital voltmeter.

- Ans
- 1. 0.0001
  - 2. 0.01
  - 3. 0.1
  - 4. 0.001

Question ID : 50389011109  
Status : Answered  
Chosen Option : 4

Q.81 In a magnetic circuit, the ratio of flux to m.m.f represents \_\_\_\_\_.

- Ans
- 1. Reactance
  - 2. Reluctance
  - 3. Resistance
  - 4. Permeance

Question ID : 50389011049  
Status : Answered  
Chosen Option : 4

Q.82 An alternator has a per unit impedance of 0.9 p.u. to a base of 20 MVA, 33 kV, Then the p.u. impedance to the base of 60 MVA and 11 kV will be \_\_\_\_\_.

- Ans
- 1. 32.4
  - 2. 16.2
  - 3. 8.1
  - 4. 24.3

Question ID : 50389011119  
Status : Answered  
Chosen Option : 4

Q.83 The critical point  $(-1, j0)$  is mapped to \_\_\_\_\_ on the Nichols chart.

- Ans
- 1. (0 dB, 0°)
  - 2. (0 dB, - 180°)
  - 3. (1 dB, 0°)
  - 4. (1 dB, 180°)

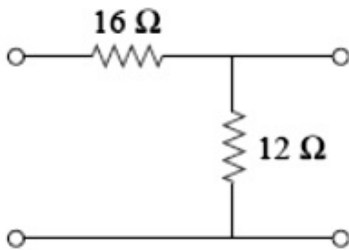
Question ID : 50389011102  
Status : Answered  
Chosen Option : 2

Q.84 In a 3-core cable there are \_\_\_\_\_ capacitances formed.

- Ans  1.6  
 2.3  
 3.4  
 4.9

Question ID : 50389011072  
Status : Answered  
Chosen Option : 4

Q.85 Find the value of  $Z_{11}$  for the following network.



- Ans  1.  $12 \Omega$   
 2.  $4 \Omega$   
 3.  $16 \Omega$   
 4.  $28 \Omega$

Question ID : 50389011045  
Status : Answered  
Chosen Option : 4