



## हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड

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**HINDUSTAN PETROLEUM CORPORATION LIMITED**

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Participant ID	
Participant Name	
Test Center Name	iON Digital Zone iDZ Village Adampur Raisen Road
Test Date	12/08/2021
Test Time	9:00 AM - 11:30 AM
Subject	MECHANICAL ENGINEER

Section : English Language

Q.1 Fill in the blank using the most appropriate phrase.  
Many children are \_\_\_\_\_ to be extremely independent thinkers by their parents.

- Ans
- 1. Brought of
  - 2. Brought in
  - 3. Brought up
  - 4. Brought as

Question ID : 50389010629  
Status : Answered  
Chosen Option : 3

Q.2 Choose the correct preposition.  
As it started to rain, the snail withdrew \_\_\_\_\_ its shell, using his natural umbrella.

- Ans
- 1. from
  - 2. Into
  - 3. for
  - 4. along

Question ID : 50389010615  
Status : Answered  
Chosen Option : 2

Q.3 Select the most appropriate option to complete the sentence.  
I know she is not experienced for this job but her communication skills seem to be far \_\_\_\_\_ than the other candidates who were interviewed today.

- Ans
- 1. Best
  - 2. good
  - 3. More good
  - 4. Better

Question ID : 50389010618  
Status : Answered  
Chosen Option : 4

**Q.4** Select the most appropriate option to complete the sentence.  
This book is \_\_\_\_\_ and I will not lend it to \_\_\_\_\_.

- Ans
- 1. My, yours
  - 2. My, you
  - 3. Mine, yours
  - 4. Mine, you

Question ID : 50389010620  
Status : Answered  
Chosen Option : 4

**Q.5** Choose the appropriate word to complete the phrase.  
Sidharth and Madhuri decided to call \_\_\_\_\_ their wedding just one week before the ceremony.

- Ans
- 1. Off
  - 2. up
  - 3. On
  - 4. In

Question ID : 50389010628  
Status : Answered  
Chosen Option : 1

**Q.6** Select the misspelt word.

- Ans
- 1. Restaurant
  - 2. Jubilant
  - 3. Permanent
  - 4. adamant

Question ID : 50389010627  
Status : Answered  
Chosen Option : 4

**Q.7** Which part of the sentence contains an error?  
I was walking down the road when all of the sudden it started raining cats and dogs.

- Ans
- 1. it started raining cats and dogs.
  - 2. down the road
  - 3. I was wa king
  - 4. when all of the sudden

Question ID : 50389010630  
Status : Answered  
Chosen Option : 4

**Q.8** Choose the word which can be used in place of the words underlined.  
She hates eating meat, and all her friends are eaters of meat and chicken.

- Ans
- 1. Lacto-vegetarian
  - 2. Non-Vegan
  - 3. Vegetarian
  - 4. Non-vegetarian

Question ID : 50389010625  
Status : Answered  
Chosen Option : 3

Q.9 Which conjunction can be used for this sentence?  
Sudha is an extrovert \_\_\_\_\_ Ramona, her sister, is an introvert.

- Ans
- 1. so
  - 2. Also
  - 3. Whereas
  - 4. When

Question ID : 50389010617  
Status : Answered  
Chosen Option : 3

Q.10 Pick the most appropriate synonym of-  
Vicinity

- Ans
- 1. Removal
  - 2. surrounding
  - 3. Separation
  - 4. Distance

Question ID : 50389010622  
Status : Answered  
Chosen Option : 2

Q.11 Select the most appropriate option to complete the sentence.  
Did you \_\_\_\_\_ your essay yourself or did you \_\_\_\_\_ help from your sister?

- Ans
- 1. Wrote, take
  - 2. Write, take
  - 3. Write, took
  - 4. Write, taken

Question ID : 50389010619  
Status : Answered  
Chosen Option : 1

Q.12 Select the correctly spelt word.

- Ans
- 1. Recieve
  - 2. Riceive
  - 3. recive
  - 4. Receive

Question ID : 50389010626  
Status : Answered  
Chosen Option : 4

Q.13 Choose the most appropriate option to complete the sentence.  
The Western Coastal Plains are found \_\_\_\_\_ Gujarat.

- Ans
- 1. On
  - 2. In
  - 3. At
  - 4. For

Question ID : 50389010616  
Status : Answered  
Chosen Option : 2

Q.14 Pick the most appropriate antonym of-  
supreme

- Ans
- 1. Excellent
  - 2. Superior
  - 3. Best
  - 4. inconsequential

Question ID : 50389010624  
Status : Answered  
Chosen Option : 4

Q.15 Pick the most appropriate synonym of-  
Vexation

- Ans
- 1. Excitement
  - 2. entertainment
  - 3. Annoyance
  - 4. Ecstasy

Question ID : 50389010623  
Status : Answered  
Chosen Option : 3

Q.16 Choose the sentence which is grammatically correct.

- Ans
- 1. the change you be want to see
  - 2. see the change want you to be
  - 3. be the you want to change
  - 4. be the change you want to see

Question ID : 50389010631  
Status : Answered  
Chosen Option : 4

Q.17 Select the most appropriate option to complete the sentence.  
My father works \_\_\_\_\_ day and night to make the two ends meet.

- Ans
- 1. Hardly
  - 2. hardest
  - 3. Hard
  - 4. Hardenly

Question ID : 50389010621  
Status : Answered  
Chosen Option : 3

Q.1

If  $\frac{2-\sqrt{5}}{2+\sqrt{5}} - \frac{2+\sqrt{5}}{2-\sqrt{5}} = a + b\sqrt{5}$ , then what is the value of  $(a - b)$ ?

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

Question ID : 50389010636  
Status : Answered  
Chosen Option : 1

Q.2

If  $x = \frac{2}{1-\sqrt{2}}$ , then find the value of  $x^2 + 4x + 3$ .

- Ans
- 1. 23
  - 2.  $7-16\sqrt{2}$
  - 3. 7
  - 4.  $23+16\sqrt{2}$

Question ID : 50389010633  
Status : Answered  
Chosen Option : 3

Q.3 The curved surface area of a cylinder is 484 sq. cm. If height of the cylinder is 7 cm, then what is the volume of the cylinder (in cubic cm)?

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

- Ans
- 1. 2650
  - 2. 2200
  - 3. 2662
  - 4. 2750

Question ID : 50389010659  
Status : Answered  
Chosen Option : 3

Q.4 A sum of money is to be distributed among A, B, C and D such that A:B = 1:2, B:C = 3:2, C:D = 3:4. If difference in the shares of A and D is 2240, then what is the share of B (in Rs)?

- Ans
- 1. 5120
  - 2. 2880
  - 3. 3840
  - 4. 5760

Question ID : 50389010642  
Status : Answered  
Chosen Option : 1

Q.5 If cost of 5 computer keyboards is Rs 750, then what is the cost of 8 keyboards (in Rs)?

- Ans
- 1. 1150
  - 2. 1280
  - 3. 1200
  - 4. 1250

Question ID : 50389010643  
Status : Answered  
Chosen Option : 3

Q.6 A is twice as efficient as B and completes a work in 12 days less than B. They worked together for 3 days and then A left the work. In how many days will B alone complete the remaining work?

- Ans
- 1. 15
  - 2. 20
  - 3. 24
  - 4. 18

Question ID : 50389010651  
Status : Answered  
Chosen Option : 1

Q.7 The ratio between two numbers is 6:11. If 100 and 50 are added to the first and the second number respectively, then the ratio becomes 10:17. What will be the ratio when 50 is subtracted from the first number and added to the second number taken initially?

- Ans
- 1. 1:2
  - 2. 8:13
  - 3. 2:3
  - 4. 8:15

Question ID : 50389010641  
Status : Answered  
Chosen Option : 1

Q.8 A shopkeeper bought shirts at 6 for Rs 1800 and sold them at 5 for Rs 1800. What is his profit percentage?

- Ans
- 1. 20
  - 2. 18
  - 3. 15
  - 4. 21

Question ID : 50389010652  
Status : Answered  
Chosen Option : 1

**Q.9** In the wholesale market, prices of vegetables increased by 5%. In the next week, these further increased by 20% and in the next week, these decreased by 5%. Find the overall increase percentage in the prices after 3 weeks.

- Ans  1. 19.7  
 2. 20.3  
 3. 20  
 4. 30

Question ID : 50389010644  
Status : Answered  
Chosen Option : 1

**Q.10** Find the time taken by a train of length 480 m running at 108 km/h to cross an electric pole (in seconds).

- Ans  1. 12  
 2. 16  
 3. 15  
 4. 10

Question ID : 50389010646  
Status : Answered  
Chosen Option : 2

**Q.11** Dalip can row 42 km downstream in 2 hours and the same distance upstream in 2 hours and 48 minutes. How much time will he take to row 31.5 km downstream and 22.5 km upstream?

- Ans  1. 2 h 50 m  
 2. 3 h  
 3. 3 h 15 m  
 4. 3 h 5 m

Question ID : 50389010647  
Status : Answered  
Chosen Option : 2

**Q.12**

A circle is drawn in a rectangle in such a way that it touches both the longer sides of the rectangle. If the radius of the circle is two-fifth of the longer side of the rectangle, then find the ratio of the area of the rectangle excluding the circle to the area of the circle.

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

- Ans  1. 13:23  
 2. 6:11  
 3. 12:25  
 4. 13:22

Question ID : 50389010661  
Status : Answered  
Chosen Option : 4

Q.13 Following table shows the earning (in Rs 1000) of 5 persons A, B, C, D and E over the months. What is the ratio of earning of A in March and May taken together to that of E in March and June taken together?

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. 20:21  
 2. 181:175  
 3. 25:26  
 4. 250:263

Question ID : 50389010665  
Status : Answered  
Chosen Option : 1

Q.14 A and B can do a work in 12 and 20 days respectively. They worked together for 2 days and then C joined them. This allowed them to complete the whole work in a total of 5 days. In how many days can C alone complete the whole work?

- Ans  1. 10  
 2. 7  
 3. 9  
 4. 8

Question ID : 50389010650  
Status : Answered  
Chosen Option : 3

Q.15 The average of 10 numbers is 26.5. If the average of first 6 numbers is 25 and the average of last 6 numbers is 29, then what is the average of the 5th and the 6th number?

- Ans  1. 29  
 2. 29.2  
 3. 29.5  
 4. 28

Question ID : 50389010654  
Status : Answered  
Chosen Option : 3



Q.16 The value of a new Laptop depreciated by 5% in the first year, by 10% in the second year and by 15% in the third year. If the present value of the Laptop is Rs 43605, then for how much (in Rs) was the Laptop purchased?

- Ans
- 1. 57500
  - 2. 60000
  - 3. 58000
  - 4. 56000

Question ID : 50389010645  
Status : Answered  
Chosen Option : 2

Q.17 Find the value of in  $0.35 \times 0.25 \times = 1.75$

- Ans
- 1. 2
  - 2. 0.2
  - 3. 20
  - 4. 200

Question ID : 50389010638  
Status : Answered  
Chosen Option : 3

Q.18 If the difference between the compound interest and the simple interest earned on a certain sum at 12% per annum in 2 years is Rs 675, then what is the sum (in Rs)?

- Ans
- 1. 46578
  - 2. 46500
  - 3. 48675
  - 4. 46875

Question ID : 50389010657  
Status : Answered  
Chosen Option : 4

Q.19 Find the greatest number 281953k such that it is divisible by 3 but not by 6.

- Ans
- 1. 2819539
  - 2. 2819535
  - 3. 2819538
  - 4. 2819532

Question ID : 50389010634  
Status : Answered  
Chosen Option : 1

Q.20 Four men can do a work in 3 days which 6 women can do in 4 days or 9 boys in 4 days. How many days will 1 man, 2 women and 3 boys working together take to do the same work?

Ans

1.  $4\frac{3}{4}$

2. 4

3.  $3\frac{1}{2}$

4.  $4\frac{1}{2}$

Question ID : 50389010649

Status : Answered

Chosen Option : 2

Q.21 Product of two natural numbers is 135. If sum of their squares is 306, then what is the smaller number?

Ans

1. 9

2. 3

3. 15

4. 5

Question ID : 50389010663

Status : Answered

Chosen Option : 1

Q.22 A trader sells his goods at a discount of 8%. He still makes a profit of 15%. In order to make a profit of 20%, how much percent discount should he allow?

Ans

1. 4

2. 5

3. 3.5

4. 3

Question ID : 50389010653

Status : Answered

Chosen Option : 2

Q.23 The average weight of 44 students of section A is 44.8 kg and that of 40 students of section B is 44.2 kg. If 2 students of section A are shifted to section B, then the average weight of the students in both the sections become equal. What is the average weight of the two students (in kg) who were shifted from section A to section B?

Ans

1. 50.6

2. 50.8

3. 49.5

4. 50.5

Question ID : 50389010656

Status : Answered

Chosen Option : 2

Q.24 A sum of money amounts to Rs 100000 after 4 years and to Rs 156250 after 6 years on compound interest. What is the sum (in Rs)?

- Ans
- 1. 40960
  - 2. 41500
  - 3. 42000
  - 4. 40000

Question ID : 50389010658  
Status : Answered  
Chosen Option : 1

Q.25 Find the sum of value of k and its reciprocal from the following equation.

$$\frac{2}{7} \text{ of } \frac{3}{4} \text{ of } \frac{7}{10} \text{ of } k = 7\frac{1}{2}$$

- Ans
- 1.  $40\frac{1}{40}$
  - 2.  $22\frac{1}{22}$
  - 3.  $30\frac{1}{30}$
  - 4.  $50\frac{1}{50}$

Question ID : 50389010640  
Status : Answered  
Chosen Option : 4

Q.26 Sum of two numbers is 2750. If the first number increases by 10% and second number increases by 20%, then their sum becomes 3170. Find the positive difference between the two numbers.

- Ans
- 1. 130
  - 2. 150
  - 3. 145
  - 4. 160

Question ID : 50389010664  
Status : Answered  
Chosen Option : 2

Q.27

What is the value of  $\frac{2n - m}{3n + m}$ , if  $1.05m = 0.035n$  ?

Ans

- 1.  $\frac{1}{2}$
- 2.  $\frac{59}{89}$
- 3.  $\frac{59}{91}$
- 4.  $\frac{61}{91}$

Question ID : 50389010637

Status : Answered

Chosen Option : 3

Q.28 A train passes 200 m long platform in 30 seconds and a man standing on the platform in 18 seconds. What is the speed of the train (in km/h)?

Ans

- 1. 58
- 2. 56
- 3. 55
- 4. 60

Question ID : 50389010648

Status : Answered

Chosen Option : 4

Q.29 Which is the greatest 4-digit number which is divisible by 12, 15, 20 and 25?

Ans

- 1. 9980
- 2. 9999
- 3. 9996
- 4. 9900

Question ID : 50389010635

Status : Answered

Chosen Option : 4

Q.30 Simplify the following expression.

$$\frac{(0.03)^2 - (0.01)^2}{0.05 - 0.03} - \frac{(0.2)^3 - (0.2)^2}{(0.2)^5}$$

Ans

- 1. 100.04
- 2. 10.04
- 3. 100.4
- 4. 10.004

Question ID : 50389010639

Status : Answered

Chosen Option : 1

Q.31

If  $\sqrt[3]{5x-4} - 6 = 0$ , then what is the value of  $\sqrt{2x-7}$ ?

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

Question ID : 50389010662  
Status : Answered  
Chosen Option : 4

Q.32 What will be the remainder when  $(132^8 - 68^8)$  is divided by 200?

- Ans
- 1. 112
  - 2. 12
  - 3. 0
  - 4. 102

Question ID : 50389010632  
Status : Answered  
Chosen Option : 3

Q.33 A path has been developed around a circular park. Inner and outer circumferences of the path are 308 m and 352 m respectively. Find the area of the path (in sq. m).

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

- Ans
- 1. 2420
  - 2. 2310
  - 3. 2500
  - 4. 2280

Question ID : 50389010660  
Status : Answered  
Chosen Option : 2

Q.34 The average of 10 consecutive odd numbers is 60. What is the average of the three greatest numbers and the numbers 44 and 60?

- Ans
- 1. 61
  - 2. 63
  - 3. 62
  - 4. 65

Question ID : 50389010655  
Status : Answered  
Chosen Option : 1

Q.1 Select the option that is similar to the key word given below:  
Ear

- Ans  1. Nose  
 2. Lungs  
 3. Liver  
 4. Kidney

Question ID : 50389010677  
Status : Answered  
Chosen Option : 1

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.  
7 : 64 :: 11 : ?

- Ans  1. 121  
 2. 144  
 3. 132  
 4. 111

Question ID : 50389010668  
Status : Answered  
Chosen Option : 2

Q.3 In a code language, MUSIC is coded as NFHRX; TONIC is coded as GLMRX; and BOOST is coded as YLLHG. Then, how would MOIST be coded in that language?

- Ans  1. NMSGH  
 2. NLRHG  
 3. MNRGH  
 4. NRSQH

Question ID : 50389010676  
Status : Answered  
Chosen Option : 2

Q.4 Select the number that will come next in the number series.  
99, 92, 83, 71, 58, ?

- Ans  1. 47  
 2. 43  
 3. 45  
 4. 41

Question ID : 50389010685  
Status : Answered  
Chosen Option : 2

Q.5 Azhar bought a piano for Rs. 12,000; then he spent Rs. 3,500 on repairs and renovation. For the next 3 months, he lent it to a music company at a monthly rent of Rs.1,500. After 3 months, he sold the piano to the same music company for a price of 14,300. Did Azhar make profit or loss in the entire transaction? Select the correct option.

- Ans
- 1. Profit of Rs.2,300
  - 2. Loss of Rs.2,300
  - 3. Loss of Rs.1,200
  - 4. Profit of Rs.3,300

Question ID : 50389010688  
Status : Answered  
Chosen Option : 4

Q.6 In a family there are 3 married couples, 2 married sons, 1 grandson, 3 fathers, 3 mothers, 2 mothers-in-law, 2 fathers-in-law, 2 daughters-in-law, 2 unmarried daughters, 2 unmarried granddaughters and 1 unmarried great granddaughter. What is the LEAST number of members in the family?

- Ans
- 1. 21
  - 2. 7
  - 3. 12
  - 4. 8

Question ID : 50389010687  
Status : Answered  
Chosen Option : 3

Q.7 Three out of the four figures — A, B, C and D — are different from figure Q. Select the figure that is similar to figure Q.



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

Question ID : 50389010699  
Status : Answered  
Chosen Option : 2

Q.8 Sasikala is Malathi's only daughter. Pavan is Sasikala's father, Umesh's only son. How is Pavan's daughter, Navya related to Sasikala?

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

Question ID : 50389010683  
Status : Answered  
Chosen Option : 1

Q.9 Select the option that is related to the third term in the same way as the second term is related to the first term.  
DL : JR :: FN : ?

- Ans
- 1. KS
  - 2. LS
  - 3. MU
  - 4. LT

Question ID : 50389010667  
Status : Answered  
Chosen Option : 4

Q.10 In a code language, DIAL is coded as LAID; MOOD is coded as DOOM; and EVIL is coded as LIVE. Then, how would PLUG be coded in that language?

- Ans
- 1. LUPG
  - 2. GLUP
  - 3. GLUE
  - 4. GULP

Question ID : 50389010673  
Status : Answered  
Chosen Option : 4

Q.11 Select the mirror image of the following figure.

**BLISSFUL**

- Ans
- 1. **JU7221B**
  - 2. **JU7221F**
  - 3. **BLISSFUL**
  - 4. **BLISSFUL**

Question ID : 50389010691  
Status : Answered  
Chosen Option : 2

Q.12 Select the option that is similar to the pair given below:  
Natural : Artificial

- Ans
- 1. Fiction : Legendary
  - 2. Optimism : Pessimism
  - 3. Revolt : Rebellion
  - 4. Generous : Exquisite

Question ID : 50389010680  
Status : Answered  
Chosen Option : 2



Q.13 Select the option that is related to the third term in the same way as the second term is related to the first term.

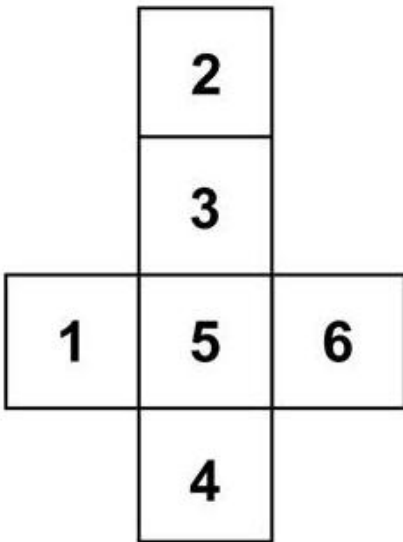
50 : 125 :: 70 : ?

- Ans
- 1. 275
  - 2. 375
  - 3. 343
  - 4. 243

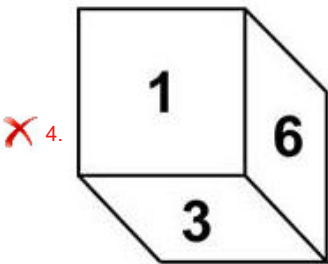
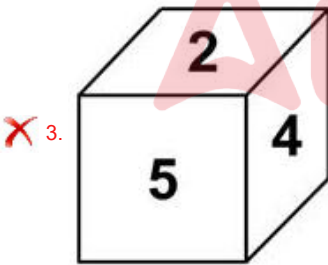
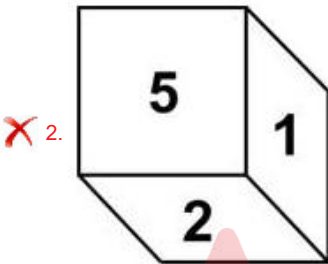
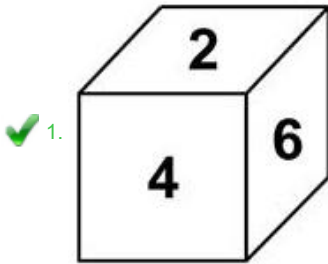
Question ID : 50389010670  
Status : Answered  
Chosen Option : 3



Q.14 Select the image that will be formed after the unfolded net of the cube is folded inwards to form the cube.

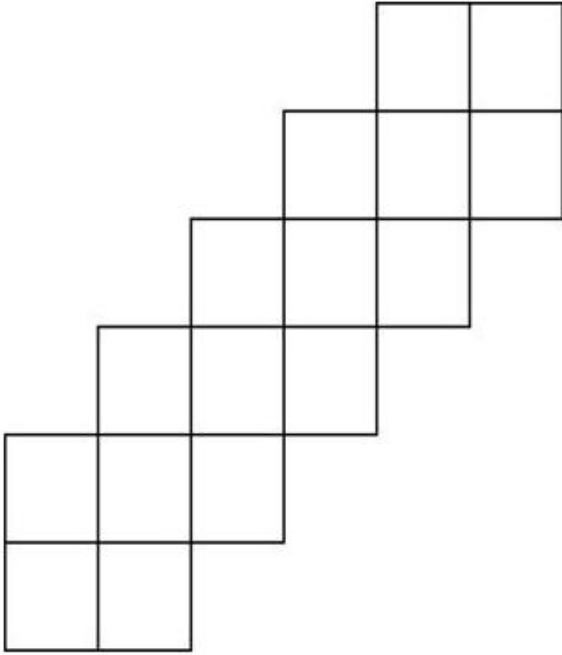


Ans



Question ID : 50389010693  
Status : Answered  
Chosen Option : 1

Q.15 What is the maximum number of squares in this image?



- Ans
- 1. 24
  - 2. 21
  - 3. 16
  - 4. 19

Question ID : 50389010696  
Status : Answered  
Chosen Option : 2

Q.16 Three out of the following for options share a similarity. Select the option that is different from the others.

- Ans
- 1. 37, 23, 51, 91
  - 2. 43, 17, 67, 83
  - 3. 47, 19, 61, 89
  - 4. 41, 13, 53, 97

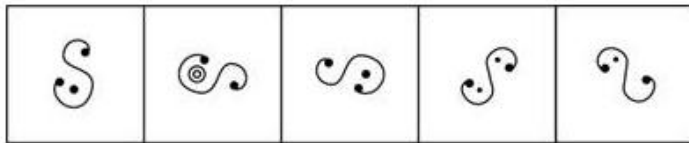
Question ID : 50389010672  
Status : Answered  
Chosen Option : 1

Q.17 Select the option that is similar to the pair given below:  
Silk : Sericulture

- Ans
- 1. Aviculture : Apes
  - 2. Fish : Pisciculture
  - 3. Silviculture : Silver
  - 4. Fodder : Horticulture

Question ID : 50389010679  
Status : Answered  
Chosen Option : 4

Q.18 Three out of the four figures — A, B, C and D — are different from figure Q. Select the figure that is similar to figure Q



Q A B C D

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

Question ID : 50389010698  
Status : Answered  
Chosen Option : 2

Q.19 Select the number that will come next in the number series.  
0, 2, 6, 14, 30, 62, ?

- Ans  1. 124  
 2. 126  
 3. 130  
 4. 128

Question ID : 50389010684  
Status : Answered  
Chosen Option : 2

Q.20 What the difference between the greatest and smallest 3-digit even numbers?

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

Question ID : 50389010689  
Status : Answered  
Chosen Option : 3

Q.21 Three out of the following for options share a similarity. Select the option that is different from the others.

- Ans  1. Pascal  
 2. Newton  
 3. Candela  
 4. Watt

Question ID : 50389010671  
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.  
Malaria : Mosquito : : Plague : ?

- Ans
- 1. Virus
  - 2. Bacteria
  - 3. Bat
  - 4. Rat

Question ID : 50389010666  
Status : Answered  
Chosen Option : 4

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

- Ans
- 1. Thiruvananthapuram
  - 2. Allahabad
  - 3. Mysuru
  - 4. Ahmedabad

Question ID : 50389010678  
Status : Answered  
Chosen Option : 4

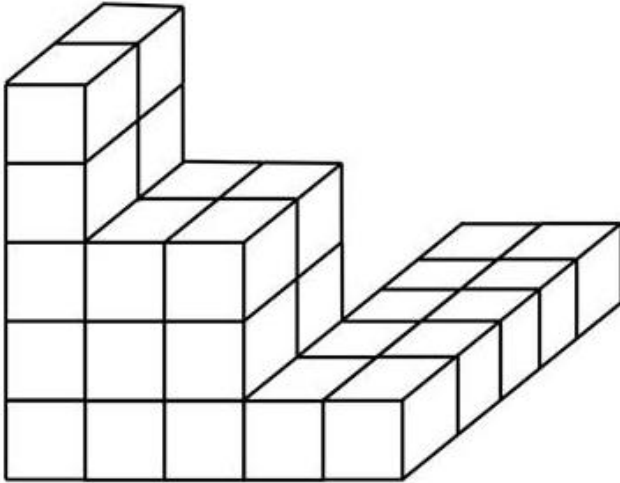
Q.24 Select the image that shows the correct water image of the following figure.

QUESTION

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

Question ID : 50389010692  
Status : Answered  
Chosen Option : 3

Q.25 What is the total number of cubes in the 3-D figure given below? (Assume that the entire arrangement is made up of the cubes)



- Ans
- 1. 25
  - 2. 32
  - 3. 30
  - 4. 27

Question ID : 50389010694

Status : Answered

Chosen Option : 2

Q.26 D's mother H is the only daughter-in-law of Z. Z's husband P has two sons only, named X and Y. How is D's father related to P?

- Ans
- 1. Nephew
  - 2. Son
  - 3. Father
  - 4. Grandson

Question ID : 50389010682

Status : Answered

Chosen Option : 2

Q.27 Select the option that is related to the third term in the same way as the second term is related to the first term.

Tokyo : Yen :: Moscow: ?

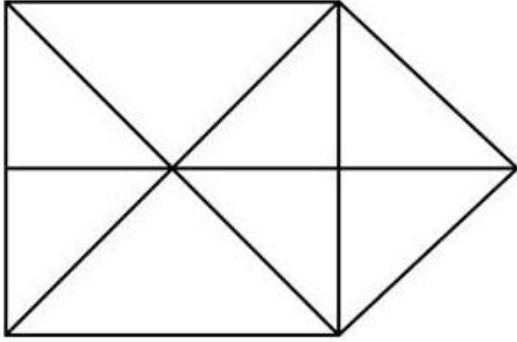
- Ans
- 1. Dollar
  - 2. Ruble
  - 3. Pesos
  - 4. Russia

Question ID : 50389010669

Status : Answered

Chosen Option : 2

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



- Ans
- 1. 10
  - 2. 14
  - 3. 19
  - 4. 17

Question ID : 50389010695  
Status : Answered  
Chosen Option : 4

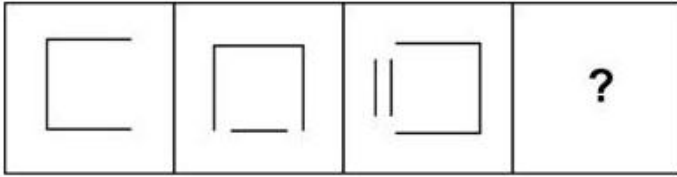
Q.29 The product of two consecutive odd numbers is 483, and their sum is 44. What is the square of the smaller of these 2 numbers?

- Ans
- 1. 400
  - 2. 441
  - 3. 484
  - 4. 529

Question ID : 50389010690  
Status : Answered  
Chosen Option : 2

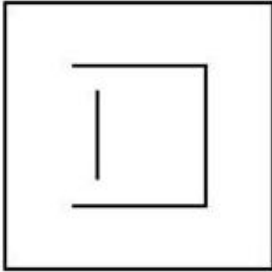
Adda247

Q.30 Select the option that will replace the question mark and complete the series correctly.

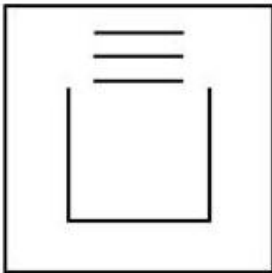


Ans

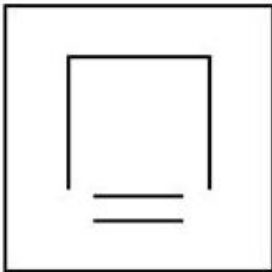
1.



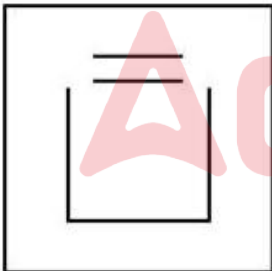
2.



3.



4.



Question ID : 50389010697

Status : Answered

Chosen Option : 2

Q.31 Mandakini's father, Himalaya, is the only son-in-law of Sagar. Ganga has only two daughters, Yamuna and Kaveri; one of them is married, and has a daughter. How is Yamuna's only niece, Mandakini related to Sagar?

Ans

1. Daughter

2. Sister-in-law

3. Granddaughter

4. Niece

Question ID : 50389010681

Status : Answered

Chosen Option : 3



Q.32 In a code language, green is called blue; blue is called red; red is called orange; and orange is called white. Then, what would be the colour of peas in this code language?

- Ans
- 1. Blue
  - 2. orange
  - 3. Red
  - 4. White

Question ID : 50389010675  
Status : Answered  
Chosen Option : 1

Q.33 In a code language, ROOM is coded as \*@@&; POOR is coded as #@@\*; ROME is coded as \*@&\$; and ROAM is coded as \*@%&. Then, how would POEM be coded in that language?

- Ans
- 1. &@%#
  - 2. #@&\$
  - 3. @\*%#
  - 4. #@\$&

Question ID : 50389010674  
Status : Answered  
Chosen Option : 2

Q.34 Select the number that will come next in the number series.  
4, 10, 18, 28, 40, 54, ?

- Ans
- 1. 68
  - 2. 69
  - 3. 70
  - 4. 75

Question ID : 50389010686  
Status : Answered  
Chosen Option : 3

Section : Domain Knowledge

Q.1 A vibrating system consists of a mass of 200 kg, spring stiffness of 80 N/mm. The natural frequency of vibration of the system is

- Ans
- 1. 5.0 rad/s
  - 2. 2.5 rad/s
  - 3. 20 rad/s
  - 4. 40 rad/s

Question ID : 50389010723  
Status : Answered  
Chosen Option : 3

Q.2 The unbalanced vertical force, which tends to slide one portion of the beam upward or downward, is called as

- Ans
- 1. Body force
  - 2. Shear force
  - 3. Reactive force
  - 4. Bending force

Question ID : 50389010712  
Status : Answered  
Chosen Option : 3

Q.3 In the MIG welding process, a lot of spattering occurs when the shielding gas used is

- Ans
- 1. Mixture of Argon
  - 2. Argon
  - 3. Helium
  - 4. Carbon Dioxide

Question ID : 50389010774  
Status : Answered  
Chosen Option : 4

Q.4 Long cast-iron pipes of uniform thickness are manufactured by

- Ans
- 1. Green Sand casting method
  - 2. Lost wax method
  - 3. Die casting method
  - 4. Centrifugal casting method

Question ID : 50389010768  
Status : Answered  
Chosen Option : 4

Q.5 In a reciprocating engine, the primary direct crank makes an angle  $\theta$  with the line of stroke. Then the secondary direct crank will make an angle of

- Ans
- 1.  $\theta/2$
  - 2.  $\theta/4$
  - 3.  $2\theta$
  - 4.  $\theta$

Question ID : 50389010722  
Status : Answered  
Chosen Option : 3

Q.6 The performance of a steam cycle in a power plant is compared with a standard process of

- Ans
- 1. Rankine cycle
  - 2. Carnot cycle
  - 3. Air standard cycle
  - 4. Constant pressure cycle

Question ID : 50389010752  
Status : Answered  
Chosen Option : 2

Q.7 At constant pressure, heat energy of 1800 J supplied to 2 kg of fluid, which cause a rise in temperature of 15 degree C. The average specific heat of the fluid is

- Ans
- 1.  $C_p=30 \text{ J/kg}^\circ\text{C}$
  - 2.  $C_p=60 \text{ J/kg}^\circ\text{C}$
  - 3.  $C_v= 60 \text{ J/kg}^\circ\text{C}$
  - 4.  $C_v=30 \text{ J/kg}^\circ\text{C}$

Question ID : 50389010738

Status : Answered

Chosen Option : 2

Q.8 A Pelton wheel with a mean diameter D has the jet diameter d. The number of buckets required for this impulse turbine is

- Ans
- 1.  $\frac{D}{2d} + 10$
  - 2.  $\frac{2D}{d} + 15$
  - 3.  $\frac{D}{2d} + 15$
  - 4.  $\frac{2D}{d} + 10$

Question ID : 50389010758

Status : Answered

Chosen Option : 3

Q.9 The total weight of a body is an example for a

- Ans
- 1. Distributed Area force
  - 2. Point force
  - 3. Volume force
  - 4. Traction force

Question ID : 50389010700

Status : Answered

Chosen Option : 2

Q.10 Generally, the bill of material does not consist of

- Ans
- 1. Part number
  - 2. Price of the part
  - 3. Name of the part
  - 4. Specifications of part

Question ID : 50389010784

Status : Answered

Chosen Option : 4

Q.11 The fundamental property of material able to resist abrasion is called as

- Ans
- 1. Hardness
  - 2. Toughness
  - 3. malleability
  - 4. Resilience

Question ID : 50389010761  
Status : Answered  
Chosen Option : 1

Q.12 In TIG welding, the welding zone is shielded by an atmosphere of

- Ans
- 1. Hydrogen gas
  - 2. Carbon dioxide gas
  - 3. Argon gas
  - 4. Oxygen gas

Question ID : 50389010775  
Status : Answered  
Chosen Option : 3

Q.13 An ideal reciprocating air compressor demands less work to run if the compression follows

- Ans
- 1. Reversible adiabatic process
  - 2. adiabatic process
  - 3. isothermal process
  - 4. non-isothermal process

Question ID : 50389010750  
Status : Answered  
Chosen Option : 3

Q.14 The power transmitted through the pipe is maximum when the head loss due to friction in the pipe is

- Ans
- 1. 1/3 of the total supply head
  - 2. 2/3 of the total supply head
  - 3. 1/2 of the total supply head
  - 4. 1/4 of the total supply head

Question ID : 50389010748  
Status : Answered  
Chosen Option : 1

Q.15 The hardness of the steel can be reduced considerably by the treatment of:

- Ans
- 1. Normalizing
  - 2. Hardening
  - 3. Normalizing and hardening both
  - 4. Annealing

Question ID : 50389010763  
Status : Answered  
Chosen Option : 4

Q.16 In the Nitriding process for steels to harden the surface, the gas used is

- Ans  1. Carbon Dioxide  
 2. Ammonia  
 3. Hydrogen  
 4. Oxygen

Question ID : 50389010764  
Status : Answered  
Chosen Option : 2

Q.17 The concept of internal energy is discussed in

- Ans  1. Second Law of Thermodynamics  
 2. Thermodynamic Zeroth Law  
 3. Third Law of Thermodynamics  
 4. First Law of Thermodynamics

Question ID : 50389010734  
Status : Answered  
Chosen Option : 4

Q.18 A vehicle of mass 1200 kg is moving at a speed of 72 km/h. The amount of energy to be absorbed by the brakes to stop the vehicle is

- Ans  1. 1440 kJ  
 2. 720 kJ  
 3. 480 kJ  
 4. 240 kJ

Question ID : 50389010728  
Status : Answered  
Chosen Option : 4

Q.19 A simply supported beam of span 4 m and  $I = 12 \times 10^6 \text{ mm}^4$  is subjected to a central load of 9 kN. The deflection of the beam when  $E = 200 \text{ GPa}$ , is

- Ans  1. 15 mm  
 2. 0.037 mm  
 3. 5 mm  
 4. 0.074 mm

Question ID : 50389010714  
Status : Answered  
Chosen Option : 3

Q.20 The absolute temperature (K) scale needs only one fixpoint, which is the

- Ans  1. Normal body temperature  
 2. Boiling point water  
 3. The melting point of ice  
 4. The triple point of water

Question ID : 50389010736  
Status : Answered  
Chosen Option : 4

Q.21 Transfer of heat from one part of a substance to another by lattice vibration is called

- Ans
- 1. Radiation
  - 2. Conduction
  - 3. Natural Convection
  - 4. Forced Convection

Question ID : 50389010729  
Status : Answered  
Chosen Option : 2

Q.22 The strain energy stored in a body due to the external loads is known as

- Ans
- 1. Proof Resilience
  - 2. Resilience
  - 3. Modulus of Resilience
  - 4. Resonance

Question ID : 50389010716  
Status : Answered  
Chosen Option : 2

Q.23 The moment of inertia about X-X axis for a hollow rectangular section with external dimensions breadth 6 mm, depth 8 mm and internal dimensions, breadth 3 mm and depth 4 mm respectively, is

- Ans
- 1.  $240 \text{ mm}^4$
  - 2.  $36 \text{ mm}^4$
  - 3.  $28 \text{ mm}^4$
  - 4.  $272 \text{ mm}^4$

Question ID : 50389010705  
Status : Answered  
Chosen Option : 1

Q.24 The algebraic difference between the maximum limit and the basic size is called

- Ans
- 1. fundamental deviation
  - 2. upper deviation
  - 3. actual deviation
  - 4. lower deviation

Question ID : 50389010779  
Status : Answered  
Chosen Option : 1

Q.25 The allowance for the liquid shrinkage is considered in designing casting patterns. The reduction in the volume of cast metal occurs during

- Ans
- 1. Cooling of liquid metal to solid-state
  - 2. Due to ramming
  - 3. mould cooling
  - 4. Rise in volume of a raiser

Question ID : 50389010770  
Status : Answered  
Chosen Option : 1

Q.26 A frame is made with four joints and five members. This frame is a

- Ans
- 1. Redundant frame
  - 2. Perfect frame
  - 3. Imperfect frame
  - 4. Deficient frame

Question ID : 50389010708  
Status : Answered  
Chosen Option : 2

Q.27 A mirror image for a 2D reflection is generated relative to an axis of reflection by rotating the object by

- Ans
- 1. 360 degree
  - 2. 90 degree
  - 3. 270 degree
  - 4. 180 degree

Question ID : 50389010782  
Status : Answered  
Chosen Option : 4

Q.28 A number of forces are acting simultaneously on a particle. The resultant of these forces will have the same effect as produced by all the forces. This principle is known as

- Ans
- 1. Transmissibility of forces
  - 2. Resolution of forces
  - 3. Physical independence of forces
  - 4. Equilibrium of forces

Question ID : 50389010703  
Status : Answered  
Chosen Option : 2

Q.29 A rectangular steel bar of size 100 x 25 x 20 mm has strains in x, y and z directions, 0.0065, 0.0025 and 0.002 respectively. The change in volume due to these strains is

- Ans
- 1. 366.6 mm<sup>3</sup>
  - 2. 625 mm<sup>3</sup>
  - 3. 550 mm<sup>3</sup>
  - 4. 183.3 mm<sup>3</sup>

Question ID : 50389010710  
Status : Answered  
Chosen Option : 3

Q.30 CNC machine operator can set the zero point at any position on the machine table. This feature is called

- Ans
- 1. Machine zero
  - 2. Fixed zero
  - 3. Fixed origin
  - 4. Floating zero

Question ID : 50389010781  
Status : Answered  
Chosen Option : 4

Q.31 The lattice structure of a ferrite iron at room temperature is

- Ans
- 1. Close packed hexagonal
  - 2. Cubic
  - 3. Face centred
  - 4. Body centred

Question ID : 50389010760  
Status : Answered  
Chosen Option : 4

Q.32 A vernier caliper has main scale with 10 divisions for 1 cm and vernier scale has 10 divisions for 9mm. The least count of the caliper is

- Ans
- 1. 0.2 mm
  - 2. 0.02 mm
  - 3. 0.1 mm
  - 4. 0.01 mm

Question ID : 50389010780  
Status : Answered  
Chosen Option : 4

Q.33 In a simple Lever of the third order, the position of effort, load and fulcrum is

- Ans
- 1. The load is in between the fulcrum and the effort on the same side of the fulcrum
  - 2. The fulcrum is in between the effort and the load
  - 3. The effort and the load are equidistance to the fulcrum on either side
  - 4. The effort is in between the fulcrum and the load on the same side of the fulcrum

Question ID : 50389010704  
Status : Answered  
Chosen Option : 1

Q.34 For the Taylor tool life equation,  $VT^n = C$ , the value of n for ceramic tools is

- Ans
- 1. 0.40 to 0.60
  - 2. 0.20 to 0.25
  - 3. 0.25 to 0.40
  - 4. 0.1 to 0.2

Question ID : 50389010777  
Status : Answered  
Chosen Option : 4



Q.35 The water is flowing through a pipe with a mean velocity of 2 m/s. The approximate kinetic head of water flow is

- Ans
- 1. 0.4 m
  - 2. 2.0 m
  - 3. 0.2 m
  - 4. 1.0 m

Question ID : 50389010746  
Status : Answered  
Chosen Option : 3

Q.36 The open-circuit voltage range for an AC electric arc welding is

- Ans
- 1. 220-440 V
  - 2. 100-210 V
  - 3. 210-440 V
  - 4. 50-90 V

Question ID : 50389010772  
Status : Answered  
Chosen Option : 1

Q.37 A casting of volume  $V$  and the surface area is cooled in an open-air naturally. The time required for solidification of casting is

- Ans
- 1. directly proportional to  $V/A$
  - 2. directly proportional to  $(V/A)^2$
  - 3. inversely proportional to  $V/A$
  - 4. Inversely proportional to  $(V/A)^2$

Question ID : 50389010769  
Status : Answered  
Chosen Option : 2

Q.38 In a Diesel cycle, the heat is supplied during compression from the external source at

- Ans
- 1. Constant pressure
  - 2. Adiabatic process
  - 3. Isentropic process
  - 4. Constant volume

Question ID : 50389010754  
Status : Answered  
Chosen Option : 1

Q.39 A balloon is floating in the air and is in equilibrium. The relationship between the centre of gravity and the centre of buoyancy

- Ans
- 1. the centre of buoyancy and the centre gravity at different points on the same horizontal plane
  - 2. the centre of gravity is above the centre of buoyancy
  - 3. the centre of gravity and the centre of buoyancy are at the same point
  - 4. the centre of gravity is below the centre of buoyancy

Question ID : 50389010744  
Status : Answered  
Chosen Option : 4

Q.40 A single plate disc clutch is used to transmit torque with the axial load  $W$ . The mean radius of the surface of friction material is  $R$ , and the coefficient of friction for the clutch material is  $\mu$ . The frictional torque transmitted for a case of uniform axial wear is

- Ans
- 1.  $T = 2(\mu W R)$
  - 2.  $T = \pi (\mu W R)$
  - 3.  $T = \mu W R$
  - 4.  $T = 1/2 (\mu W R)$

Question ID : 50389010727  
Status : Answered  
Chosen Option : 3

Q.41 When a tensile specimen loaded beyond the yield point, and then the load is released. The elastic strain recovery is indicated on the stress-strain curve as a line

- Ans
- 1. Along the original elastic curve
  - 2. Along Y-axis, origin to yield stress
  - 3. Along X-axis, vertical line from the point of release to return point
  - 4. Tangent to the curve at the yield point

Question ID : 50389010767  
Status : Answered  
Chosen Option : 3

Q.42 A wheel accelerates uniformly from a velocity of 10 rad/s to 60 rad/s in 20 seconds. What is its angular acceleration?

- Ans
- 1.  $2.5 \text{ rad/s}^2$
  - 2.  $100 \text{ rad/s}^2$
  - 3.  $3.5 \text{ rad/s}^2$
  - 4.  $5.0 \text{ rad/s}^2$

Question ID : 50389010717  
Status : Answered  
Chosen Option : 1

Q.43 The "etch factor" in the chemical machining process is given by the ratio

- Ans
- 1. tool wear/ Workpiece wear
  - 2. Depth of cut/ Undercut
  - 3. Undercut/depth of cut
  - 4. Workpiece wear/tool wear

Question ID : 50389010778  
Status : Answered  
Chosen Option : 4

Q.44 A shaft is subjected to a bending moment of 30 Nmm and a twisting moment of 40 Nmm. The equivalent twisting moment on this shaft is

- Ans
- 1. 140 Nmm
  - 2. 50 Nmm
  - 3. 10 Nmm
  - 4. 70 Nmm

Question ID : 50389010713  
Status : Answered  
Chosen Option : 2

Q.45 The approximate content of Carbon in the Eutectoid Steel is

- Ans
- 1. 0.4 %
  - 2. 0.8 %
  - 3. 1.2 %
  - 4. 0.25 %

Question ID : 50389010762  
Status : Answered  
Chosen Option : 2

Q.46 The smallest circle that can be drawn from the centre of the cam and tangent to the pitch curve of a cam with a roller follower is

- Ans
- 1. Pressure circle
  - 2. Pitch circle
  - 3. Base circle
  - 4. Prime circle

Question ID : 50389010718  
Status : Answered  
Chosen Option : 4

Q.47 The coefficient of contraction  $C_C$  for an orifice can be determined using other coefficients: discharge and velocity  $C_v$  by the relation

- Ans
- 1.  $C_C = C_d / C_v$
  - 2.  $C_C = C_d \cdot C_v$
  - 3.  $C_C = C_d + C_v$
  - 4.  $C_C = C_d - C_v$

Question ID : 50389010747  
Status : Answered  
Chosen Option : 1

Q.48 In the metal forming process, the value of stress required for continuous material deformation is known as

- Ans
- 1. Ultimate stress
  - 2. Flow Stress
  - 3. True stress
  - 4. Proof Stress

Question ID : 50389010771  
Status : Answered  
Chosen Option : 2

Q.49 A compressive load of 2.4 kN acts on a circular bar of 200 sq. mm area and 20 mm high. It experiences a compression of 0.15 mm. Then, the Young's Modulus of the material is

- Ans
- 1. 3200 MPa
  - 2. 120 MPa
  - 3. 1600 MPa
  - 4. 1500 MPa

Question ID : 50389010709  
Status : Answered  
Chosen Option : 3

Q.50 The term (h-T.S) in deriving the maximum work done for a steady flow system is known as

- Ans
- 1. Van-der function
  - 2. Rankine function
  - 3. Helmholtz function
  - 4. Gibbs function

Question ID : 50389010740  
Status : Answered  
Chosen Option : 4

Q.51 Control charts for the attribute are concerned with

- Ans
- 1. Checking if the variable is out of control
  - 2. The actual measurement of the parameter, comparing with a standard
  - 3. Qualitative checking of defects
  - 4. Direct measurement of the variable for control

Question ID : 50389010783  
Status : Answered  
Chosen Option : 1

Q.52 In under damped vibrating system, if  $x_1$  and  $x_2$  are the successive values of the amplitude on the same side of the mean position, then the logarithmic decrement is equal to

- Ans
- 1.  $\log(x_2 + x_1)$
  - 2.  $\log(x_2 / x_1)$
  - 3.  $\log(x_2 - x_1)$
  - 4.  $\log(x_1 / x_2)$

Question ID : 50389010724  
Status : Answered  
Chosen Option : 4

Q.53 Braking jets are used in turbines to

- Ans  1. To bring the turbine to rest  
 2. Reduce the speed of turbine while running  
 3. To keep the speed of turbine constant  
 4. Used to regulate the speed according to load

Question ID : 50389010756  
Status : Answered  
Chosen Option : 1

Q.54 Two forces of equal magnitude 'F' acts on a particle, and the angle between these forces is  $\theta$ . Then the resultant of these forces is given by

- Ans  1.  $2F \sin(\theta/2)$   
 2.  $2F \cos(\theta/2)$   
 3.  $F \cos^2(\theta/2)$   
 4.  $F \sin^2(\theta/2)$

Question ID : 50389010702  
Status : Answered  
Chosen Option : 2

Q.55 A body, which can retain its shape and size, even it is subjected to external forces, is called

- Ans  1. Elastic body  
 2. Solid-body  
 3. Flexible body  
 4. Rigid body

Question ID : 50389010701  
Status : Answered  
Chosen Option : 1

Q.56 The true stress-strain relations of plastic deformation at which necking begins may be approximated. The value n for steel is  $\sigma_T = K\epsilon_T^n$ . The value n for low carbon steel is

- Ans  1. 0.21  
 2. 0.16  
 3. 0.44  
 4. 0.12

Question ID : 50389010766  
Status : Answered  
Chosen Option : 1

Q.57 A stone is dropped from the top of a building, which is 8 m high. The final velocity of the stone when it hit the ground is

- Ans
- 1. 2 m/s
  - 2.  $4\sqrt{g}$  m/s
  - 3.  $2\sqrt{g}$  m/s
  - 4. 4 m/s

Question ID : 50389010706  
Status : Answered  
Chosen Option : 2

Q.58 The perpetual motion machine of the first kind is impossible. This statement is the corollary of

- Ans
- 1. Second Law of Thermodynamics
  - 2. Thermodynamic Zeroth Law
  - 3. Third Law of Thermodynamics
  - 4. First Law of Thermodynamics

Question ID : 50389010737  
Status : Answered  
Chosen Option : 4

Q.59 The ratio of the relative lateral strain (normal to the applied load) to the relative axial strain (in the direction of applied load) is called the:

- Ans
- 1. Einstein's ratio
  - 2. Young's ratio
  - 3. Pareto's ratio
  - 4. Poisson's ratio

Question ID : 50389010765  
Status : Answered  
Chosen Option : 4

Q.60 Water is flowing through a square pipe 100 mm side with an average velocity of 10 m/s. The rate of flow of water is

- Ans
- 1. 1000 ltr/s
  - 2.  $0.1 \text{ m}^3/\text{s}$
  - 3.  $1000 \text{ m}^3/\text{s}$
  - 4. 10 ltr/s

Question ID : 50389010745  
Status : Answered  
Chosen Option : 2

Q.61 A duel cycle is one in which the heat is supplied at

- Ans  1. Constant volume and Constant pressure compression  
 2. Constant pressure and Isentropic compression  
 3. Isentropic and Adiabatic compression  
 4. Constant volume and Isentropic compression

Question ID : 50389010755  
Status : Answered  
Chosen Option : 1

Q.62 Which of the following is the usual (approximate) composition of the soft solder used in soldering?

- Ans  1. Lead 80% and Tin 20%  
 2. Lead 63% and Tin 37%  
 3. Lead 90% and Tin 10%  
 4. Lead 37% and Tin 63%

Question ID : 50389010773  
Status : Answered  
Chosen Option : 4

Q.63 In a flywheel, the maximum and minimum speeds in a cycle are 180 and 120 rpm, respectively. Then, the coefficient of fluctuation of the speed is

- Ans  1. 0.6  
 2. 0.8  
 3. 0.4  
 4. 0.9

Question ID : 50389010721  
Status : Answered  
Chosen Option : 3

Q.64 An impulse water turbine works under the head of 40 m, and water is supplied to the turbine is 2.5 m<sup>3</sup>/s. Then the power available at jet is

- Ans  1. 100 kW  
 2. 490.5 kW  
 3. 50 kW  
 4. 981 kW

Question ID : 50389010757  
Status : Answered  
Chosen Option : 4

Q.65 According to the law of collision of elastic bodies, the value of Coefficient of Restitution (e) for the two inelastic bodies is

- Ans  1.  $e = \infty$   
 2.  $e = 2$   
 3.  $e = 1$   
 4.  $e = 0$

Question ID : 50389010707  
Status : Answered  
Chosen Option : 2

Q.66 A refrigerator absorbs the heat of 27 kJ/s at minimum temperature. The work required to run the refrigerator if the coefficient of performance is 3.

- Ans
- 1. 9 kJ/s
  - 2. 81 kJ/s
  - 3. 54 kJ/s
  - 4. 27 kJ/s

Question ID : 50389010753  
Status : Answered  
Chosen Option : 1

Q.67 An oil of 2.5 litre weighs 5 N at room temperature. The specific weight of the oil is

- Ans
- 1. 2 kN/m<sup>3</sup>
  - 2. 2 N/m<sup>3</sup>
  - 3. 0.08 N/m<sup>3</sup>
  - 4. 12.5 N/m<sup>3</sup>

Question ID : 50389010742  
Status : Answered  
Chosen Option : 1

Q.68 A reversible engine with 25% operates with a higher temperature of 127 degree C. Then the sink temperature is

- Ans
- 1. 54 Degree C
  - 2. 31.25 Degree C
  - 3. 100 Degree C
  - 4. 27 Degree C

Question ID : 50389010739  
Status : Answered  
Chosen Option : 4

Q.69 The relationship between Young's modulus (E) and modulus of rigidity (G) using the Poisson's ratio  $\mu$  is

- Ans
- 1.  $G = \frac{E}{2(1 + \mu)}$
  - 2.  $G = \frac{E}{2(1 - \mu)}$
  - 3.  $E = \frac{2G}{(1 + \mu)}$
  - 4.  $E = \frac{G}{2(1 + \mu)}$

Question ID : 50389010711  
Status : Answered  
Chosen Option : 1



Q.70 The nominal thickness of the boundary layer is defined when the velocity reaches the velocity of the free stream by

- Ans
- 1. 90 %
  - 2. 99 %
  - 3. 95 %
  - 4. 97 %

Question ID : 50389010731  
Status : Answered  
Chosen Option : 2

Q.71 A system in which the energy or matter flows into or out of the system is called as

- Ans
- 1. Open System
  - 2. Adiabatic system
  - 3. Isolated System
  - 4. Transient System

Question ID : 50389010735  
Status : Answered  
Chosen Option : 1

Q.72 A tank carries an ideal gas at an absolute pressure of 4 bar at 27 degree C. If the temperature is increased to 60 degree C. the pressure inside the tank if

- Ans
- 1. 4.44 bar
  - 2. 2.22 bar
  - 3. 8.88 bar
  - 4. 5.55 bar

Question ID : 50389010741  
Status : Answered  
Chosen Option : 1

Q.73 The end fixity coefficient is used in the Crippling load equation based on Euler's theory for buckling of columns. The value of this coefficient for the case; one end is fixed, and the other end is hinged, is

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

Question ID : 50389010715  
Status : Answered  
Chosen Option : 1

**Q.74** The expression for Notch Sensitivity Factor  $q$ , in cyclic loading, using fatigue stress concentration factor  $K_f$  and Theoretical stress concentration factor  $K_t$ , is

Ans

1.  $q = \frac{K_f + 1}{K_t + 1}$

2.  $q = \frac{K_f - 1}{K_t - 1}$

3.  $q = \frac{K_f + 1}{K_t - 1}$

4.  $q = \frac{K_t - 1}{K_f - 1}$

Question ID : 50389010725  
Status : Answered  
Chosen Option : 2

**Q.75** The pressure ratio per stage for a centrifugal compressor is

Ans

1. 16:1

2. 8:1

3. 4:1

4. 10:1

Question ID : 50389010751  
Status : Answered  
Chosen Option : 3

**Q.76** A double fillet weld is used to join the steel plates of 5 mm thick for a length of 20 mm. The allowable tensile stress for the weld metal is 100 MPa. The tensile strength of the joint is

Ans

1. 7.07 kN

2. 20 kN

3. 14.14 kN

4. 10 kN

Question ID : 50389010726  
Status : Answered  
Chosen Option : 3

**Q.77** An oil having kinematic viscosity  $15 \times 10^{-4} \text{ m}^2/\text{s}$  is flowing through a pipe of 300mm diameter. For the velocity of oil flow 25 m/s, the Reynold's number is

Ans

1. 15000

2. 180

3. 5000

4. 1800

Question ID : 50389010749  
Status : Answered  
Chosen Option : 3

Q.78 The minimum number of teeth on the pinion which will mesh with any gear without interference for a  $14\frac{1}{2}^\circ$  Full-depth involute gear teeth is

- Ans
- 1. 18
  - 2. 14
  - 3. 32
  - 4. 12

Question ID : 50389010720  
Status : Answered  
Chosen Option : 2

Q.79 The critical radius of insulation for asbestos with  $k=0.125$  W/mK surrounding a pipe exposed to room air with  $h=2.5$  W/m<sup>2</sup>K is

- Ans
- 1. 20 mm
  - 2. 312.5 mm
  - 3. 50 mm
  - 4. 5 mm

Question ID : 50389010730  
Status : Answered  
Chosen Option : 3

Q.80 A unit cell of Face centred cubical crystal structure has \_\_\_ atoms per unit cell.

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

Question ID : 50389010759  
Status : Answered  
Chosen Option : 1

Q.81 The analogy of conductivity in heat transfer to fluid flow is

- Ans
- 1. Density of fluid
  - 2. Viscosity of fluid
  - 3. Velocity of fluid
  - 4. Pressure of fluid

Question ID : 50389010732  
Status : Answered  
Chosen Option : 4

Q.82 The logarithmic mean temperature difference for parallel flow heat exchangers is

Ans

1.  $\frac{\theta_1 - \theta_2}{\ln(\theta_1 - \theta_2)}$

2.  $\frac{\theta_2 - \theta_1}{\ln(\theta_1/\theta_2)}$

3.  $\frac{\theta_1 - \theta_2}{\ln(\theta_1 + \theta_2)}$

4.  $\frac{\theta_1 - \theta_2}{\ln(\theta_1/\theta_2)}$

Question ID : 50389010733

Status : Answered

Chosen Option : 4

Q.83 The oxy-acetylene gas used in gas welding produces a flame temperature of

Ans

1. 1800 degree C

2. 2100 degree C

3. 3200 degree C

4. 2400 degree C

Question ID : 50389010776

Status : Answered

Chosen Option : 3

Q.84 A gear tooth profile generated using a curve traced by a point on the circumference of a circle that rolls without slipping on a fixed straight line is known as

Ans

1. Epi-Cycloid

2. Hypo- Cycloid

3. Involute

4. Cycloid

Question ID : 50389010719

Status : Answered

Chosen Option : 4

Q.85 The Mercury does not wet the glass tube. This is due to the property of liquid known as

Ans

1. Density

2. Compressibility

3. Surface tension

4. Viscosity

Question ID : 50389010743

Status : Answered

Chosen Option : 3