

**HPCL
Engineer**

**Previous Year Paper
(Instrumentation)
11 Aug 2021**



हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड

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

Section : English Language

Q.1 Which part of the sentence contains an error?
Who's name did you write in your diary that day?

- Ans
- 1. did you write
 - 2. Who's name
 - 3. that day?
 - 4. in your diary

Question ID : 50389010800
Status : Answered
Chosen Option : 2

Q.2 Select the most appropriate option to complete the sentence.
Let us forget ____ problems for a while and enjoy ____.

- Ans
- 1. Our, ourself
 - 2. Ours, ourselves
 - 3. Your, yourselves
 - 4. Our, ourselves

Question ID : 50389010790
Status : Answered
Chosen Option : 4

Q.3 Choose the most appropriate option to complete the sentence.
You must always have faith ____ your parents as they know what is best for you.

- Ans
- 1. Inside
 - 2. at
 - 3. About
 - 4. In

Question ID : 50389010786
Status : Answered
Chosen Option : 4

Q.4 Select the most appropriate option to complete the sentence.
My teacher announced that fund-raising was _____ voluntary task.

- Ans
- 1. completely
 - 2. obligatory
 - 3. mandatory
 - 4. Compulsory

Question ID : 50389010791
Status : **Marked For Review**
Chosen Option : 1

Q.5 Select the most appropriate option to complete the sentence.
I know all about flying because I ____ to be a pilot before I retired.

- Ans
- 1. Was using
 - 2. Had used
 - 3. Use
 - 4. Used

Question ID : 50389010789
Status : **Answered**
Chosen Option : 4

Q.6 Pick the most appropriate antonym of-
Brittle

- Ans
- 1. breakable
 - 2. emotional
 - 3. resilient
 - 4. frail

Question ID : 50389010794
Status : **Answered**
Chosen Option : 1

Q.7 Select the misspelt word.

- Ans
- 1. Acknowledge
 - 2. acquaint
 - 3. Acquarium
 - 4. Acquire

Question ID : 50389010797
Status : **Answered**
Chosen Option : 2

Q.8 Choose the sentence which is grammatically correct.

- Ans
- 1. bring me that pot soup of hot
 - 2. bring me that hot of pot soup
 - 3. bring me hot that pot of soup
 - 4. bring me that pot of hot soup

Question ID : 50389010801
Status : Answered
Chosen Option : 4

Q.9 Which conjunction can be used for this sentence?

You gave numerous interviews, _____ none of the companies offered you a job.

- Ans
- 1. unless
 - 2. So
 - 3. Although
 - 4. Yet

Question ID : 50389010787
Status : Answered
Chosen Option : 4

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

Some movies are even _____ than this.

- Ans
- 1. Badder
 - 2. Worst
 - 3. Bad
 - 4. Worse

Question ID : 50389010788
Status : Answered
Chosen Option : 2

Q.11 Choose the correct preposition.

There is something strange and exciting _____ this man.

- Ans
- 1. Across
 - 2. Into
 - 3. Of
 - 4. About

Question ID : 50389010785
Status : Answered
Chosen Option : 4

Q.12 Choose the word which can be used in place of the words underlined.
Someone wrote sent her a poem which was written by an unknown author.

- Ans
- 1. Meritorious
 - 2. Androgynous
 - 3. Anonymous
 - 4. Magnanimous

Question ID : 50389010795
Status : Answered
Chosen Option : 3

Q.13 Which part of the sentence contains an error?
It is only 10 minutes past 10 in my watch.

- Ans
- 1. 10 minutes
 - 2. past 10
 - 3. It is only
 - 4. in my watch

Question ID : 50389010799
Status : Answered
Chosen Option : 3

Q.14 Pick the most appropriate synonym of-
Endure

- Ans
- 1. Resist
 - 2. hide
 - 3. enjoy
 - 4. Suffer

Question ID : 50389010793
Status : Answered
Chosen Option : 2

Q.15 Select the misspelt word.

- Ans
- 1. Rebound
 - 2. Fearfull
 - 3. Shearing
 - 4. Astounding

Question ID : 50389010796
Status : Marked For Review
Chosen Option : 4

Q.16 Choose the appropriate word to complete the phrase.
My performance in my 12th Board exams was a let-___ for my parents.

- Ans
- 1. Off
 - 2. Go
 - 3. down
 - 4. In

Question ID : 50389010798
Status : Answered
Chosen Option : 3

Q.17 Pick the most appropriate synonym of-
Influence

- Ans
- 1. Exaggerate
 - 2. Affect
 - 3. Neglect
 - 4. anger

Question ID : 50389010792
Status : Answered
Chosen Option : 2

Section : Quantitative Aptitude

Q.1 A pedestrian path has been developed around a circular park. Inner and outer circumferences of the path are 330 m and 352 m respectively. Find the width of the path (in m).

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

- Ans
- 1. 3.3
 - 2. 3.25
 - 3. 3.5
 - 4. 3.6

Question ID : 50389010829
Status : Answered
Chosen Option : 3

Q.2 A is 40% more efficient than B and can complete a work in 5 days. In how many days will B complete the same work?

- Ans
- 1. $5\frac{1}{2}$
 - 2. 7
 - 3. 6
 - 4. $6\frac{1}{2}$

Question ID : 50389010817
Status : Answered
Chosen Option : 2

Q.3 35% of $2M$ exceeds 40% of $\frac{M}{2}$ by 300. Find M .

- Ans
- 1. 450
 - 2. 400
 - 3. 600
 - 4. 500

Question ID : 50389010812
Status : Answered
Chosen Option : 3

Q.4 Simplify the following expression.

$$(12.3 \div 0.03) \div 2.05 + 2.05$$

- Ans
- 1. 22.05
 - 2. 1000
 - 3. 202.05
 - 4. 2002.5

Question ID : 50389010806
Status : Answered
Chosen Option : 3

Q.5 The average score of some students in an examination is 156. The ratio of the number of boys to the girls is 15:6. The average score of girls is 25% less than that of the boys. What is the average score of the girls in the class?

- Ans
- 1. 125.5
 - 2. 126.2
 - 3. 124.8
 - 4. 126

Question ID : 50389010823
Status : Answered
Chosen Option : 3

Q.6 Two varieties of Rice are available in the market at Rs. 45 per kg and Rs. 52 per kg respectively. In what ratio should these be mixed to have the cost Rs. 49 per kg?

- Ans
- 1. 3:4
 - 2. 5:6
 - 3. 2:3
 - 4. 4:5

Question ID : 50389010809
Status : Answered
Chosen Option : 1

Q.7 What is the average of 4 smallest prime numbers and 7 smallest odd natural numbers?

- Ans
- 1. 6.41
 - 2. 5.75
 - 3. 6
 - 4. 6.72

Question ID : 50389010822
Status : **Marked For Review**
Chosen Option : 2

Q.8 Simplify the following.

$$0.\overline{26} - 0.\overline{26} + 0.\overline{026}$$

- Ans
- 1. $\frac{2}{45}$
 - 2. $\frac{1}{45}$
 - 3. $\frac{13}{450}$
 - 4. $\frac{26}{99}$

Question ID : 50389010803
Status : **Answered**
Chosen Option : 3

Q.9 If compound interest on a certain sum of money at 5% per annum for 3 years is Rs. 1891.50, then find the simple interest (in Rs.) on the same sum for the same period at the same rate.

- Ans
- 1. 1750
 - 2. 1820
 - 3. 1720
 - 4. 1800

Question ID : 50389010826
Status : **Answered**
Chosen Option : 4

Q.10 The sum of three numbers is 245. Second number is 4 times the first number and the third number is 5 less than 5 times the first number. What is the greatest number?

- Ans
- 1. 120
 - 2. 115
 - 3. 130
 - 4. 125

Question ID : 50389010831
Status : **Answered**
Chosen Option : 2

Q.11 Simplify the following expression.

$$\sqrt{5^2 \sqrt{25^2 \sqrt{16^2 \sqrt{32^{16}}}}}$$

- Ans
- 1. 800
 - 2. 1600
 - 3. 4000
 - 4. 8000

Question ID : 50389010805
Status : Answered
Chosen Option : 4

Q.12 If HCF of the polynomials $(x + 2)(3x^2 - 2ax + 3)$ and $(2x - 1)(5x^2 - 3x + 2b)$ is $(x + 2)(2x - 1)$, then find the value of $(4a + 7b)$.

- Ans
- 1. 106
 - 2. 76
 - 3. -76
 - 4. 2

Question ID : 50389010834
Status : Answered
Chosen Option : 3

Q.13 Which least natural number must be added to 16632 to make it a perfect square?

- Ans
- 1. 6
 - 2. 8
 - 3. 9
 - 4. 7

Question ID : 50389010802
Status : Answered
Chosen Option : 3

Q.14 The base radius of a cylinder is 14 cm. If curved surface area of the cylinder is three-fifth of the total surface area, then what will be the volume (in cu. cm) of the cylinder? (Use $\pi = \frac{22}{7}$)

- Ans
- 1. 21560
 - 2. 12936
 - 3. 17248
 - 4. 3234

Question ID : 50389010828
Status : Answered
Chosen Option : 3

Q.15 If upon increasing the side of a square by 4 cm, its area increases by 112 sq. cm, then what is the side of the original square (in cm)?

- Ans
- 1. 12
 - 2. 12.5
 - 3. 11
 - 4. 13

Question ID : 50389010827
Status : Answered
Chosen Option : 1

Q.16 Hypotenuse of a right angled triangle is 1 cm more than 4 times the shortest side. If third side is 1 cm less than 4 times the shortest side, then what will be the length of the hypotenuse (in cm)?

- Ans
- 1. 60
 - 2. 62
 - 3. 65
 - 4. 56

Question ID : 50389010833
Status : Answered
Chosen Option : 3

Q.17 A sum of money on compound interest amounts to Rs. 50000 after 2 years and to Rs. 78125 after 4 years. What is the sum (in Rs.)?

- Ans
- 1. 32000
 - 2. 35000
 - 3. 33500
 - 4. 31000

Question ID : 50389010825
Status : Answered
Chosen Option : 3

Q.18 Subtract the sum of the reciprocals of

$1\frac{2}{3}$, $1\frac{1}{4}$, $\frac{3}{8}$, $1\frac{1}{5}$, $4\frac{2}{7}$, 9 from 5.

- Ans
- 1. $-\frac{11}{45}$
 - 2. $10\frac{11}{45}$
 - 3. $-\frac{2}{15}$
 - 4. $-9\frac{19}{30}$

Question ID : 50389010808
Status : Answered
Chosen Option : 4

Q.19 If $k > 0$, what is the value of k in the following expression?

$$\frac{7.29 \times 0.3}{3.25 \times k} = \frac{0.25 \times k}{0.9 \times 0.03 \times 13}$$

- Ans
- 1. 2.916
 - 2. 0.1944
 - 3. 0.972
 - 4. 0.844

Question ID : 50389010807
Status : Answered
Chosen Option : 2

Q.20 The cost price of an item is 25% less than the marked price. At how much percentage above the cost price has the item been marked?

- Ans
- 1. 36
 - 2. 30
 - 3. 35
 - 4. $33\frac{1}{3}$

Question ID : 50389010820
Status : Answered
Chosen Option : 4

Q.21 Subhash sells an article with 20% profit. If he had bought the article at 10% less and sold at 5% more, then what would have been his profit percentage?

- Ans
- 1. 40
 - 2. 33
 - 3. 38
 - 4. 35

Question ID : 50389010821
Status : Answered
Chosen Option : 4

Q.22 A train running at a speed of 90 km/h passes an electric pole in 15 seconds. Find the time taken by it (in seconds) to cross a bridge of length 800 m.

- Ans
- 1. 51
 - 2. 47
 - 3. 45
 - 4. 48

Question ID : 50389010815
Status : Answered
Chosen Option : 3

Q.23 There are three numbers. The second number is less than the first number and 20% more than the third number. If the first number is $k\%$ of the third number, then find the value of k .

- Ans
- 1. 150
 - 2. $170\frac{1}{2}$
 - 3. $55\frac{5}{9}$
 - 4. 180

Question ID : 50389010813
Status : Answered
Chosen Option : 3

Q.24 The time taken by a man to row certain distance downstream is three-fourth of the time taken by him to row the same distance upstream. If speed of the current is 2 km/h, then find the speed of the boat in still water (in km/h).

- Ans
- 1. 15
 - 2. 12
 - 3. 14
 - 4. 16

Question ID : 50389010814
Status : Answered
Chosen Option : 3

Q.25 The digits of a 2-digit number differ by 5. If number obtained by interchanging the digits is 7 more than two times the original number, then what is the sum of the digits of the original number?

- Ans
- 1. 11
 - 2. 9
 - 3. 13
 - 4. 7

Question ID : 50389010832
Status : Answered
Chosen Option : 1

Q.26 The average of 24 numbers is 36. The average of 15 of these numbers is 33 and that of another 6 of these numbers is 37. What is the average of the remaining three numbers?

- Ans
- 1. 49.6
 - 2. 48
 - 3. 49
 - 4. 49.3

Question ID : 50389010824
Status : Answered
Chosen Option : 3

Q.27 A and B can do a work in 12 and 20 days respectively. They work together for 5 days and leave the work. Then C took up the work and finished the remaining work in 3 days. In how many days can C complete the whole work?

- Ans 1. 9
 2. 10
 3. 8
 4. 12

Question ID : 50389010819
Status : Answered
Chosen Option : 1

Q.28 How many pieces of length 1.5 m can be cut from a roll of 45 m ribbon?

- Ans 1. 28
 2. 30
 3. 25
 4. 24

Question ID : 50389010811
Status : Answered
Chosen Option : 2

Q.29 Sum of two numbers is 81. Their LCM is 20 times their HCF. If their HCF is 9, then what is the smaller number?

- Ans 1. 36
 2. 18
 3. 45
 4. 27

Question ID : 50389010804
Status : Answered
Chosen Option : 4

Q.30 If $A:B = 2:3$, $B:C = 4:5$, $C:D = 3:4$ and $A + D = 49$, then find B.

- Ans 1. 20
 2. 12
 3. 21
 4. 18

Question ID : 50389010810
Status : Answered
Chosen Option : 3

Q.31 A can row 42 km downstream and 30 km upstream in 6 hours. He can also row 35 km downstream and 45 km upstream in 7 hours. How much time will he take to row 32 km downstream and 35 km upstream if speed of the boat in still water as well as the speed of the river water both increase by 1 km/h each?

- Ans
- 1. 5 h 30 m
 - 2. 5 h 35 m
 - 3. 5 h 18 m
 - 4. 5 h 10 m

Question ID : 50389010816
Status : Answered
Chosen Option : 3

Q.32 Two pipes A and B can fill a tank in 2 hours and 3 hours respectively. Both the pipes are opened together but after 30 minutes, pipe A is turned off. What is the total time required to fill the tank?

- Ans
- 1. 2 h 10 m
 - 2. 1 h 45 m
 - 3. 2 h 25 m
 - 4. 2h 15 m

Question ID : 50389010818
Status : Answered
Chosen Option : 4

Q.33 Following table shows the earning (in Rs 1000) of 5 persons A, B, C, D and E over the months. Who earned maximum over the 5 years?

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. A
 - 2. E
 - 3. D and E
 - 4. C

Question ID : 50389010835
Status : Answered
Chosen Option : 3

Q.34 The lengths of diagonals of a Rhombus are 8 cm and 15 cm. Find the distance between any two parallel sides of the rhombus (in cm).

Ans

1. $7\frac{1}{17}$

2. $7\frac{1}{22}$

3. 8

4. $7\frac{1}{5}$

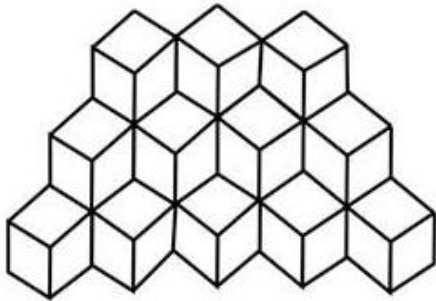
Question ID : 50389010830

Status : Answered

Chosen Option : 4

Section : Intellectual Potential Test

Q.1 The pyramid shown in the question figure is arranged using cubes only. What is the total number of cubes in the 3-D figure given below?



Ans

1. 24

2. 14

3. 15

4. 22

Question ID : 50389010864

Status : Answered

Chosen Option : 4

Q.2 Select the option that is related to the third term in the same way as the second term is related to the first term.

FI : KD : : MP : ?

Ans

1. RL

2. RK

3. RU

4. QK

Question ID : 50389010837

Status : Answered

Chosen Option : 2

Q.3 Pradeep and Sandeep are brothers. Veena is Nandlal's only daughter, Sayli's mother. Pradeep's wife, Juhi, is Veena's only daughter-in-law. How is Sayli related to Sandeep?

- Ans
- 1. Sister
 - 2. Daughter
 - 3. Sister-in-law
 - 4. Mother

Question ID : 50389010850
Status : Answered
Chosen Option : 2

Q.4 Select the option that is related to the third term in the same way as the second term is related to the first term.
State Government : Governor : : Union Government : ?

- Ans
- 1. Prime Minister
 - 2. Chancellor
 - 3. President
 - 4. Speaker

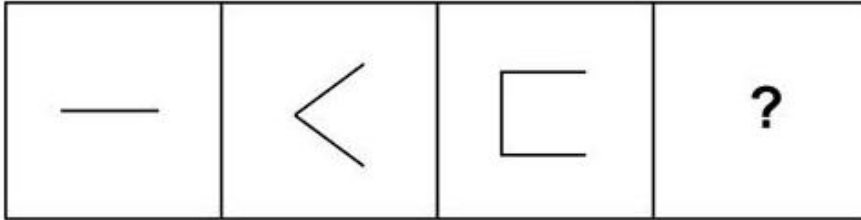
Question ID : 50389010839
Status : Answered
Chosen Option : 2

Q.5 Select the option that is related to the third term in the same way as the second term is related to the first term.
125 : 100 :: 216 : ?

- Ans
- 1. 190
 - 2. 180
 - 3. 252
 - 4. 200

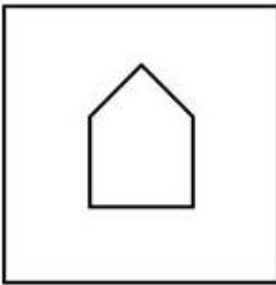
Question ID : 50389010840
Status : Answered
Chosen Option : 2

Q.6 Select the option that will replace the question mark and complete the series correctly.

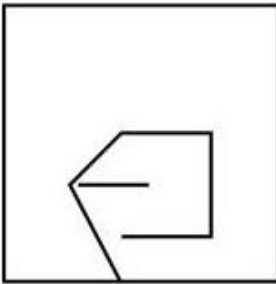


Ans

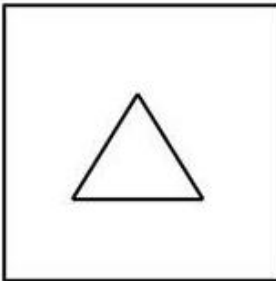
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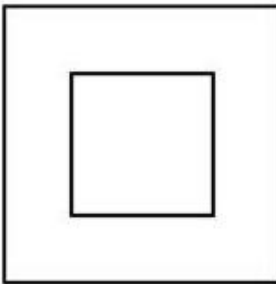
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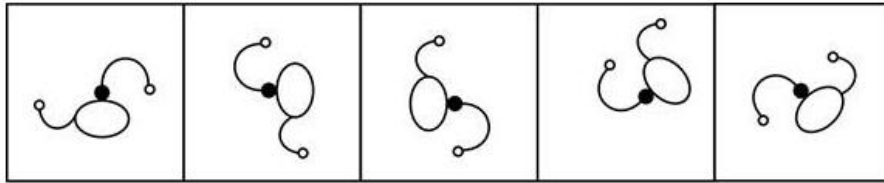


 4.



Question ID : 50389010867
Status : Answered
Chosen Option : 4

Q.7 . Three out of the four figures – A, B, C and D are different from the question figure Q.
Select the option that has a figure similar to figure Q.



Q

A

B

C

D

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

Question ID : 50389010869
Status : Answered
Chosen Option : 3

Q.8 Select the number that will come next in the number series.
0, 3, 8, 15, 24, 35, ?

- Ans
- 1. 50
 - 2. 51
 - 3. 48
 - 4. 47

Question ID : 50389010856
Status : Answered
Chosen Option : 3

Q.9 What the difference between the greatest and smallest 3-digit prime numbers?

- Ans
- 1. 986
 - 2. 898
 - 3. 896
 - 4. 893

Question ID : 50389010860
Status : Answered
Chosen Option : 2

Q.10 K's mother L is the only daughter-in-law of G. G's husband R has two children, V and W. How is R related to K?

- Ans
- 1. Son
 - 2. Grandfather
 - 3. Father
 - 4. Uncle

Question ID : 50389010851
Status : Answered
Chosen Option : 2

Q.11 Select the number that will come next in the number series.
27, 40, 55, 72, 91, ?

- Ans
- 1. 99
 - 2. 112
 - 3. 111
 - 4. 102

Question ID : 50389010857
Status : Answered
Chosen Option : 2

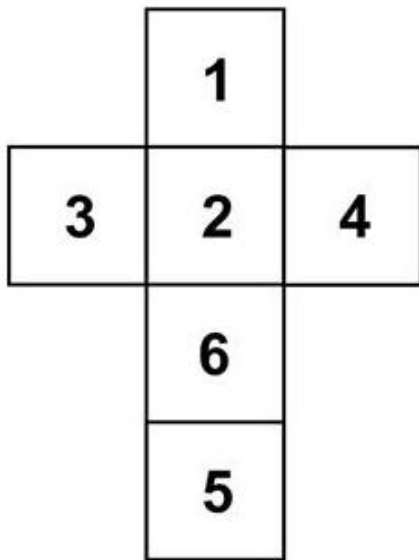
Q.12 Select the number that will come next in the number series.

2, 5, 13, 29, ?

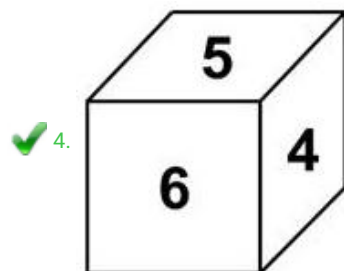
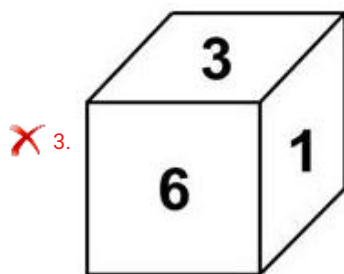
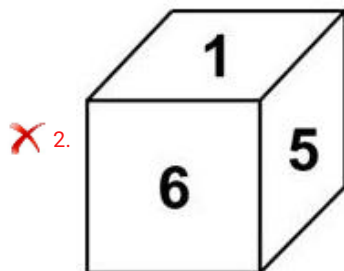
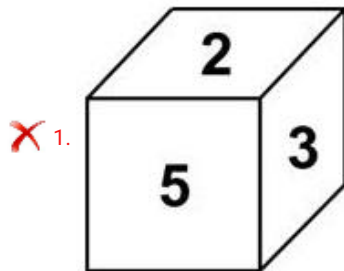
- Ans
- 1. 47
 - 2. 39
 - 3. 43
 - 4. 49

Question ID : 50389010854
Status : Answered
Chosen Option : 4

Q.13 Select the image that will be formed after the unfolded net of the cube is folded inwards to form the cube.



Ans



Question ID : 50389010863

Status : Answered

Chosen Option : 2

Q.14

84 notebooks were to be distributed among a certain number of students invited on the children's day function. However, 9 more students joined the function at the last moment. When the notebooks were distributed equally among all the students, each one of received 3 less notebooks than originally planned. How many students were originally invited to receive the notebooks?

- Ans
- 1. 21
 - 2. 18
 - 3. 12
 - 4. 9

Question ID : 50389010858
Status : Answered
Chosen Option : 3

Q.15 Select the option that is similar to the key word given below:
Aeroplane

- Ans
- 1. Frog
 - 2. Bird
 - 3. Fish
 - 4. Snake

Question ID : 50389010847
Status : Answered
Chosen Option : 2

Q.16 Select the option that is related to the third term in the same way as the second term is related to the first term.
Spider : Web :: Mouse : ?

- Ans
- 1. Cage
 - 2. Coop
 - 3. Den
 - 4. Hole

Question ID : 50389010836
Status : Answered
Chosen Option : 4

Q.17 Select the option that is similar to the pair given below:
Bottle : Water

- Ans
- 1. Glass : Jug
 - 2. Milk : Mug
 - 3. Bowl : Soup
 - 4. Tea : Cup

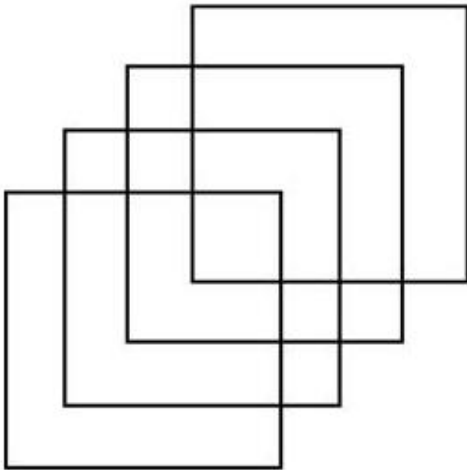
Question ID : 50389010849
Status : Answered
Chosen Option : 3

Q.18 In a code language, horse is called cow; cow is called deer; deer is called fox; and fox is called dog. Then, from which one of the following can milk be definitely obtained?

- Ans
- 1. Fox
 - 2. Deer
 - 3. Dog
 - 4. Horse

Question ID : 50389010845
Status : Answered
Chosen Option : 2

Q.19 What is the maximum number of squares in this image?



- Ans
- 1. 15
 - 2. 12
 - 3. 16
 - 4. 9

Question ID : 50389010866
Status : Answered
Chosen Option : 3

Q.20 In a code language, DEN is coded as EDO; BAT is coded as CZU; and BUN is coded as CTO. Then, how would MOP be coded in that language?

- Ans
- 1. NPO
 - 2. NMQ
 - 3. NNQ
 - 4. LNQ

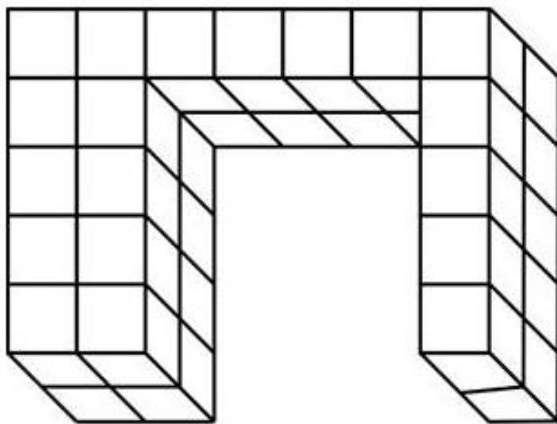
Question ID : 50389010843
Status : Answered
Chosen Option : 3

Q.21 Select the number that will come next in the number series.
1, 3, 7, 15, 31, 63, ?

- Ans
- 1. 143
 - 2. 126
 - 3. 127
 - 4. 131

Question ID : 50389010855
Status : Answered
Chosen Option : 3

Q.22 What is the total number of cubical blocks in the 3-D figure given below?



- Ans
- 1. 41
 - 2. 38
 - 3. 31
 - 4. 23

Question ID : 50389010862
Status : Answered
Chosen Option : 2

Q.23 Select the option that is similar to the key word given below:
Zebra

- Ans
- 1. Horse
 - 2. Rhinoceros
 - 3. Cow
 - 4. Buffalo

Question ID : 50389010846
Status : Answered
Chosen Option : 1

Q.24 Three out of the following four options share a similarity. Select the option that is different from the others.

- Ans
- 1. Seed
 - 2. Leaf
 - 3. Plant
 - 4. Root

Question ID : 50389010841
Status : Answered
Chosen Option : 3

Q.25 In a code language, COAL is coded as 3S@7; PEEL is coded as 9##7; and PEAK is coded as 9#@%. Then, how would LOCK be coded in that language?

- Ans
- 1. 7S#%
 - 2. 9S#3
 - 3. 7S3%
 - 4. 7#@%

Question ID : 50389010844
Status : Answered
Chosen Option : 3

Q.26 Select the option that is related to the third term in the same way as the second term is related to the first term.

5 : 35 :: 9 : ?

- Ans
- 1. 99
 - 2. 108
 - 3. 90
 - 4. 72

Question ID : 50389010838
Status : Answered
Chosen Option : 1

Q.27 Select the option that will replace the question mark and complete the series correctly.

<table border="1"><tr><td>○</td><td>*</td></tr><tr><td>#</td><td>\$</td></tr></table>	○	*	#	\$	<table border="1"><tr><td>#</td><td>○</td></tr><tr><td>\$</td><td>*</td></tr></table>	#	○	\$	*	<table border="1"><tr><td>\$</td><td>#</td></tr><tr><td>*</td><td>○</td></tr></table>	\$	#	*	○	?
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Ans

✗ 1.

\$	○
△	*

✓ 2.

*	\$
○	#

✗ 3.

○	\$
#	*

✗ 4.

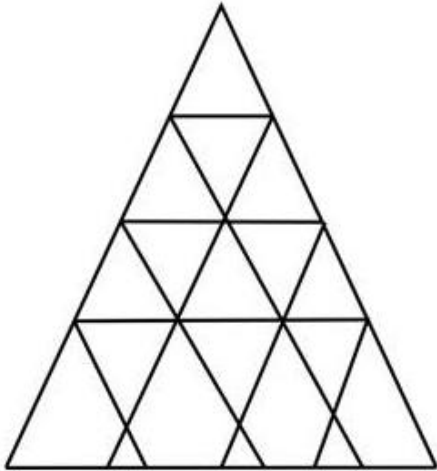
○	\$
#	△

Question ID : 50389010868

Status : Answered

Chosen Option : 2

Q.28 What is the maximum number of triangles in this image?



- Ans
- 1. 26
 - 2. 21
 - 3. 23
 - 4. 29

Question ID : 50389010865
Status : Answered
Chosen Option : 3

Q.29 A trader bought a suit piece for Rs. x , and sold it at a profit of 20%. What is the value of x , if he sold the suit piece for Rs.720?

- Ans
- 1. Rs.600
 - 2. Rs.580
 - 3. Rs.540
 - 4. Rs.560

Question ID : 50389010859
Status : Answered
Chosen Option : 1

Q.30 The product of two prime numbers is 323, and their difference is 2. Which one of the following is the smaller of these two prime numbers?

- Ans
- 1. 11
 - 2. 19
 - 3. 13
 - 4. 17

Question ID : 50389010861
Status : Answered
Chosen Option : 2

Q.31 Showing a picture of a boy, Ramya said, "He is my father-in-law's only son's only sister's only nephew." How is Ramya's mother related to the boy in the picture?

- Ans
- 1. Maternal Aunt
 - 2. (Paternal/maternal) Great grandmother
 - 3. Paternal Aunt
 - 4. Maternal Grandmother

Question ID : 50389010853
Status : Answered
Chosen Option : 3

Q.32 Saritha is Balakrishna's only daughter. Madhavan is Saritha's mother, Parvathy's only son. How is Madhavan's daughter, Vedika related to Saritha?

- Ans
- 1. Cousin
 - 2. Daughter
 - 3. Aunt
 - 4. Niece

Question ID : 50389010852
Status : Answered
Chosen Option : 1

Q.33 Select the option that is similar to the pair given below:
Entomology : Insects

- Ans
- 1. Apiology : Bees
 - 2. Geology : Animals
 - 3. Bibliology : Religion
 - 4. Hydrology : Air

Question ID : 50389010848
Status : Answered
Chosen Option : 2

Q.34 Three out of the following four options share a similarity. Select the option that is different from the others.

- Ans
- 1. 17, 34, 68, 136
 - 2. 8, 16, 64, 256
 - 3. 12, 24, 48, 96
 - 4. 15, 30, 60, 120

Question ID : 50389010842
Status : Answered
Chosen Option : 2

Q.1 Consider a system equation , the system is _____ but _____.

- Ans
- 1. Time variant, non-causal
 - 2. Time invariant, non-causal
 - 3. Time variant, causal
 - 4. Time invariant, causal

Question ID : 50389010887
Status : Answered
Chosen Option : 1

Q.2 A common emitter amplifier is connected with 3-RC network in positive feedback to implement an oscillator, what are the phase contributions from the transistor and each RC network?

- Ans
- 1. 90° , 90°
 - 2. 360° , 0°
 - 3. 180° , 60°
 - 4. 360° , 60°

Question ID : 50389010909
Status : Answered
Chosen Option : 3

Q.3 An electrical circuit consists of two resistors of 100Ω and 200Ω in series with a 30V dc. Compute the current through 100Ω and voltage drop across 200Ω .

- Ans
- 1. 0.1A, 20V
 - 2. 0.2A, 10V
 - 3. 0.2A, 20V
 - 4. 0.1A, 10V

Question ID : 50389010872
Status : Answered
Chosen Option : 1

Q.4 _____ converts mechanical displacement into electrical signals.

- Ans
- 1. LVDT
 - 2. anemometer
 - 3. Thermometer
 - 4. strain gauge

Question ID : 50389010936
Status : Answered
Chosen Option : 1

Q.5 The primary winding of a current transformer is connected in _____ with the line carrying the main current and the secondary winding is directly connected across _____.

- Ans
- 1. series, ammeter
 - 2. parallel, voltmeter
 - 3. parallel, ammeter
 - 4. series, voltmeter

Question ID : 50389010932
Status : Answered
Chosen Option : 1

Q.6 For a causal LTI system the impulse response is $h(n) = \{1, 2, 1, 3\}$. What will be the system difference equation?

- Ans
- 1. $y(n) = x(n) - 2y(n-1) - y(n-2) - 3y(n-3)$
 - 2. $y(n) = x(n) + 2x(n-1) + x(n-2) + 3x(n-3)$
 - 3. $y(n) = x(n) - 2x(n-1) - x(n-2) - 3x(n-3)$
 - 4. $y(n) = x(n) + 2y(n-1) + y(n-2) + 3y(n-3)$

Question ID : 50389010882
Status : Answered
Chosen Option : 2

Q.7 Trueness from the reference measures _____.

- Ans
- 1. Precision
 - 2. Mean
 - 3. Accuracy
 - 4. Recall

Question ID : 50389010927
Status : Answered
Chosen Option : 3

Q.8 A meter movement with internal resistant $0.1\text{K}\Omega$, is required to measure 10mA . Compute the current sensitivity if the shunt resistance is 11.11Ω .

- Ans
- 1. 10mA
 - 2. 0.01mA
 - 3. 1mA
 - 4. 0.1mA

Question ID : 50389010924
Status : Answered
Chosen Option : 4

Q.9 Resistors contribute to _____ power in electrical circuits.

- Ans
- 1. Reactive
 - 2. Active
 - 3. constructive
 - 4. conductive

Question ID : 50389010877
Status : Answered
Chosen Option : 2

Q.10 A simple PN junction diode is fabricated using _____ semiconductor and can be used as a _____.

- Ans
- 1. intrinsic, unidirectional switch
 - 2. extrinsic, unidirectional switch
 - 3. extrinsic, bidirectional switch
 - 4. intrinsic, bidirectional switch

Question ID : 50389010911
Status : Answered
Chosen Option : 1

Q.11 A phase modulated wave can be generated from frequency modulator by connecting a _____ before the modulator and a frequency modulated wave can be generated from phase modulator by connecting a _____ before the modulator.

- Ans
- 1. Differentiator, integrator
 - 2. differentiator, high-pass filter
 - 3. integrator, low-pass filter
 - 4. integrator, differentiator

Question ID : 50389010950
Status : Answered
Chosen Option : 1

Q.12 _____ number of lines are required to select _____ memory locations.

- Ans
- 1. 10, 1024
 - 2. 2, 2
 - 3. 5, 1024
 - 4. 5, 5K

Question ID : 50389010918
Status : Answered
Chosen Option : 1

Q.13 A combinational logic circuit for traffic control is designed. _____ GATE can only be used to implement the designed control circuit without any additional GATES.

- Ans
- 1. NOT
 - 2. EXOR
 - 3. AND
 - 4. NAND

Question ID : 50389010914
Status : Answered
Chosen Option : 4

Q.14 A bipolar junction common emitter transistor is operating in saturation mode, identify the correct statement.

- Ans
- 1. Vce is zero
 - 2. Vbe is zero
 - 3. Ic is zero
 - 4. Vcc = Vce

Question ID : 50389010902
Status : Answered
Chosen Option : 3

Q.15 In a two-watt power meter, for all _____ power factors between 0-0.5, one meter shows _____ reading and second wattmeter shows _____ negative reading.

- Ans
- 1. lagging, positive, positive
 - 2. leading, positive, negative
 - 3. leading, negative, negative
 - 4. lagging, positive, negative

Question ID : 50389010929
Status : Answered
Chosen Option : 4

Q.16 What is the input voltage and output current in common base configuration of a transistor?

- Ans
- 1. VBE, IE respectively
 - 2. VCB, IC respectively
 - 3. VCB, IE respectively
 - 4. VEB, IC respectively

Question ID : 50389010904
Status : Answered
Chosen Option : 4

Q.17 In Hall effect, a difference voltage is produced _____ to electric current in the conductor, and to an applied _____ field perpendicular to the current.

- Ans
- 1. parallel, electric
 - 2. transverse, electric
 - 3. parallel, magnetic
 - 4. transverse, magnetic

Question ID : 50389010939
Status : Answered
Chosen Option : 3

Q.18 Compute the average transmitted power of frequency modulated wave with carrier signal $\cos(2\pi 1000t)$.

- Ans
- 1. 1.5
 - 2. 0.5
 - 3. 1
 - 4. 0.25

Question ID : 50389010944
Status : Answered
Chosen Option : 2

Q.19 Consider a sequence $x(n)=\{1,4,1,4\}$, the FFT of the sequence will be _____

- Ans
- 1. imaginary and odd
 - 2. imaginary and even
 - 3. real and odd
 - 4. real and even

Question ID : 50389010888
Status : Answered
Chosen Option : 1

Q.20 In an optical receiver, the PIN diode has a _____ intrinsic semiconductor layer separating P and N regions, and the diode is _____ biased which helps draw the current carriers away from the intrinsic region.

- Ans
- 1. short, reverse
 - 2. wide, reverse
 - 3. wide, forward
 - 4. short, forward

Question ID : 50389010952
Status : Answered
Chosen Option : 3

Q.21 The Laplace transform of $e^{-4t} \cos(6t)u(t)$ is

- Ans
- 1. $\frac{(s-4)}{((s-4)^2+36)}$
 - 2. $\frac{(s+6)}{((s+6)^2+16)}$
 - 3. $\frac{(s+4)}{((s+4)^2+16)}$
 - 4. $\frac{(s+4)}{((s+4)^2+36)}$

Question ID : 50389010890
Status : Answered
Chosen Option : 4

Q.22 Compute the damping factor of a unity feedback system with open loop gain $1/s(s+3)$.

- Ans
- 1. 1.5
 - 2. 2/5
 - 3. 5
 - 4. 3

Question ID : 50389010895
Status : Answered
Chosen Option : 1

Q.23 _____ eliminates errors due to contacts and _____ in bridge measuring instruments.

- Ans
- 1. Wheatstone Bridge, lead capacitances
 - 2. Kelvin's Double bridge, lead resistances
 - 3. Wheatstone bridge, lead inductances
 - 4. Wheatstone Bridge, lead resistances

Question ID : 50389010933
Status : Answered
Chosen Option : 2

Q.24 Consider a system equation $y(n+2) = -3x(n+2) + 2x(n) - 5x(n-1)$, the system is _____ and _____ respectively.

- Ans
- 1. non-causal, IIR
 - 2. causal, IIR
 - 3. non-causal, FIR
 - 4. causal, FIR

Question ID : 50389010883
Status : Answered
Chosen Option : 1

Q.25 The distortion in pulse modulation scheme resulting in _____, is corrected by _____.

- Ans
- 1. aperture effect, equalizer
 - 2. aliasing, low noise amplifier
 - 3. quadrature null effect, equalizer
 - 4. aperture effect, low noise amplifier

Question ID : 50389010946
Status : Answered
Chosen Option : 2

Q.26 ____ cannot be applied to circuits containing ____.

- Ans
- 1. Superposition theorem, Inductors with initial conditions
 - 2. superposition theorem, resistors
 - 3. Shockley's equation, transistors
 - 4. superposition theorem, ideal capacitors

Question ID : 50389010873
Status : Answered
Chosen Option : 2

Q.27 The closed loop transfer function of a negative feedback system is 10 and feedback factor is 0.05. What will be the open loop gain?

- Ans
- 1. 6.66
 - 2. 20
 - 3. -20
 - 4. -6.66

Question ID : 50389010892
Status : Answered
Chosen Option : 2

Q.28 In optical communication, compute the total energy if the energy of each photon is 1J and there are 1000 photons.

- Ans
- 1. 1
 - 2. 1000
 - 3. 0.001
 - 4. 100

Question ID : 50389010953
Status : Answered
Chosen Option : 2

Q.29 A system with impulse response is essentially a _____ compensator and used as a _____ filter.

- Ans
- 1. Integral, Comb
 - 2. Lead, high-pass
 - 3. Lag, low-pass
 - 4. Proportional, all pass

Question ID : 50389010893
Status : **Marked For Review**
Chosen Option : 1

Q.30 Compute the peak value of a full wave rectified output if its average value is found to be 3.18V.

- Ans
- 1. 1V
 - 2. 2.5V
 - 3. 10V
 - 4. 5V

Question ID : 50389010876
Status : **Answered**
Chosen Option : 1

Q.31 If function $f(X,Y,Z) = \sum m(2,3,4,5)$ is implemented using SOP form, the resultant Boolean function would be _____.

- Ans
- 1. Z
 - 2. Y+Z
 - 3. X+Y
 - 4. (X+Y)Z

Question ID : 50389010916
Status : **Marked For Review**
Chosen Option : 3

Q.32 A _____ counter can be implemented using three flipflops.

- Ans
- 1. mod-6
 - 2. mod-11
 - 3. mod-9
 - 4. mod-13

Question ID : 50389010920
Status : **Answered**
Chosen Option : 1

Q.33 What is the even part of the signal $x(t) = 2 + \cos t$?

- Ans
- 1. $2 + \sin t$
 - 2. $2 \cos t$
 - 3. $2 - \sin t$
 - 4. $2 + \cos t$

Question ID : 50389010880
Status : Answered
Chosen Option : 4

Q.34 For an n-channel E-MOSFET $V_{th} = 5V$, what is the condition to turn ON the device?

- Ans
- 1. $V_{DS} > 5V$
 - 2. $V_{GS} < 5V$
 - 3. $V_{GS} > 5V$
 - 4. $V_{DS} = 5V$

Question ID : 50389010903
Status : Answered
Chosen Option : 1

Q.35 Compute the gauge factor if change in resistance is 0.2Ω per Ohm and change in length is 0.6 per meter.

- Ans
- 1. 0.33
 - 2. 0.6
 - 3. 0.2
 - 4. 3

Question ID : 50389010938
Status : Answered
Chosen Option : 1

Q.36 If an LTI system with the transfer function $H(z) = 1 + 2z^{-1}$ is excited with input $x(n) = \{3, 4\}$, compute the output of the system.

- Ans
- 1. $y(n) = \{4, 11, 6\}$
 - 2. $y(n) = \{3, 10, 8\}$
 - 3. $y(n) = \{3, 8, 10\}$
 - 4. $y(n) = \{4, 6, 11\}$

Question ID : 50389010889
Status : Answered
Chosen Option : 2

Q.37 In digital modulation schemes, raised cosine filter is used to reduce _____ caused by _____.

- Ans
- 1. inter-symbol interference, higher bandwidth
 - 2. intra-symbol interference, timing error
 - 3. intra-symbol interference, higher bandwidth
 - 4. inter-symbol interference, timing error

Question ID : 50389010947
Status : Answered
Chosen Option : 3

Q.38 In a positive feedback system if the open loop gain is -100 and the feedback factor 1/10, calculate the closed loop gain.

- Ans
- 1. 11.11
 - 2. 9.09
 - 3. -11.11
 - 4. -9.09

Question ID : 50389010891
Status : Answered
Chosen Option : 1

Q.39 For a bipolar junction transistor in common emitter mode, $I_C = \text{maximum}$ and V_C (collector voltage) = V_E (emitter voltage), the transistor operates in _____ mode.

- Ans
- 1. saturation
 - 2. forward blocking
 - 3. active
 - 4. cut-off

Question ID : 50389010906
Status : Answered
Chosen Option : 4

Q.40 In a JK flipflop, J and K inputs are set to logic 1, the output $Q(0)$ will be _____ when $Q(-1)$ is _____.

- Ans
- 1. 0, 0
 - 2. 1, 1
 - 3. undefined, 1
 - 4. 1, 0

Question ID : 50389010917
Status : Answered
Chosen Option : 1

Q.41 Consider a signal $x(t) = 5 \cos\left(\frac{2\pi t}{3}\right) + 9 \sin(0.5\pi t) + 3 \sin\left(\frac{\pi t}{3} - \frac{\pi}{6}\right) + 12$. Identify the valid statement for $x(t)$.

- Ans
- 1. $x(t)$ is periodic with frequency (1/12) Hz
 - 2. $x(t)$ is periodic with period 1.2s
 - 3. $x(t)$ is not periodic
 - 4. $x(t)$ is periodic with frequency 12Hz

Question ID : 50389010879
Status : Answered
Chosen Option : 1

Q.42 In CRT based CRO, which horizontal voltage moves the luminous spot from left to right in a periodic manner?

- Ans
- 1. externally generated ramp voltage
 - 2. internally generated step voltage
 - 3. externally generated step voltage
 - 4. internally generated ramp voltage

Question ID : 50389010925
Status : Answered
Chosen Option : 4

Q.43 A reading of 100V on a digital multimeter ranges from 97V to 103V. Compute the accuracy.

- Ans
- 1. $\pm 0.3\%$
 - 2. $\pm 6\%$
 - 3. $\pm 1.5\%$
 - 4. $\pm 3\%$

Question ID : 50389010928
Status : Answered
Chosen Option : 4

Q.44 An electrical circuit provides effective impedance of $-2j\Omega$. What will be the phase difference between voltage and current in this circuit? -

- Ans
- 1. 45°
 - 2. -90°
 - 3. 0°
 - 4. 180°

Question ID : 50389010878
Status : Answered
Chosen Option : 2

Q.45 A centre tapped full wave rectifier is loaded by an inductor in series and capacitor in parallel, the reactive part of this arrangement behaves as _____.

- Ans
- 1. connector
 - 2. Filter
 - 3. regulator
 - 4. rectifier

Question ID : 50389010907
Status : Answered
Chosen Option : 4

Q.46 _____ tells if the transmission rate is less than channel capacity, then there exists _____ that permit error free transmission.

- Ans
- 1. Shannon's, backward error-correcting codes
 - 2. Nyquist criterion, forward error-correcting codes
 - 3. Shannon's theory, forward error-correcting codes
 - 4. Nyquist criterion, backward error-correcting codes

Question ID : 50389010948
Status : Answered
Chosen Option : 3

Q.47 Consider the following in context of thermistors and identify the correct choice.

P: Thermistors are inexpensive and rugged.

Q: Thermistors are not amenable to remote measurements

- Ans
- 1. P and Q both are incorrect
 - 2. P is correct, Q is incorrect
 - 3. P is incorrect, Q is correct
 - 4. P and Q both are correct

Question ID : 50389010943
Status : Answered
Chosen Option : 4

Q.48 Consider the following in context of permanent magnet moving coil and identify the correct choice.

P: PMMC is sensitive to small current.

Q: PMMC is free from hysteresis and not affected by external fields.

- Ans
- 1. P is incorrect and Q is correct
 - 2. P and Q both are incorrect
 - 3. P and Q both are correct
 - 4. P is correct and Q is incorrect

Question ID : 50389010930
Status : Answered
Chosen Option : 4

Q.49 Compute the transfer function if the impulse response of an LTI systems is $h(n) = 0.5^n u(n)$.

Ans

1. $H(z) = \frac{z}{(z-0.5)}; |z| < 0.5$

2. $H(z) = \frac{1}{(z-0.5)}; |z| > 0.5$

3. $H(z) = \frac{1}{(z-0.5)}; |z| < 0.5$

4. $H(z) = \frac{z}{(z-0.5)}; |z| > 0.5$

Question ID : 50389010884

Status : Answered

Chosen Option : 1

Q.50 The minimum order of transfer function of an ideal LC tank circuit is _____.

Ans

1. 1

2. zero

3. 2

4. 4

Question ID : 50389010894

Status : Answered

Chosen Option : 3

Q.51 Consider the following in context of creeping in energy meter and identify the correct option.

P: The primary reason of creeping is under-compensation for friction.

Q: Creeping may be because of excessive voltage and vibrations.

Ans

1. P and Q both are correct

2. P is correct, Q is incorrect.

3. P is incorrect, Q is correct

4. P and Q both are incorrect

Question ID : 50389010941

Status : Answered

Chosen Option : 3

Q.52 An AC voltage is given by $v(t) = 5 + \sin(2000\pi t)$, what is the time period and the dc component in $v(t)$?

Ans

1. 0.05ms, 0V

2. 1ms, 0V

3. 0.05ms, 5V

4. 1ms, 5V

Question ID : 50389010875

Status : Answered

Chosen Option : 4

Q.53 Calculate the system bandwidth capacity in a FDM system having 200 users with individual BW of 3MHz.

- Ans
- 1. 1200MHz
 - 2. 300MHz
 - 3. 600MHz
 - 4. 66.66MHz

Question ID : 50389010949
Status : Answered
Chosen Option : 3

Q.54 _____ under influence of external force produce _____.

- Ans
- 1. anemometers, vibrations
 - 2. piezoelectric crystals, magnetomotive force
 - 3. thermistors, current
 - 4. piezoelectric crystals, electromotive force

Question ID : 50389010937
Status : Answered
Chosen Option : 1

Q.55 The O in a MOSFET stands for _____ layer which provides _____ to the device.

- Ans
- 1. Oxide, high input impedance
 - 2. Other, higher base transportation factor
 - 3. Oxythermal, thermal stability
 - 4. Oxide, low input impedance

Question ID : 50389010905
Status : Answered
Chosen Option : 1

Q.56 Electrodynamicometer is a _____ instrument where magnetic field in which coil moves, is provided by two _____.

- Ans
- 1. transfer-type, permanent magnets
 - 2. constant-type, permanent magnets
 - 3. transfer-type, fixed coils
 - 4. constant-type, fixed coils

Question ID : 50389010931
Status : Answered
Chosen Option : 3

Q.57 A control system transfer function is $H(s)=1/s^3$. Express its impulse response in terms of unit step signal

- Ans
- 1. $u(t) \otimes u(t)$; \otimes denotes convolution
 - 2. $u(t) \otimes u(t) \otimes u(t) \otimes u(t)$; \otimes denotes convolution
 - 3. $u(t) \times u(t) \times u(t)$; \times denotes multiplication
 - 4. $u(t) \otimes u(t) \otimes u(t)$; \otimes denotes convolution

Question ID : 50389010896
Status : Answered
Chosen Option : 4

Q.58 The number of control lines in a multiplexer is 5, identify the MUX.

- Ans
- 1. 16:1
 - 2. 5:1
 - 3. 32:1
 - 4. 64:1

Question ID : 50389010915
Status : Answered
Chosen Option : 3

Q.59 An optical transmitter transmits 10W power, compute its equivalent power in dBm.

- Ans
- 1. 10dBm
 - 2. -40dBm
 - 3. 30dBm
 - 4. 40dBm

Question ID : 50389010954
Status : Answered
Chosen Option : 1

Q.60 Flow can be measured by ____.

- Ans
- 1. thermistor
 - 2. anemometer
 - 3. strain gauge
 - 4. LVDT

Question ID : 50389010935
Status : Answered
Chosen Option : 2

Q.61 In varactor diodes, the junction capacitance is controlled by _____ supply in _____ mode.

- Ans
- 1. external, forward biased
 - 2. external, reverse biased
 - 3. internal, forward biased
 - 4. internal, reverse biased

Question ID : 50389010910
Status : Answered
Chosen Option : 2

Q.62 A second order system has natural frequency 3rad/sec and unity damping factor. Identify its transfer function.

- Ans
- 1. $\frac{1}{s^2 + 3s + 9}$
 - 2. $\frac{9}{s^2 + 2s + 9}$
 - 3. $\frac{9}{s^2 + 6s + 9}$
 - 4. $\frac{3}{s^2 + 3s + 3}$

Question ID : 50389010899
Status : Answered
Chosen Option : 3

Q.63 For an LTI system, the transfer function is $H(z) = \frac{z}{(z-0.2)(z-0.5)}$; $|z| > 0.5$, the system is ___ and ___.

- Ans
- 1. causal IIR, unstable
 - 2. causal FIR, stable
 - 3. noncausal FIR, stable
 - 4. causal IIR, stable

Question ID : 50389010885
Status : Answered
Chosen Option : 1

Q.64 Following instruction is executed in 8085,
LDB 4000H
Identify the correct statement.

- Ans
- 1. 4000H is copied to register B
 - 2. data at address 4002H is copied to register B
 - 3. 4002H is copied to register B
 - 4. data at address 4000H is copied to register B

Question ID : 50389010923
Status : Answered
Chosen Option : 4

Q.65 TRAP is a _____ interrupt which has the _____ priority among all other interrupts.

- Ans
- 1. maskable, lowest
 - 2. non-maskable, highest
 - 3. maskable, second lowest
 - 4. non-maskable, second highest

Question ID : 50389010922
Status : Answered
Chosen Option : 2

Q.66 The transfer function of a system is $1/(s+1)$, compute steady state final value when excited with unit step input.

- Ans
- 1. infinity
 - 2. 0
 - 3. 1
 - 4. 5

Question ID : 50389010898
Status : Answered
Chosen Option : 2

Q.67 In an electrical circuit, two resistors of 10Ω and 15Ω are connected in parallel across 60V dc supply. Compute the current through 10Ω resistor.

- Ans
- 1. 4A
 - 2. 6A
 - 3. 10A
 - 4. 2A

Question ID : 50389010871
Status : Answered
Chosen Option : 2

Q.68 In a causal system, sustained oscillations are obtained as output, what are the pole locations?

- Ans
- 1. conjugate poles on imaginary axis
 - 2. conjugate poles in the left half of s-plane
 - 3. real poles in the left half of s-plane
 - 4. conjugate poles in the right half of s-plane

Question ID : 50389010897
Status : Answered
Chosen Option : 1

Q.69 Consider the following numbers in sequence 0, 1, 2, 3, 10, 11, 12, 13, 20, Identify the number system for the above sequence.

- Ans
- 1. Decimal
 - 2. Octal
 - 3. Hexadecimal
 - 4. Quaternary

Question ID : 50389010912
Status : Answered
Chosen Option : 4

Q.70 Compute the operating gate-to-source voltage for an n-channel FET to make drain current zero if the $V_p = -3.5V$.

- Ans
- 1. -4V
 - 2. 3.5V
 - 3. -3.5V
 - 4. 4V

Question ID : 50389010908
Status : Answered
Chosen Option : 2

Q.71 A second order system has only imaginary conjugate poles, what is the damping factor value for this system?

- Ans
- 1. between zero and 1
 - 2. less than zero
 - 3. Zero
 - 4. greater than unity

Question ID : 50389010900
Status : Answered
Chosen Option : 3

Q.72 The Boolean simplified form for $S = (X+Y)(X+Z)$ is _____.

- Ans
- 1. 1
 - 2. $X+Y$
 - 3. $Y+XZ$
 - 4. $X+YZ$

Question ID : 50389010921
Status : Answered
Chosen Option : 4

Q.73 In an LVDT, when the core is at NULL position, the flux linkage with both the secondary windings is _____ and results in _____ output voltage.

- Ans
- 1. equal, zero
 - 2. unequal, zero
 - 3. equal, maximum
 - 4. unequal, maximum

Question ID : 50389010942
Status : Answered
Chosen Option : 3

Q.74 In a dual slope integrating type DVM, the accuracy of measured voltage _____ on the integrating time constant and _____ of frequency of oscillation.

- Ans
- 1. depends, independent
 - 2. doesn't depend, function
 - 3. doesn't depend, independent
 - 4. depends, function

Question ID : 50389010926
Status : Answered
Chosen Option : 3

Q.75 Consider the following in context of linear variable differential transformer and identify the correct choice.

P: LVDT consumes low power and has lower hysteresis loss.

Q: The dynamic response of LVDT is instantaneous.

- Ans
- 1. P and Q both are correct
 - 2. P is correct, Q is incorrect
 - 3. P is incorrect, Q is correct
 - 4. P and Q both are incorrect

Question ID : 50389010934
Status : Answered
Chosen Option : 4

Q.76 The measurement errors in current transformer can be reduced by _____ the flux density, and _____ permeability of core material.

- Ans
- 1. decreasing, increasing
 - 2. increasing, increasing
 - 3. increasing, decreasing
 - 4. decreasing, decreasing

Question ID : 50389010940
Status : Answered
Chosen Option : 2

Q.77 An LED has lower output power, _____ switching speed and _____ spectral width than the LASER as an optical source.

- Ans
- 1. slower, higher
 - 2. faster, higher
 - 3. faster, lower
 - 4. slower, lower

Question ID : 50389010951
Status : Answered
Chosen Option : 2

Q.78 Compute the open loop DC gain if the closed loop transfer function is

$\frac{2s+6}{2s^2+10s+14}$ with unity feedback factor.

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

Question ID : 50389010901
Status : Answered
Chosen Option : 1

Q.79 Identify the addressing mode of 8085 microprocessor in the following instruction
MOV R1, 56H

- Ans
- 1. Immediate
 - 2. Indirect
 - 3. Implied
 - 4. Direct

Question ID : 50389010919
Status : Answered
Chosen Option : 1

Q.80

Consider a signal $y(t) = u(t-2) - u(t-4)$, evaluate $\int_{-\infty}^{\infty} x(t)\delta(t)dt$

- Ans
- 1. 1.8
 - 2. 0
 - 3. 4
 - 4. 2

Question ID : 50389010881
Status : Answered
Chosen Option : 2

Q.81 Calculate the decimal equivalent of an octal number 10.

- Ans
- 1. 1000
 - 2. 18
 - 3. 12
 - 4. 8

Question ID : 50389010913
Status : Answered
Chosen Option : 4

Q.82 Compute the modulation factor if $V_{max}=10V$, $V_{min}=2$ in an AM system.

- Ans
- 1. 1.5
 - 2. 5
 - 3. 0.66
 - 4. 0.2

Question ID : 50389010945
Status : Answered
Chosen Option : 3

Q.83 Two point DFT of a sequence $x[n]$ is $X[k]= [6, 2]$, compute its inverse.

- Ans
- 1. $x(n)=[2,2]$
 - 2. $x(n)=[2,4]$
 - 3. $x(n)=[4,4]$
 - 4. $x(n)=[4,2]$

Question ID : 50389010886
Status : Answered
Chosen Option : 2

Q.84 Calculate the equivalent resistance if two resistors of 50Ω connected in parallel with a series resistor of 25Ω .

- Ans
- 1. 50Ω
 - 2. 12.5Ω
 - 3. 75Ω
 - 4. 125Ω

Question ID : 50389010870
Status : Answered
Chosen Option : 1

Q.85 A dc circuit is Thevenized and found to have parameters as 25Ω and $10V$. What will be the maximum power transferred to the load?

- Ans
- 1. $10W$
 - 2. $1W$
 - 3. $25W$
 - 4. $4W$

Question ID : 50389010874
Status : Answered
Chosen Option : 2