

CIL MT Mechanical

**Previous Year Paper
27 Feb 2020**

Coal India Limited 27th Feb 2020

Participant ID	
Participant Name	
Test Center Name	Indraprastha Public School
Test Date	27/02/2020
Test Time	12:30 PM - 3:30 PM
Subject	Mechanical

Section : General Knowledge and Awareness

Q.1 Which country has opted out itself from the (Regional Comprehensive Economic Partnership) RCEP agreement?

Ans

✓ A. India

✗ B. Thailand

✗ C. Malaysia

✗ D. Laos

Question ID : 59445917413

Status : Answered

Chosen Option : 1

Q.2 When was Zamindari Association established in India?

Ans

✓ A. 1838

✗ B. 1834

✗ C. 1890

✗ D. 1876

Question ID : 59445917405

Status : Answered

Chosen Option : 3

Q.3 When was the National Institution for Transforming India (NITI) Aayog was formed?

Ans

✗ A. 2008

✓ B. 2015

✗ C. 2013

✗ D. 2010

Question ID : 59445917408

Status : Answered

Chosen Option : 1

Q.4 Which of the following gas is used for making the Soda Water?

- Ans
- ☒ A. Nitrogen
 - ☒ B. Carbon Dioxide
 - ☒ C. Helium
 - ☒ D. Hydrogen

Question ID : 59445917396
Status : Answered
Chosen Option : 2

Q.5 RBI has increased the household income limits for borrowers of Non-Banking Financial Companies (NBFC) - Microfinance Institutions (MFI) from 1 lakh to _____ for the rural areas.

- Ans
- ☒ A. Rs.1.25 lakh
 - ☒ B. Rs.1.50 lakh
 - ☒ C. Rs.1.70 lakh
 - ☒ D. Rs. 2.5 lakh

Question ID : 59445917409
Status : Answered
Chosen Option : 2

Q.6 Art of cultivation of forest trees is called _____.

- Ans
- ☒ A. Sericulture
 - ☒ B. Siviculture
 - ☒ C. Viniculture
 - ☒ D. Horticulture

Question ID : 59445917415
Status : Answered
Chosen Option : 1

Q.7 Where is the Kakrapar Atomic Power Plant is located?

- Ans
- ☒ A. Gujrat
 - ☒ B. Maharashtra
 - ☒ C. Karnataka
 - ☒ D. Tamil Nadu

Question ID : 59445917398
Status : Answered
Chosen Option : 3

Q.8 With which of the following crop production Yellow Revolution is related?

- Ans ☒ A. Oilseeds
☐ B. Potatoes
☐ C. Wheat
☐ D. Jute

Question ID : 59445917407
Status : Answered
Chosen Option : 3

Q.9 Baiju Dharmajan is famous for which of the musical instrument?

- Ans ☐ A. Sarod
☒ B. Guitar
☐ C. Sitar
☐ D. Flute

Question ID : 59445917402
Status : Answered
Chosen Option : 4

Q.10 Competition Act 2002 is the replacement of which of the following Act?

- Ans ☐ A. Companies Act
☐ B. Consumer Protection Act
☐ C. SEZ Act
☒ D. MRTP Act

Question ID : 59445917417
Status : Answered
Chosen Option : 1

Q.11 According to Article 81, of Indian Constitution what is the maximum strength of members of Parliament in the Lok Sabha?

- Ans ☐ A. 530
☐ B. 510
☐ C. 532
☒ D. 552

Question ID : 59445917410
Status : Answered
Chosen Option : 3

Q.12 Which of the following is the largest irrigation canal in India?

- Ans
- ☒ A. Kakatiya Canal
 - ☒ B. Indira Gandhi Canal
 - ☒ C. Sharda Canal
 - ☒ D. Buckingham Canal

Question ID : 59445917416
Status : Answered
Chosen Option : 1

Q.13 When was the Morley-Minto Reforms' Indian Council Act passed?

- Ans
- ☒ A. 1909
 - ☒ B. 1912
 - ☒ C. 1906
 - ☒ D. 1923

Question ID : 59445917404
Status : Answered
Chosen Option : 2

Q.14 Bhand Pather is the traditional theatre form of which of the following states?

- Ans
- ☒ A. Sikkim
 - ☒ B. Kashmir
 - ☒ C. Madhya Pradesh
 - ☒ D. Haryana

Question ID : 59445917403
Status : Answered
Chosen Option : 1

Q.15 First education satellite launched by ISRO is _____.

- Ans
- ☒ A. Rohini
 - ☒ B. INSAT
 - ☒ C. EDUSAT
 - ☒ D. PARAM

Question ID : 59445917399
Status : Answered
Chosen Option : 1

Q.16 Which of the following is India's first web repository launched by The National Environmental Engineering Research Institute (NEERI) along with CSIR (Council of Scientific Industrial Research)?

- Ans
- ☒ A. NAP
 - ☒ B. CAMPA
 - ☒ C. IndAIR
 - ☒ D. IWMP

Question ID : 59445917397
Status : Answered
Chosen Option : 2

Q.17 _____ Language is also called programming language.

- Ans
- ☒ A. Low Level
 - ☒ B. Operator
 - ☒ C. High Level
 - ☒ D. Machine

Question ID : 59445917419
Status : Answered
Chosen Option : 3

Q.18 Which of the following country is the largest producer of gold in the world?

- Ans
- ☒ A. Chile
 - ☒ B. Qatar
 - ☒ C. Brazil
 - ☒ D. China

Question ID : 59445917406
Status : Answered
Chosen Option : 4

Q.19 The pioneers known for inventing microchip technology are Jack Kilby and _____.

- Ans
- ☒ A. Jacob Berzelius
 - ☒ B. Tim Leatherman
 - ☒ C. Robert Noyce
 - ☒ D. Charles Lamprey

Question ID : 59445917420
Status : Answered
Chosen Option : 1

Q.20 Who can appoint the Chief Election Commissioner of India?

- Ans
- ☐ A. Vice-President
 - ☐ B. Prime Minister
 - ☐ C. Chief Justice of India
 - ☒ D. President

Question ID : 59445917411
Status : Answered
Chosen Option : 3

Q.21 In which of the following country 19th Asian Games will be held?

- Ans
- ☐ A. Nepal
 - ☒ B. China
 - ☐ C. India
 - ☐ D. Thailand

Question ID : 59445917400
Status : Answered
Chosen Option : 2

Q.22 What is name of the former Chief Election Commissioner of India, who has passed away recently?

- Ans
- ☐ A. Somnath Chatterjee
 - ☐ B. M Karunanidhi
 - ☒ C. T N Iyer Seshan
 - ☐ D. RK Dhawan

Question ID : 59445917414
Status : Answered
Chosen Option : 4

Q.23 Who among the following is nominated as UNHCR Goodwill Ambassador for Pakistan?

- Ans
- ☒ A. Mahira Khan
 - ☐ B. Rima
 - ☐ C. Humayun Saeed
 - ☐ D. Faisal Qureshi

Question ID : 59445917412
Status : Answered
Chosen Option : 1

Q.24 Who among the following has won his 22nd World Billiards Title 2019?

- Ans ☒ A. Pankaj Advani
- ☐ B. Sourav Kothari
- ☐ C. Geet Sethi
- ☐ D. Aditya Mehta

Question ID : 59445917401
Status : Answered
Chosen Option : 2

Q.25 In which year The Life Insurance sector and Life Insurance Corporation of India was nationalized?

- Ans ☐ A. 1906
- ☐ B. 1971
- ☒ C. 1956
- ☐ D. 1978

Question ID : 59445917418
Status : Answered
Chosen Option : 2

Section : Numerical Ability

Q.1 Sum of first 10 terms of a GP is equal to the sum of the first 12 terms in the same GP. Sum of the first 15 terms is 31, what is the third term in the GP?

- Ans ☐ A. -21
- ☒ B. 31
- ☐ C. 0
- ☐ D. -31

Question ID : 59445917495
Status : Answered
Chosen Option : 2

Q.2 Alloy A contains copper and zinc in the ratio 4 : 5 and alloy B contains copper and zinc in the ratio 7 : 2. A and B are taken in the ratio 7 : 4 and melted to form a new alloy. The percentage of zinc in the new alloy is closest to: (correct to two decimal places)

- Ans ☒ A. 43.43%
- ☐ B. 47.5%
- ☐ C. 45.25%
- ☐ D. 47.79%

Question ID : 59445917485
Status : Answered
Chosen Option : 2

Q.3 A number reduced by 33% becomes 335. What percent should it be increased so that it becomes 950?

- Ans
- ☒ A. 95%
 - ☒ B. 90%
 - ☒ C. 100%
 - ☒ D. 85%

Question ID : 59445917476
Status : Answered
Chosen Option : 2

Q.4 If $x^4 + x^2y^2 + y^4 = 37$ and $x^2 - xy + y^2 = 5$, then what is the value of xy ?

- Ans
- ☒ A. 0
 - ☒ B. -1
 - ☒ C. 1.2
 - ☒ D. -1.2

Question ID : 59445917493
Status : Answered
Chosen Option : 4

Q.5 Twenty five litres of 60% concentration of acid solution is added to 35 litres of 80% concentration of acid solution. What is the concentration of acid in the new solution? (correct to one decimal places)

- Ans
- ☒ A. 62.5%
 - ☒ B. 71.7%
 - ☒ C. 60.7%
 - ☒ D. 55.7%

Question ID : 59445917484
Status : Answered
Chosen Option : 1

Q.6 A person sold two articles for Rs. 1936 each. On one he gained 28% and on other he lost 12%. What is his overall gain or loss percent, correct to one decimal place?

- Ans
- ☒ A. 4.3% loss
 - ☒ B. 5% loss
 - ☒ C. 4.3% gain
 - ☒ D. 5% gain

Question ID : 59445917477
Status : Answered
Chosen Option : 4

Q.7 If a six-digit number $3x7z8y$ is divisible by 7, 11, 13, then the average value of x, y, z is:

- Ans** ☒ A. 6
☒ B. 8
☒ C. 7
☒ D. 9

Question ID : 59445917471
Status : Answered
Chosen Option : 1

Q.8 The average of 17 numbers is 48. The average of first 9 numbers is 45 and average of next 9 numbers is 52. If 9th number is excluded, then the 60% of the average of the remaining number is:

- Ans** ☒ A. 28.4625
☒ B. 24.4375
☒ C. 29.5225
☒ D. 28.5135

Question ID : 59445917474
Status : Answered
Chosen Option : 4

Q.9 The fourth term of an arithmetic progression is 6. Then the sum of first seven terms is:

- Ans** ☒ A. 44
☒ B. 35
☒ C. 42
☒ D. 46

Question ID : 59445917494
Status : Answered
Chosen Option : 3

Q.10 In a class of 50 students, the girls are 76%. The average weight of boys is 62 kg and that of girls is 58 kg. What is the average weight (in kg) of whole class?

- Ans** ☒ A. 61.56
☒ B. 60.24
☒ C. 58.96
☒ D. 61.45

Question ID : 59445917473
Status : Answered
Chosen Option : 3

Q.11 A can do a certain work in 12 days, B alone can do the same work in 16 days. A and B undertook to complete it in Rs. 8000. With the help of C, they completed the work in 6 days. How much money (in Rs.) be paid to B?

- Ans  A. 4000
 B. 3000
 C. 2000
 D. 1000

Question ID : 59445917489
Status : Answered
Chosen Option : 2

Q.12 A sum of Rs. 21500 was lent partly at 4% p.a. and remaining at 6% p.a. simple interest. The total interest received after $3\frac{1}{2}$ years is Rs. 3521. The sum (in Rs.) lent at 6% p.a. is:

- Ans  A. 8000
 B. 7550
 C. 7700
 D. 7300

Question ID : 59445917483
Status : Answered
Chosen Option : 2

Q.13 If $x = \frac{\sqrt{5}-\sqrt{3}}{\sqrt{5}+\sqrt{3}}$ and y is reciprocal of x, then what is the value of $\sqrt{(x^3 + y^3)}$?

- Ans  A. $3\sqrt{132}$
 B. $5\sqrt{132}$
 C. $\sqrt{132}$
 D. $2\sqrt{132}$

Question ID : 59445917480
Status : Answered
Chosen Option : 4

Q.14 If A's income is 60% more of B's income and B's income is 40% less than C's income, then by what percent is C's income more than B's income? (Correct to one decimal place)

- Ans  A. 77.6
 B. 66.7
 C. 62.4
 D. 67.8

Question ID : 59445917475
Status : Answered
Chosen Option : 2

Q.15 A man standing in a point C of a ground. He observes a flying an aero-plane in the east at an angle of elevation of 30° and after 30 seconds, he observes the same aero-plane in the west at an angle of elevation of 60° . If the aero-plane flies all along in a straight line at a height of $480\sqrt{3}$ m, then its speed in km/h is:

- Ans**
- ☒ A. 247.8
 - ☒ B. 257.5
 - ☒ C. 230.4
 - ☒ D. 249.8

Question ID : 59445917491
Status : Answered
Chosen Option : 2

Q.16 $0.\overline{32} + 0.5\overline{48} - 0.1\overline{9}$ is equal to :

- Ans**
- ☒ A. $0.6\overline{71}$
 - ☒ B. $0.6\overline{79}$
 - ☒ C. $0.6\overline{17}$
 - ☒ D. $0.6\overline{51}$

Question ID : 59445917472
Status : Answered
Chosen Option : 2

Q.17 A bus passes two bridges of length 500 m and 325 m in 90 seconds and 60 seconds respectively. The length (in m) of the bus is

- Ans**
- ☒ A. 25
 - ☒ B. 27
 - ☒ C. 22
 - ☒ D. 30

Question ID : 59445917487
Status : Answered
Chosen Option : 1

Q.18 A covers a certain distance at a certain speed. If he covers one- third of the distance in three time then the ratio of this speed to the original speed is:

- Ans**
- ☒ A. 1:4
 - ☒ B. 1:9
 - ☒ C. 4:5
 - ☒ D. 9:1

Question ID : 59445917486
Status : Answered
Chosen Option : 2

Q.19 A woman distributed her savings between her daughters A, B, C and D in the ratio 6 : 7 : 9 : 16. If A gives Rs. 600 from his share to C, the ratio of shares of A, B, C and D becomes 1 : 4 : 2 : 5. What is the average of sum of shares (in Rs.) of A, C and B, in the beginning?

- Ans
- ☒ A. 4550
 - ☒ B. 4150
 - ☒ C. 4400
 - ☒ D. 5100

Question ID : 59445917479
Status : Answered
Chosen Option : 3

Q.20 A and B can do a work in 21 days, A is $\frac{7}{4}$ times as efficient as B. In how many days, A alone can complete the $\frac{100}{3}\%$ of the work?

- Ans
- ☒ A. 13
 - ☒ B. 22
 - ☒ C. 11
 - ☒ D. 17

Question ID : 59445917488
Status : Answered
Chosen Option : 3

Q.21 A person marks his goods 40% above the cost price. He sold 30% of goods at marked price, 60% of the remaining at a discount of 20% and remaining at 40% discount .What is 60% of his overall gain percent?

- Ans
- ☒ A. 13.15%
 - ☒ B. 15.18%
 - ☒ C. 17.14%
 - ☒ D. 10.56%

Question ID : 59445917478
Status : Answered
Chosen Option : 2

Q.22 A 18 m long ladder (whose foot is on the ground) leans against a wall making an angle of 60° with the wall. What is the height (in m) of the point where the ladder touches the wall from the ground?

- Ans
- ☒ A. $9\sqrt{3}$
 - ☒ B. $\frac{9\sqrt{3}}{2}$
 - ☒ C. $9\sqrt{2}$
 - ☒ D. 9

Question ID : 59445917490
Status : Answered
Chosen Option : 4

Q.23 If $x^4 - 62x^2 + 1 = 0$, then a value of $x^3 + x^{-3}$ can be:

- Ans  A. 389
 B. 488
 C. 498
 D. 320

Question ID : 59445917492
Status : Answered
Chosen Option : 2

Q.24 If $\sqrt{12 - 2\sqrt{35}} + \sqrt{8 + 2\sqrt{15}} = \sqrt{a} + \sqrt{b}$, where a and b are positive integers, then the value of $b - a$ is closest to:

- Ans  A. 5
 B. 3
 C. 2
 D. 4

Question ID : 59445917481
Status : Answered
Chosen Option : 2

Q.25 A person invested a sum of Rs. 9000 at $r\%$ per annum at simple interest and a sum of Rs. 13500 at $(r - 4)\%$ at simple interest. If total interest earned on both the investments for 5 years is Rs. 9337.50, then the rate of interest on the first investment is:

- Ans  A. 10.2%
 B. 10%
 C. 10.7%
 D. 9.5%

Question ID : 59445917482
Status : Answered
Chosen Option : 2

Section : Reasoning

Q.1 There are five friends, P, Q, R, S and T. P says to Q, "If you give me Rs 300, you will have as many as I have at this moment. If S takes Rs 500 from you, he will have as much money as T has now. P and R together has twice much money as T has. Q and S combined have same amount of money as P and R combined. If together they have Rs 15000, How much money R has?

- Ans  A. Rs. 2800
 B. Rs. 2000
 C. Rs. 3200
 D. Rs. 3000

Question ID : 59445917559
Status : Answered
Chosen Option : 2

Q.2 If in a certain code, 'HOTEL' is written as 'GINPSUDFKM', How will BUTLER be written as in that language?

- Ans
- ☒ A. CDTVSUKMDFQS
 - ☒ B. ACTVSUKMDFPS
 - ☒ C. ACSVSUKMDFQS
 - ☒ D. ACTVSUKMDFQS

Question ID : 59445917563
Status : Answered
Chosen Option : 4

Q.3 Four groups of numbers are given out of which the numbers in three groups bear a certain common relationship. Choose the group in which the numbers are differently related.

- Ans
- ☒ A. 13 : 78 : 144
 - ☒ B. 18 : 108 : 216
 - ☒ C. 24 : 144 : 288
 - ☒ D. 16 : 96 : 192

Question ID : 59445917570
Status : Answered
Chosen Option : 1

Q.4 Which of the answer figures is the exact mirror image of the given problem figure when the mirror is held at the right side?

JYRS73@92KL

- Ans
- ☒ A.
 - ☒ B.
 - ☒ C.
 - ☒ D.

Question ID : 59445917550
Status : Answered
Chosen Option : 1

Q.5 Seven friends, A, E, I, O, U, X and Z are sitting around a round table facing towards the center. A is neighbor of E and I. O is not neighbour of I and Z who is second to the left of O and has U and X as neighbours? Who is between A and O?

- Ans
- ☒ A. E
 - ☒ B. U
 - ☒ C. I
 - ☒ D. X

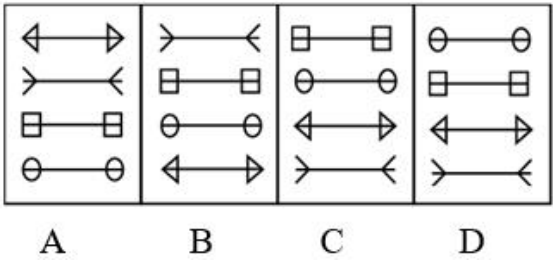
Question ID : 59445917552
Status : Answered
Chosen Option : 1

Q.6 In a certain code language, 'GUAVA' is written as '21-7-1-6-1' then how will 'APRICOT' ' be written in the same code language?

- Ans ☒ A. 1-12-10-19-25-4-21
☒ B. 1-16-10-3-25-13-8
☒ C. 1-12-19-3-4-13-8
☒ D. 1-12-10-3-25-4-8

Question ID : 59445917564
Status : Answered
Chosen Option : 3

Q.7 Select the figure which is different from the other three alternatives.



- Ans ☒ A. D
☒ B. C
☒ C. B
☒ D. A

Question ID : 59445917558
Status : Answered
Chosen Option : 1

Q.8 Following are the criteria for the selection of Civil Engineers in an organization:

The candidate must -

- (i) have a B.E. or B. Tech from a recognized university with minimum 65% marks.
- (ii) have secured at least 50 % marks in the selection test.
- (iii) have secured at least 55% marks in the interview.
- (iv) not be less than 22 years and not more than 27 years of age as on 1.10. 2019.

In case of a candidate who satisfies all other criteria except:

- a) At (i) above but has more than 2years experience, the case may be referred to the General Manager, Recruitment.
- b) At (ii) above but have secured 75% and above marks in the selection interview, the case may be referred to the Sr.V.P. HR.

Based on the above criteria and conditions, analyze and decide which of the following course of action should be taken for the candidate whose description is provided below. Please note that you are not to assume anything other than the given information.

Amita Sachdeva, born on 20th October, 1992 secured 55% marks in BE final year She got 60% marks in both selection test and interview.

Ans

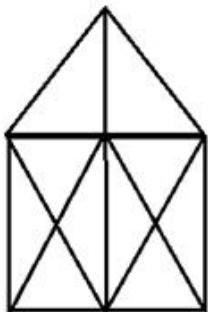
- ☒ A. The candidate is to be selected.
- ☒ B. The case is to be referred to the General Manager, Recruitment.
- ☒ C. The candidate is not to be selected.
- ☒ D. The case is to be referred to the Sr.V.P. HR

Question ID : 59445917554

Status : Answered

Chosen Option : 3

Q.9 How many triangles are there in the given figure?



Ans

- ☒ A. 23
- ☒ B. 17
- ☒ C. 25
- ☒ D. 18

Question ID : 59445917555

Status : Answered

Chosen Option : 1

Q.10 A statement is given followed by two courses of actions I and II. You have to assume everything in the statement to be true, then decide which of the suggested given courses of action logically follows for pursuing.

Statement: There has been alarming drop in the ground water level across the major cities of the country.

Courses of action:

I. The government should create awareness among the citizens through mass media to stop the wastage of water.

II. The governmental and non-governmental agencies should take immediate steps to recharge the ground water like rain water harvesting.

Ans  **A.** Neither I nor II follows.

 **B.** Only II follows.

 **C.** Both I or II follow.

 **D.** Only I follows.

Question ID : **59445917553**

Status : **Answered**

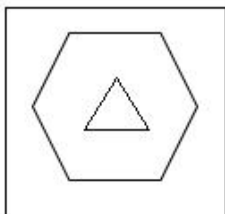
Chosen Option : **2**

Q.11 Select the figure that will come next in the following figure series.

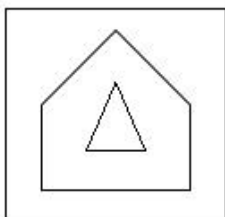


Ans

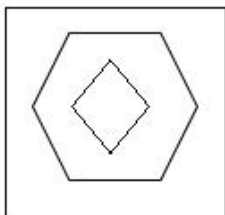
✓ A.



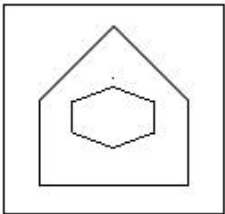
✗ B.



✗ C.



✗ D.



Question ID : 59445917561

Status : Answered

Chosen Option : 1

Q.12 A + B means 'A is the father of B'; A - B means 'A is the wife of B'; A × B means 'A is son of B', A ÷ B means 'A is the daughter of B'. If W × Z + Y ÷ X, then how is X related to W?

Ans

✗ A. Son in law

✗ B. Daughter in law

✗ C. Mother in law

✓ D. Mother

Question ID : 59445917557

Status : Answered

Chosen Option : 4

Q.13 Which number will replace the question mark (?) in the following series?

7, 17, 41, 85, _____, 257

Ans

- ☒ A. 147
- ☒ B. 145
- ☒ C. 150
- ☒ D. 155

Question ID : 59445917560
Status : Answered
Chosen Option : 2

Q.14 Some equations are solved on the basis of a certain system. Find the correct answer for the given equations on that basis:-

$5 \times 7 \times 4 = 53$
 $7 \times 5 \times 8 = 67$
 $8 \times 3 \times 6 = ?$

Ans

- ☒ A. 77
- ☒ B. 73
- ☒ C. 87
- ☒ D. 67

Question ID : 59445917569
Status : Answered
Chosen Option : 3

Q.15 Select the pair of words from the given options that shares a similar relationship as the given pair.

Robust : Weak

Ans

- ☒ A. Refuse : Accept
- ☒ B. Vacant : Empty
- ☒ C. Alien : Foreigner
- ☒ D. Kind : Gentle

Question ID : 59445917548
Status : Answered
Chosen Option : 4

Q.16 Rehan is younger than Hrithik but elder than Jayant and Parikshit who are elder than Avnish. Rohit is elder than Mayank but younger than Avnish. Who is the youngest of them all?

Ans

- ☒ A. Avnish
- ☒ B. Mayank
- ☒ C. Hrithik
- ☒ D. Rohit

Question ID : 59445917567
Status : Answered
Chosen Option : 4

Q.17 Two statements are given followed by two conclusions I and II. You have to consider these statements to be true, even if they seem at variance from commonly known facts. Decide which of the given conclusions logically follow/s from the given statement.

Statements:
A. Some dentists are surgeons.
B. No surgeon is an amateur.

Conclusions:
I. Some amateurs are surgeons.
II. All surgeons are dentists.

- Ans  A. Neither conclusion I nor II follows.
-  B. Only conclusion II follows.
-  C. Either conclusion I or II follows.
-  D. Only conclusion I follows.

Question ID : 59445917566
Status : Answered
Chosen Option : 2

Q.18 Select the option that is related to the fourth term in the same way as the first term is related to the second term.

POP : KLU :: FMO : _____

- Ans  A. KNU
-  B. KNT
-  C. ANT
-  D. AMU

Question ID : 59445917547
Status : Answered
Chosen Option : 3

Q.19 A group of letters are numbered from 1 to 8. Four options given below depict combinations of these numbers. Select that combination of numbers so that letters arranged accordingly form a meaningful word.

1 2 3 4 5 6 7 8
R N S I P D E I

- Ans  A. 4, 2, 3, 5, 8, 1, 6, 7
-  B. 7, 3, 2, 5, 8, 1, 4, 6
-  C. 4, 2, 3, 5, 8, 1, 7, 6
-  D. 3, 5, 4, 7, 1, 6, 2, 8

Question ID : 59445917565
Status : Answered
Chosen Option : 2

Q.20 Select the option that is related to the fourth term in the same way as the first term is related to the second term.

Theatre : Actor :: Laboratory : ?

- Ans  A. Astronomer
-  B. Scientist
-  C. Lab-coat
-  D. Microscope

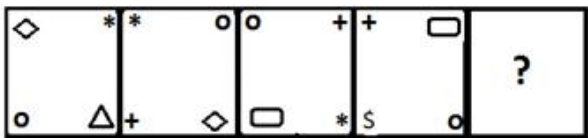
Question ID : 59445917546
Status : Answered
Chosen Option : 2

Q.21 Three of the following four letter-clusters are alike in a certain way and one is different.
Pick the odd one out.

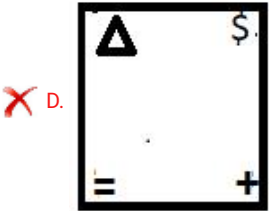
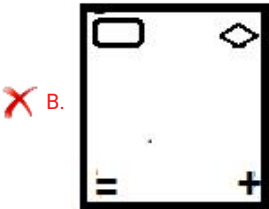
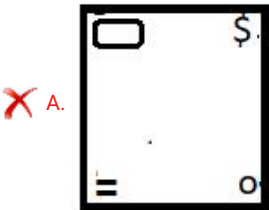
- Ans  A. IKE - PNT
-  B. FMS - VOI
-  C. GTL - REM
-  D. ROQ - GJH

Question ID : 59445917549
Status : Answered
Chosen Option : 2

Q.22 Select the figure that will come next in the following figure series.



Ans



Question ID : 59445917562
Status : Answered
Chosen Option : 3

Q.23 Jigyasa is seven ranks ahead of Shekhar in a class of forty students. If Shekhar is 16th from the last, what is Jigyasa's rank from the top?

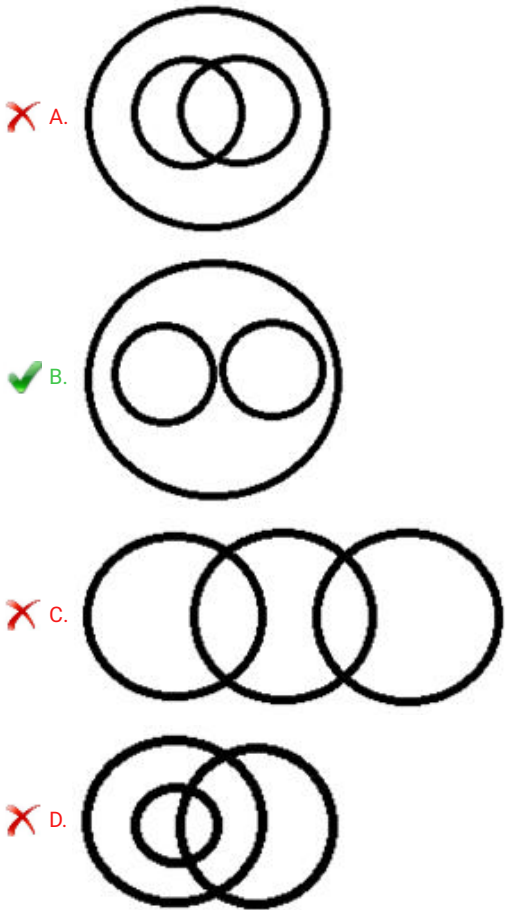
- Ans ☒ A. 18th
- ☒ B. 17th
- ☒ C. 15th
- ☒ D. 16th

Question ID : 59445917551
Status : Answered
Chosen Option : 1

Q.24 Choose the Venn diagram from the given options which represents the correct relationship amongst the following classes:

Crocodiles, Lizards, Reptiles

Ans



Question ID : 59445917568
Status : Answered
Chosen Option : 2

Q.25 If 'L' is the brother of 'O', 'O' is the son of 'K', and 'M' is the father of 'L', then how is 'K' related to 'L'?

- Ans
- ☒ A. Husband
 - ☒ B. Sister
 - ☒ C. Mother
 - ☒ D. Brother

Question ID : 59445917556
Status : Answered
Chosen Option : 3

Q.1 Identify the part of the sentence which contains an error.

Hostility/ between the rival groups/ have increased/ since the last elections.

- Ans  A. since the last elections
 B. have increased
 C. between the rival groups
 D. Hostility

Question ID : 59445917617
Status : Answered
Chosen Option : 1

Q.2 Choose the correct structure to complete the sentence.

Friendship built on business is _____ business based on friendship.

- Ans  A. best than
 B. better than
 C. the best
 D. the better than

Question ID : 59445917630
Status : Answered
Chosen Option : 2

Q.3 Put the jumbled words in the correct order to form a meaningful sentence.

her / told / exercise / examination / to / regularly / the / her / physician / after

- Ans  A. After examination, her physician told to her the exercise regularly.
 B. After the examination, her physician told her to exercise regularly.
 C. After her examination, the physician told to her to exercise regularly.
 D. After her examination, the physician told to exercise regularly to her.

Question ID : 59445917634
Status : Answered
Chosen Option : 3

Q.4 Choose the correct spelling from the options given.

- Ans  A. profesional
 B. profetional
 C. professional
 D. prafesional

Question ID : 59445917627
Status : Answered
Chosen Option : 3

Q.5 Choose the word that means the opposite of the highlighted word in the sentence.

The programme was not organized properly and confusion seemed inevitable.

- Ans ☒ A. uncertain
☒ B. sufficient
☒ C. permanent
☒ D. appropriate

Question ID : 59445917625
Status : Answered
Chosen Option : 2

Q.6 Choose the word that best replaces the words highlighted in the sentence.

The terrorists targeted the assembly of worshippers on a holy day to cause maximum damage.

- Ans ☒ A. congregation
☒ B. crowd
☒ C. gathering
☒ D. colleagues

Question ID : 59445917621
Status : Answered
Chosen Option : 1

Q.7 Choose the correct word(s) to fill in the blank.

It was my sister's birthday and all ____ us ____ the family wanted to buy a gift ____ her.

- Ans ☒ A. from; from; for
☒ B. of; from; to
☒ C. of; in; to
☒ D. of; in; for

Question ID : 59445917618
Status : Answered
Chosen Option : 4

Q.8 Complete the sentence with the appropriate word.

Our family has been _____ the details for buying our own house.

- Ans ☒ A. applying
☒ B. thinking
☒ C. stating
☒ D. considering

Question ID : 59445917632
Status : Answered
Chosen Option : 1

Q.9 Choose the correct order of sentences to form a meaningful paragraph.

- Ans  A. On their return he was coached by private tutors until he was twelve.
While he was still an infant, Henry James was taken abroad by his parents for a year.
At that time, he was taken to France and Germany to spend three years there.
He spent those years absorbing the culture of those people.
-  B. While he was still an infant, Henry James was taken abroad by his parents for a year.
On their return he was coached by private tutors until he was twelve.
At that time, he was taken to France and Germany to spend three years there.
He spent those years absorbing the culture of those people.
-  C. He spent those years absorbing the culture of those people.
On their return he was coached by private tutors until he was twelve.
At that time, he was taken to France and Germany to spend three years there.
While he was still an infant, Henry James was taken abroad by his parents for a year.
-  D. While he was still an infant, Henry James was taken abroad by his parents for a year.
At that time, he was taken to France and Germany to spend three years there.
On their return he was coached by private tutors until he was twelve.
He spent those years absorbing the culture of those people.

Question ID : 59445917635
Status : Answered
Chosen Option : 2

Q.10 Choose the word that means the opposite of the highlighted word in the sentence.

The leading English newspapers are known for their comprehensive coverage of news.

- Ans  A. indifferent
-  B. difficult
-  C. impossible
-  D. inadequate

Question ID : 59445917624
Status : Answered
Chosen Option : 1

Q.11 Choose the correct words to fill in the blanks.

One ____ the two elevators ____ the building has been ____ repair ____ nearly two weeks.

- Ans  A. of; from; under; since
-  B. in; in; in; for
-  C. among; from; in; for
-  D. of; in; under; for

Question ID : 59445917619
Status : Answered
Chosen Option : 4

Q.12 Choose the word that roughly means the same as the word highlighted in the sentence.

The committee's decision to fund the project was agreed upon by everyone in the committee.

- Ans ☒ A. unanimous
- ☒ B. divisive
- ☒ C. decided
- ☒ D. comprehensive

Question ID : 59445917622
Status : Answered
Chosen Option : 1

Q.13 Identify the part of the sentence which contains an error.

In the front room/ of our house/ there's/ two chairs and a sofa.

- Ans ☒ A. there's
- ☒ B. of our house
- ☒ C. In the front room
- ☒ D. two chairs and a sofa

Question ID : 59445917616
Status : Answered
Chosen Option : 1

Q.14 Choose the correct phrase or expression to complete the sentence.

I have never _____ in the Raj Bhavan, but I hope to very soon.

- Ans ☒ A. set out
- ☒ B. set foot
- ☒ C. set forth
- ☒ D. set up

Question ID : 59445917628
Status : Answered
Chosen Option : 2

Q.15 Choose the correct phrase or expression to complete the sentence.

I was quite _____ after I heard that we were going to Singapore for a week's holiday.

- Ans ☒ A. kicked off
- ☒ B. knocked off
- ☒ C. keyed up
- ☒ D. held off

Question ID : 59445917629
Status : Answered
Chosen Option : 1

Q.16 Choose the correct spelling from the options given.

- Ans ☒ A. temperature
☒ B. tempereicher
☒ C. temparacher
☒ D. tamparechur

Question ID : 59445917626
Status : Answered
Chosen Option : 1

Q.17 Choose the correct structure to complete the sentence.

Sanjay has been posted in Hyderabad, _____ birthplace.

- Ans ☒ A. where it is her
☒ B. there is her
☒ C. where is her
☒ D. which is her

Question ID : 59445917631
Status : Answered
Chosen Option : 4

Q.18 Choose the word that best replaces the words highlighted in the sentence.

The children in the playschool were playing with one half of a sphere.

- Ans ☒ A. a globe
☒ B. a cylinder
☒ C. a sphere
☒ D. a hemisphere

Question ID : 59445917620
Status : Answered
Chosen Option : 4

Q.19 Complete the sentence with the appropriate word.

After examining the facts in the case, the judge used his _____ to grant bail to the accused.

- Ans ☒ A. discretion
☒ B. influence
☒ C. lawyers
☒ D. skills

Question ID : 59445917633
Status : Answered
Chosen Option : 1

Q.20 Choose the word that roughly means the same as the word highlighted in the sentence.

Whenever a new movie is released, some people commit the act of illegally copying the film without permission.

- Ans
-  A. copying
 -  B. robbing
 -  C. piracy
 -  D. cheating

Question ID : 59445917623

Status : Answered

Chosen Option : 3

Comprehension:

Read the passage carefully and answer the questions that follow.

The government has ordered re-examination in the SSLC English II paper in a district.

In a statement in the Assembly on Wednesday, the Education Minister said that the invigilators in seven rooms of a higher secondary school had been given a packet containing the question paper for English II instead of English I on March 22. The mistake had been realized after more than 15 minutes and the question papers were withdrawn and deposited with the paper custodian.

Denying reports the the question papers had been 'leaked', the Minister speculated that the opportunity to make a fast buck out of the situation could have been made use of by some. He said enquiries by his department as well as the CID had revealed that the question papers reportedly 'leaked' and in circulation had nothing in common with the actual question paper.

The government had ordered a re-examination taking into consideration the possibilities of the invigilators remembering some of the questions in the 'leaked' paper.

Two officials have been suspended for the leakage of the exam papers, according to sources. They are the departmental officer and the custodian of the papers, both based at the district headquarters.

SubQuestion No : 21

Q.21 Choose the most appropriate option.

What is the main idea of the passage?

- Ans
- ☒ A. The difficulties faced by students in an examination
 - ☒ B. Suspension of government officials by the minister
 - ☒ C. The Education Minister's press conference
 - ☒ D. The reported leakage of an exam question paper

Question ID : 59445918665

Status : Answered

Chosen Option : 4

Comprehension:

Read the passage carefully and answer the questions that follow.

The government has ordered re-examination in the SSLC English II paper in a district.

In a statement in the Assembly on Wednesday, the Education Minister said that the invigilators in seven rooms of a higher secondary school had been given a packet containing the question paper for English II instead of English I on March 22. The mistake had been realized after more than 15 minutes and the question papers were withdrawn and deposited with the paper custodian.

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Two officials have been suspended for the leakage of the exam papers, according to sources. They are the departmental officer and the custodian of the papers, both based at the district headquarters.

SubQuestion No : 22

Q.22 Which of the following is NOT TRUE according to the passage?

Ans

 **A.** The government ordered a reexamination in the subject of the 'leaked' question paper.

 **B.**

The minister denied that there was a leakage of question papers.

 **C.** The invigilators of the examination were dismissed from service.

 **D.** Two officials were suspended for the 'leakage' of the question paper.

Question ID : **59445918663**

Status : **Answered**

Chosen Option : **3**

Comprehension:

Read the passage carefully and answer the questions that follow.

The government has ordered re-examination in the SSLC English II paper in a district.

In a statement in the Assembly on Wednesday, the Education Minister said that the invigilators in seven rooms of a higher secondary school had been given a packet containing the question paper for English II instead of English I on March 22. The mistake had been realized after more than 15 minutes and the question papers were withdrawn and deposited with the paper custodian.

Denying reports the the question papers had been 'leaked', the Minister speculated that the opportunity to make a fast buck out of the situation could have been made use of by some. He said enquiries by his department as well as the CID had revealed that the question papers reportedly 'leaked' and in circulation had nothing in common with the actual question paper.

The government had ordered a re-examination taking into consideration the possibilities of the invigilators remembering some of the questions in the 'leaked' paper.

Two officials have been suspended for the leakage of the exam papers, according to sources. They are the departmental officer and the custodian of the papers, both based at the district headquarters.

SubQuestion No : 23

Q.23 "The Minister speculated that . . ." The word "speculated" is most likely to mean

- Ans
- ☒ A. evaluated
 - ☒ B. judged
 - ☒ C. knew
 - ☒ D. guessed

Question ID : 59445918664

Status : Answered

Chosen Option : 4

Comprehension:

Read the passage carefully and answer the questions that follow.

The government has ordered re-examination in the SSLC English II paper in a district.

In a statement in the Assembly on Wednesday, the Education Minister said that the invigilators in seven rooms of a higher secondary school had been given a packet containing the question paper for English II instead of English I on March 22. The mistake had been realized after more than 15 minutes and the question papers were withdrawn and deposited with the paper custodian.

Denying reports the the question papers had been 'leaked', the Minister speculated that the opportunity to make a fast buck out of the situation could have been made use of by some. He said enquiries by his department as well as the CID had revealed that the question papers reportedly 'leaked' and in circulation had nothing in common with the actual question paper.

The government had ordered a re-examination taking into consideration the possibilities of the invigilators remembering some of the questions in the 'leaked' paper.

Two officials have been suspended for the leakage of the exam papers, according to sources. They are the departmental officer and the custodian of the papers, both based at the district headquarters.

SubQuestion No : 24

Q.24 Choose the best option.

How would you describe the overall tone of the passage?

- Ans**
- ☒ A. casual
 - ☒ B. funny
 - ☒ C. serious
 - ☒ D. flippant

Question ID : 59445918666

Status : Answered

Chosen Option : 3

Comprehension:

Read the passage carefully and answer the questions that follow.

The government has ordered re-examination in the SSLC English II paper in a district.

In a statement in the Assembly on Wednesday, the Education Minister said that the invigilators in seven rooms of a higher secondary school had been given a packet containing the question paper for English II instead of English I on March 22. The mistake had been realized after more than 15 minutes and the question papers were withdrawn and deposited with the paper custodian.

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The government had ordered a re-examination taking into consideration the possibilities of the invigilators remembering some of the questions in the 'leaked' paper.

Two officials have been suspended for the leakage of the exam papers, according to sources. They are the departmental officer and the custodian of the papers, both based at the district headquarters.

SubQuestion No : 25

Q.25 From the news report, including the minister's statement and the CID's report, we may infer that

- Ans
- ☒ A. the CID's report was not based on actual facts.
 - ☒ B. the entire question paper was not actually leaked out.
 - ☒ C. the entire question paper was leaked out but the minister tried to cover it up.
 - ☒ D. the government officials should not have been punished.

Question ID : 59445918667

Status : Answered

Chosen Option : 2

Q.1 The maximum and minimum speeds of a flywheel are 630 rpm and 600 rpm. Then the coefficient of fluctuation of speed:

- Ans
- ☒ A. 0.0476
 - ☒ B. 0.0300
 - ☒ C. 0.0487
 - ☒ D. 0.0500

Question ID : 59445918279
Status : Answered
Chosen Option : 3

Q.2 A strain gauge oriented in a direction at an angle θ with x-axis, measures:

- Ans
- ☒ A. $\epsilon_x \sin^2 \theta + \epsilon_y \cos^2 \theta + \tau_{xy} \cos \theta \sin \theta$
 - ☒ B. $\epsilon_x \cos^2 \theta + \epsilon_y \sin^2 \theta + 2\tau_{xy} \cos \theta \sin \theta$
 - ☒ C. $\epsilon_x \cos^2 \theta + \epsilon_y \sin^2 \theta + \tau_{xy} \cos \theta \sin \theta$
 - ☒ D. $\epsilon_x \cos^2 \theta + \epsilon_y \sin^2 \theta - \tau_{xy} \cos \theta \sin \theta$

Question ID : 59445918270
Status : Answered
Chosen Option : 3

Q.3 Heat exchange takes place, in which the product of pressure and volume remains constant, is known as:

- Ans
- ☒ A. Isothermal process
 - ☒ B. Hyperbolic process
 - ☒ C. Isentropic process
 - ☒ D. Adiabatic process

Question ID : 59445918316
Status : Answered
Chosen Option : 1

Q.4 The efficiency of carnot cycle when it operates between the temperature of 373 and 273 K is:

- Ans
- ☒ A. 0.268
 - ☒ B. 0.134
 - ☒ C. 0.183
 - ☒ D. 0.366

Question ID : 59445918312
Status : Answered
Chosen Option : 1

Q.5 In a 4-stroke petrol engine, the actual volume of fresh charge admitted is:

- Ans
- ☒ A. more than stroke volume
 - ☒ B. less than stroke volume
 - ☒ C. equal to clearance volume
 - ☒ D. equal to stroke volume

Question ID : **59445918324**
Status : **Answered**
Chosen Option : **2**

Q.6 Manganese is added to Carbon steels:

- Ans
- ☒ A. Make the steel ductile and good bending qualities
 - ☒ B. decrease the elastic deformation
 - ☒ C. Raise the yield point
 - ☒ D. Make the steel tougher and harder

Question ID : **59445918330**
Status : **Answered**
Chosen Option : **1**

Q.7 Petrol engine carburettors are manufactured by:

- Ans
- ☒ A. Shell casting
 - ☒ B. Die casting
 - ☒ C. Centrifugal casting
 - ☒ D. Sand casting

Question ID : **59445918341**
Status : **Answered**
Chosen Option : **1**

Q.8 Torsional-sectional-modulus of a shaft is also called as:

- Ans
- ☒ A. Polar modulus
 - ☒ B. Torsional rigidity
 - ☒ C. Sectional modulus
 - ☒ D. Torsion modulus

Question ID : **59445918266**
Status : **Answered**
Chosen Option : **1**

Q.9 In case of Izod test, the specimen is kept as:

- Ans ☒ A. Cantilever beam
☒ B. Overhanging beam
☒ C. Fixed ended beam
☒ D. Simply supported beam

Question ID : 59445918272
Status : Answered
Chosen Option : 1

Q.10 Stellite preserve hardness up to a temperature of:

- Ans ☒ A. 900 °C
☒ B. 350 °C
☒ C. 500 °C
☒ D. 1100 °C

Question ID : 59445918346
Status : Answered
Chosen Option : 2

Q.11 A thermodynamic open system is one in which:

- Ans ☒ A. Mass do not cross boundary but energy can
☒ B. Neither mass nor energy crosses the boundary
☒ C. Both energy and mass cross the boundary
☒ D. Mass crosses the boundary but not the energy

Question ID : 59445918309
Status : Answered
Chosen Option : 3

Q.12 The continuity equation is the result of the application of the following law to the flow field:

- Ans ☒ A. Newtons second law of motion
☒ B. First law of thermodynamics
☒ C. Conservation of energy
☒ D. Conservation of mass

Question ID : 59445918300
Status : Answered
Chosen Option : 4

Q.13 Slow plastic deformation of a material under constant stress is:

- Ans
- ☒ A. Proof deformation
 - ☒ B. Creep
 - ☒ C. Gradual deformation
 - ☒ D. Fatigue

Question ID : 59445918338
Status : Answered
Chosen Option : 2

Q.14 A cantilever beam of length 100 mm is subjected an end load of 150 N. If Young's Modulus is 200 GPa and Moment of Inertia is 5000 mm⁴, the maximum deflection of this beam is:

- Ans
- ☒ A. 0.5 mm
 - ☒ B. 5 mm
 - ☒ C. 0.05 mm
 - ☒ D. 0.01 mm

Question ID : 59445918265
Status : Answered
Chosen Option : 3

Q.15 In GTAW, the material coated on pure tungsten electrode to enhance its current capacity is:

- Ans
- ☒ A. Manganese
 - ☒ B. Radium
 - ☒ C. Titanium
 - ☒ D. Thorium

Question ID : 59445918350
Status : Answered
Chosen Option : 3

Q.16 A body of specific weight w_1 floats on a liquid of specific weight w_2 . Then the ratio of the volume of the object above the liquid to its volume is:

- Ans
- ☒ A. $w_1/(w_2 - w_1)$
 - ☒ B. $(w_2 - w_1)/w_1$
 - ☒ C. $(w_2 - w_1)/w_2$
 - ☒ D. $w_2/(w_2 - w_1)$

Question ID : 59445918297
Status : Answered
Chosen Option : 2

Q.17 In an adiabatic process, the work done for a given pair of end states depends on:

- Ans ☒ A. End states only
- ☒ B. Heat transferred
- ☒ C. Value of index n
- ☒ D. Mass of the system

Question ID : 59445918314
Status : Answered
Chosen Option : 1

Q.18 A pinion rotates at 1200 rpm and transmits a torque of 20 Nm. This pinion of 40 teeth mesh with the other spur gear having 60 teeth. The torque transmitted by the gear is:

- Ans ☒ A. 20 Nm
- ☒ B. 15 Nm
- ☒ C. 30 Nm
- ☒ D. 40 Nm

Question ID : 59445918278
Status : Answered
Chosen Option : 3

Q.19 A thin spherical shell of diameter 200 mm is subjected to an internal pressure of 2 MPa. If admissible tensile stress is 40 MPa, then thickness of the shell is:

- Ans ☒ A. 5 mm
- ☒ B. 2 mm
- ☒ C. 10 mm
- ☒ D. 2.5 mm

Question ID : 59445918289
Status : Answered
Chosen Option : 4

Q.20 An ideal fluid:

- Ans ☒ A. has no viscosity and incompressible
- ☒ B. viscous at low temperature
- ☒ C. viscous but incompressible
- ☒ D. is viscous and compressible

Question ID : 59445918294
Status : Answered
Chosen Option : 1

Q.21 The Heat transfer takes place due to

- Ans ☒ A. Mass transfer
- ☒ B. Change in Entropy
- ☒ C. Change of temperature
- ☒ D. Change of pressure

Question ID : 59445918317
Status : Answered
Chosen Option : 3

Q.22 The value of Poison's ratio depends upon:

- Ans ☒ A. Material of the test specimen
- ☒ B. Nature of load, tensile or compressive
- ☒ C. Dimensions of the test specimen
- ☒ D. Magnitude of load

Question ID : 59445918263
Status : Answered
Chosen Option : 1

Q.23 Thermal conductivity is the maximum for which substance:

- Ans ☒ A. Diamond
- ☒ B. Aluminum
- ☒ C. Ice
- ☒ D. Silver

Question ID : 59445918318
Status : Answered
Chosen Option : 1

Q.24 The Bernoulli Equation for a fluid is concerned with:

- Ans ☒ A. Conservation of Energy
- ☒ B. Work
- ☒ C. Momentum
- ☒ D. Force

Question ID : 59445918302
Status : Answered
Chosen Option : 3

Q.25 In free body diagrams, the Principle of transmissibility states that the force acting on the body is a:

- Ans
- ☐ A. rolling vector
 - ☐ B. wedging vector
 - ☐ C. unit vector
 - ☒ D. sliding vector

Question ID : 59445918257
Status : Answered
Chosen Option : 2

Q.26 When a body of mass moment of inertia about its axis (I) is rotated about the axis with an angular velocity (ω), then the kinetic energy of rotation is:

- Ans
- ☐ A. $0.5 (I^2 \omega)$
 - ☒ B. $0.5 (I \omega^2)$
 - ☐ C. $I \omega^2$
 - ☐ D. $2 (I \omega^2)$

Question ID : 59445918260
Status : Answered
Chosen Option : 2

Q.27 A line joining σ_y (yield strength) on mean stress axis and σ_e (endurance limit) on stress amplitude axis is called as:

- Ans
- ☐ A. Gerber line
 - ☐ B. Langer line
 - ☒ C. Soderberg line
 - ☐ D. Goodman line

Question ID : 59445918287
Status : Answered
Chosen Option : 3

Q.28 A composite bar made of copper and steel is heated to 120 °C from room temperature. If $\alpha_c > \alpha_s$, the stress induced in copper bar is:

- Ans
- ☐ A. Tensile stress
 - ☒ B. Compressive stress
 - ☐ C. Shear stress
 - ☐ D. No stress

Question ID : 59445918268
Status : Answered
Chosen Option : 2

Q.29 The foundry crucible is made with:

- Ans
- ☒ A. Steel
 - ☒ B. Graphite
 - ☒ C. Cast iron
 - ☒ D. Lead

Question ID : 59445918332
Status : Answered
Chosen Option : 2

Q.30 High-speed compression engines operate on:

- Ans
- ☒ A. Otto cycle
 - ☒ B. Carnot cycle
 - ☒ C. Dual cycle
 - ☒ D. Diesel cycle

Question ID : 59445918323
Status : Answered
Chosen Option : 1

Q.31 CNC machines allow the machine operator to set the zero point at any position on the machine table. This feature is called:

- Ans
- ☒ A. Machine zero
 - ☒ B. fixed zero
 - ☒ C. floating zero
 - ☒ D. fixed origin

Question ID : 59445918353
Status : Answered
Chosen Option : 2

Q.32 The tool made of cemented carbide wear out faster at:

- Ans
- ☒ A. medium speed
 - ☒ B. very fast speed
 - ☒ C. slow speed
 - ☒ D. fast speed

Question ID : 59445918343
Status : Answered
Chosen Option : 2

Q.33 One tonne refrigeration machine means:

- Ans ☒ A. One tonne of ice melts from 0°C in 24 hours
☐ B. mass of the machine
☐ C. One tonne of water is converted into ice
☐ D. one tonne of refrigerant is used

Question ID : 59445918326
Status : Answered
Chosen Option : 1

Q.34 A square bar of side 5 mm and 200 mm long, experience an extension of 0.01 mm upon a load of 100 N. Then Young's Modulus of the material is:

- Ans ☐ A. 800 MPa
☐ B. 400 MPa
☒ C. 80 GPa
☐ D. 200 GPa

Question ID : 59445918262
Status : Answered
Chosen Option : 3

Q.35 A rectangular plate 1m wide and 2 m depth is held just below the surface of the water. The total pressure on this lamina is:

- Ans ☒ A. 19.62 kN
☐ B. 2 kN
☐ C. 9.81 kN
☐ D. 98.1 kN

Question ID : 59445918296
Status : Answered
Chosen Option : 1

Q.36 A perfect gas is heated at constant pressure from 30°C till its volume become double. Then the final temperature is:

- Ans ☐ A. 60 °C
☐ B. 303 °C
☐ C. 120 °C
☒ D. 333 °C

Question ID : 59445918315
Status : Answered
Chosen Option : 4

Q.37 Shear stress concentration factor for coil spring is:

- Ans
- ☒ A. $(2C)/(2C+1)$
 - ☒ B. $(2C)/(2C-1)$
 - ☒ C. $(2C-1)/(2C)$
 - ☒ D. $(2C+1)/(2C)$

Question ID : 59445918293
Status : Answered
Chosen Option : 4

Q.38 Pick the analytic surface entity from the list.

- Ans
- ☒ A. spline surface
 - ☒ B. Gordon surface
 - ☒ C. coons patches
 - ☒ D. ruled surface

Question ID : 59445918355
Status : Answered
Chosen Option : 2

Q.39 For full annealing of hypereutectoid steel requires temperature 30 °C to 50 °C:

- Ans
- ☒ A. below the lower critical temperature
 - ☒ B. above the upper critical temperature
 - ☒ C. below the upper critical temperature
 - ☒ D. above the lower critical temperature

Question ID : 59445918331
Status : Answered
Chosen Option : 2

Q.40 In forced vibration, the ratio of the maximum displacement to deflection due to static force is:

- Ans
- ☒ A. Magnification factor
 - ☒ B. Damping factor
 - ☒ C. Damping coefficient
 - ☒ D. Logarithmic decrement

Question ID : 59445918282
Status : Answered
Chosen Option : 1

Q.41 According to the kinetic theory of gasses, the absolute zero temperature is attained because of:

- Ans ☒ A. Kinetic energy of molecules is zero
- ☒ B. Specific heat of gas is zero
- ☒ C. Volume of gas is zero
- ☒ D. Pressure of gas is zero

Question ID : 59445918311
Status : Answered
Chosen Option : 1

Q.42 The relative velocity of end B with respect to other end A in a rigid link AB is:

- Ans ☒ A. perpendicular to AB
- ☒ B. parallel to AB
- ☒ C. inclined to AB
- ☒ D. along AB

Question ID : 59445918256
Status : Answered
Chosen Option : 1

Q.43 Oscillations of a floating body are small when the metacentric height is:

- Ans ☒ A. Negative
- ☒ B. very small
- ☒ C. zero
- ☒ D. large

Question ID : 59445918298
Status : Answered
Chosen Option : 4

Q.44 Dimensions of surface tension are:

- Ans ☒ A. ML^0T^{-1}
- ☒ B. MLT^{-2}
- ☒ C. ML^0T^{-2}
- ☒ D. M^0LT^{-2}

Question ID : 59445918304
Status : Answered
Chosen Option : 3

Q.45 In electric discharge machining, better surface finish is obtained at:

- Ans ☒ A. high frequency & low discharge current
☒ B. high frequency & high discharge current
☒ C. low frequency & high discharge current
☒ D. low frequency & low discharge current

Question ID : 59445918349
Status : Answered
Chosen Option : 3

Q.46 A point at which the extension of steel material is faster than the load increment is:

- Ans ☒ A. Plastic point
☒ B. Breaking point
☒ C. Yield point
☒ D. Ultimate stress point

Question ID : 59445918271
Status : Answered
Chosen Option : 3

Q.47 A control system that measures certain output process variables and uses these to control speed and feed is called:

- Ans ☒ A. in-process control
☒ B. operator control
☒ C. adaptive control
☒ D. feed-back control

Question ID : 59445918354
Status : Answered
Chosen Option : 4

Q.48 Friction factor for laminar flow in a pipe is given by:

- Ans ☒ A. $\text{Re} / 24$
☒ B. $\text{Re} / 64$
☒ C. $16/\text{Re}$
☒ D. $64/\text{Re}$

Question ID : 59445918299
Status : Answered
Chosen Option : 4

Q.49 The vibration of a revolving shaft, at its nodal point is:

- Ans
- ☒ A. Double than at the ends
 - ☒ B. Maximum
 - ☒ C. Zero
 - ☒ D. Minimum

Question ID : 59445918286
Status : Answered
Chosen Option : 3

Q.50 A Wheatstone bridge is used for electrical strain gauges, because it has:

- Ans
- ☒ A. high sensitivity
 - ☒ B. low sensitivity
 - ☒ C. zero sensitivity
 - ☒ D. infinite sensitivity

Question ID : 59445918269
Status : Answered
Chosen Option : 1

Q.51 An imaginary circle on a gear which gives a rolling action, as same as the motion as the actual gear, is called:

- Ans
- ☒ A. Pitch circle
 - ☒ B. Addendum circle
 - ☒ C. Clearance circle
 - ☒ D. Dedendum circle

Question ID : 59445918275
Status : Answered
Chosen Option : 1

Q.52 In a reverted gear train with four gears, two gears P and Q are meshing, Q – R is a compound gear, while R and S are meshing. The modules of P and R are 6 mm and 5 mm respectively. The numbers of teeth in P, Q and R are 24, 36 and 40 respectively. The number of teeth in gear S is:

- Ans
- ☒ A. 42
 - ☒ B. 32
 - ☒ C. 28
 - ☒ D. 38

Question ID : 59445918276
Status : Answered
Chosen Option : 2

Q.53 Two cubical castings of the same metal and sizes of 2 cm side and 4 cm side are moulded in green sand. If the smaller casting solidifies in 2 mins, the expected time of solidification of larger casting will be:

- Ans
- ☒ A. 4 mins
 - ☒ B. 2 mins
 - ☒ C. 16 mins
 - ☒ D. 8 mins

Question ID : 59445918347
Status : Answered
Chosen Option : 4

Q.54 In a locomotive, the effect of "hammer blow" can be reduced by:

- Ans
- ☒ A. decreasing the speed and having pairs of wheels coupled together
 - ☒ B. uncoupling the pairs of wheels
 - ☒ C. increasing the speed
 - ☒ D. balancing whole of the reciprocating parts

Question ID : 59445918280
Status : Answered
Chosen Option : 1

Q.55 The carbon content in Tool Steels is:

- Ans
- ☒ A. 0.3 to 0.8%
 - ☒ B. 0.1 to 0.4%
 - ☒ C. 0.8 to 1.5%
 - ☒ D. 1.5 to 3.6%

Question ID : 59445918334
Status : Answered
Chosen Option : 3

Q.56 Ratio of indicated thermal efficiency to the corresponding air standard cycle efficiency is:

- Ans
- ☒ A. overall efficiency
 - ☒ B. net efficiency
 - ☒ C. indicated efficiency
 - ☒ D. relative efficiency

Question ID : 59445918322
Status : Answered
Chosen Option : 4

Q.57 In chemical machining, the etch factor is expressed as:

- Ans ☒ A. Undercut/depth of cut
- ☐ B. tool wear/ Workpiece wear
- ☐ C. Workpiece wear/tool wear
- ☐ D. Depth of cut/ Undercut

Question ID : 59445918351
Status : Answered
Chosen Option : 3

Q.58 Product of allowable bending stress and sectional modulus is

- Ans ☐ A. Radius of gyration
- ☐ B. Moment of inertia
- ☒ C. Moment of resistance
- ☐ D. Moment of rigidity

Question ID : 59445918264
Status : Answered
Chosen Option : 3

Q.59 The specific heat of a gas remains constant at all temperatures and pressures is discussed in:

- Ans ☐ A. Joule's Law
- ☒ B. Regnault's Law
- ☐ C. Charles' Law
- ☐ D. Boyle's Law

Question ID : 59445918313
Status : Answered
Chosen Option : 1

Q.60 A constituent makes the steel soft and less strength:

- Ans ☐ A. Cementite
- ☒ B. Ferrite
- ☐ C. Pearlite
- ☐ D. Austenite

Question ID : 59445918333
Status : Answered
Chosen Option : 2

Q.61 Which one of the dimensionless number is significant when studying surface tension phenomena in a flow problem?

- Ans ☒ A. Mach number
☒ B. Weber number
☒ C. Euler number
☒ D. Froude number

Question ID : 59445918320
Status : Answered
Chosen Option : 2

Q.62 The pressure of fluid due to hammer blow is proportional to:

- Ans ☒ A. Inversely to density of fluid
☒ B. Inversely to $\sqrt[3]{\text{density}}$ of fluid
☒ C. Directly to $\sqrt[3]{\text{density}}$ of fluid
☒ D. Directly to density of fluid

Question ID : 59445918305
Status : Answered
Chosen Option : 3

Q.63 The Notch sensitivity (q) is determined by the equation in terms of where K_f = fatigue stress concentration factor and K_t = theoretical stress concentration factor is:

- Ans ☒ A. $(K_f + 1) / (K_t - 1)$
☒ B. $(K_f - 1)(K_t - 1)$
☒ C. $(K_f - 1) / (K_t - 1)$
☒ D. $(K_f + 1) / (K_t + 1)$

Question ID : 59445918288
Status : Answered
Chosen Option : 3

Q.64 Vibrations of transient in nature occurs in:

- Ans ☒ A. Undamped vibrations
☒ B. Transverse vibrations
☒ C. Damped vibrations
☒ D. Torsional vibrations

Question ID : 59445918281
Status : Answered
Chosen Option : 3

Q.65 The product of Kinematic Viscosity and mass density is:

- Ans
- ☒ A. Specific viscosity
 - ☒ B. Coefficient of Viscosity
 - ☒ C. absolute viscosity
 - ☒ D. Viscosity index

Question ID : 59445918301
Status : Answered
Chosen Option : 2

Q.66 Spherical metal powders are produced by:

- Ans
- ☒ A. Automization
 - ☒ B. Reduction
 - ☒ C. Oxidation
 - ☒ D. Electrolytic process

Question ID : 59445918339
Status : Answered
Chosen Option : 1

Q.67 Side rake angle of a single point cutting tool is the angle:

- Ans
- ☒ A. by which the face of the tool is inclined towards back
 - ☒ B. between the surface of the flank below the point and a line drawn from the point perpendicular to the base
 - ☒ C. between the surface of the flank below the point and a plane at right angles to the centre line of the point of the tool
 - ☒ D. by which the face of the tool is inclined sideways

Question ID : 59445918342
Status : Answered
Chosen Option : 4

Q.68 In elastic collisions of bodies:

- Ans
- ☒ A. neither momentum of the colliding bodies nor the total kinetic energy are recoverable.
 - ☒ B. only the total momentum of the colliding objects is conserved.
 - ☒ C. both of the momentum and total kinetic energy are conserved.
 - ☒ D. only the total kinetic energy is conserved.

Question ID : 59445918258
Status : Answered
Chosen Option : 3

Q.69 The phase difference between transmitted and disturbing force for a negative isolation factor is:

- Ans
- ☒ A. 120°
 - ☒ B. 90°
 - ☒ C. 45°
 - ☒ D. 180°

Question ID : 59445918285
Status : Answered
Chosen Option : 4

Q.70 The vibration isolation for a forced vibration system is possible, when:

- Ans
- ☒ A. $\omega/\omega_n < 1$
 - ☒ B. $\omega/\omega_n > 2^{0.5}$
 - ☒ C. $\omega/\omega_n < 2^{0.5}$
 - ☒ D. $\omega/\omega_n = 1$

Question ID : 59445918283
Status : Answered
Chosen Option : 3

Q.71 A body of mass 100 kg with natural frequency 10 rad/sec has a critical damping:

- Ans
- ☒ A. 2000 N/m/sec
 - ☒ B. 1000 N/m/sec
 - ☒ C. 3142 N/m/sec
 - ☒ D. 10 N/m/sec

Question ID : 59445918284
Status : Answered
Chosen Option : 1

Q.72 The theoretical velocity of jet at vena contracta in terms of Head of water is:

- Ans
- ☒ A. $\sqrt{2(gh)}$
 - ☒ B. $2gh$
 - ☒ C. $\sqrt{(2g)h}$
 - ☒ D. $\sqrt{(2gh)}$

Question ID : 59445918303
Status : Answered
Chosen Option : 4

Q.73 Atmospheric pressure head is equal to:

- Ans ☒ A. Zero m of water
☒ B. 10.3 m of water
☒ C. 8 m of water
☒ D. 2.5 m of water

Question ID : 59445918295

Status : Answered

Chosen Option : 2

Q.74 In a pair of spur gear with external involute profile, the interference of tooth can be minimized by:

- Ans ☒ A. Decreasing pressure angle
☒ B. Increasing number of gear teeth
☒ C. Decreasing module
☒ D. Decreasing center distance between gear pair

Question ID : 59445918277

Status : Answered

Chosen Option : 2

Q.75 In the relation $VT^n = C$, the value of n for carbide tools is:

- Ans ☒ A. 0.20 to 0.25
☒ B. 0.25 to 0.40
☒ C. 0.40 to 0.55
☒ D. 0.1 to 0.2

Question ID : 59445918344

Status : Answered

Chosen Option : 3

Q.76 In deep drawing of sheets, the value of limiting draw ratio depends on:

- Ans ☒ A. thickness of a sheet
☒ B. type of press used
☒ C. percentage elongation of sheet metal
☒ D. yield strength of sheet metal

Question ID : 59445918348

Status : Answered

Chosen Option : 4

Q.77 The type of reamer used for reaming operation in a blind hole is:

- Ans
- ☒ A. No reaming possible
 - ☒ B. left-hand spiral fluted reamer
 - ☒ C. right-hand spiral fluted reamer
 - ☒ D. straight fluted reamer

Question ID : 59445918345
Status : Answered
Chosen Option : 3

Q.78 A shaft is subjected to a bending moment 3 kNmm and twisting moment 4 kNmm, then equivalent twisting is:

- Ans
- ☒ A. 7
 - ☒ B. 1
 - ☒ C. 25
 - ☒ D. 5

Question ID : 59445918290
Status : Answered
Chosen Option : 4

Q.79 Two walls of the same thickness and cross-sectional area have thermal conductivities in the ratio 1 : 2. If the ratio of temperature drop across the two walls is 2 : 3, what is the ratio of heat flow?

- Ans
- ☒ A. 1 : 2
 - ☒ B. 2 : 1
 - ☒ C. 1 : 3
 - ☒ D. 3 : 1

Question ID : 59445918321
Status : Answered
Chosen Option : 3

Q.80 The lowest temperature occur in vapour compression cycle is:

- Ans
- ☒ A. Evaporator
 - ☒ B. Compressor
 - ☒ C. Expansion valve
 - ☒ D. Condenser

Question ID : 59445918329
Status : Answered
Chosen Option : 1

Q.81 The velocity parameters within the given fields are same when:

- Ans
- ☒ A. Nusselt number are different
 - ☒ B. Nusselt number are same
 - ☒ C. Reynolds number are different
 - ☒ D. Reynolds number are same

Question ID : 59445918319
Status : Answered
Chosen Option : 4

Q.82 The angle of twist for the equivalent bar to spring is given by:

- Ans
- ☒ A. $6PDN/Gd^3$
 - ☒ B. $8PD^2N/Gd^4$
 - ☒ C. $16PD^2N/Gd^4$
 - ☒ D. $4PD^2N/Gd^4$

Question ID : 59445918292
Status : Answered
Chosen Option : 2

Q.83 The position of a particle which is confined to move along a straight line is $S = 4t^3 - 32t + 100$, where S is measured in meters and t in seconds. The time required for the particle to reach a velocity of 76 m/s from its initial condition at $t = 0$ is:

- Ans
- ☒ A. 3 sec
 - ☒ B. 9 sec
 - ☒ C. 12 Sec
 - ☒ D. 4 sec

Question ID : 59445918259
Status : Answered
Chosen Option : 1

Q.84 Cast iron pipes are manufactured by:

- Ans
- ☒ A. Die casting method
 - ☒ B. Centrifugal casting method
 - ☒ C. Lost wax method
 - ☒ D. Sand casting method

Question ID : 59445918340
Status : Answered
Chosen Option : 2

Q.85 The α iron has a crystal structure:

- Ans
- ☒ A. Close packed hexagonal
 - ☒ B. Face centered cubic
 - ☒ C. Simple Cubic
 - ☒ D. Body-centred cubic

Question ID : 59445918336
Status : Answered
Chosen Option : 4

Q.86 One Ton refrigeration is equal to:

- Ans
- ☒ A. 3.51 kW
 - ☒ B. 4.74 kW
 - ☒ C. 7.12 HP
 - ☒ D. 1.0 kW

Question ID : 59445918328
Status : Answered
Chosen Option : 1

Q.87 Euler's dimensionless number relates the following:

- Ans
- ☒ A. Pressure force and inertial force
 - ☒ B. Viscous force and inertial force
 - ☒ C. Inertial force and gravity force
 - ☒ D. Viscous force and buoyancy force

Question ID : 59445918306
Status : Answered
Chosen Option : 1

Q.88 For power measurement, the following dynamometer is used when the speed is high and the viscous force is small:

- Ans
- ☒ A. Froude water vortex dynamometer
 - ☒ B. Telsa fluid friction dynamometer
 - ☒ C. Amsler dynamometer
 - ☒ D. Rope brake dynamometer

Question ID : 59445918291
Status : Answered
Chosen Option : 4

Q.89 For a Mild Steel, the Engineering stress-strain curve and True stress-strain curve are looks similar up to:

- Ans
- ☒ A. Proportional limit
 - ☒ B. Ultimate strength point
 - ☒ C. Elastic limit
 - ☒ D. Yield point

Question ID : 59445918261
Status : Answered
Chosen Option : 3

Q.90 A barometer reads 765 mm of Hg. The atmospheric pressure is:

- Ans
- ☒ A. 0.51 bar
 - ☒ B. 7.65 bar
 - ☒ C. 3.82 bar
 - ☒ D. 1.02 bar

Question ID : 59445918310
Status : Answered
Chosen Option : 4

Q.91 When a fluid flows through various cross-sections, the Cavitation occurs because of:

- Ans
- ☒ A. High pressure
 - ☒ B. Low viscosity
 - ☒ C. High velocity
 - ☒ D. Low pressure

Question ID : 59445918308
Status : Answered
Chosen Option : 4

Q.92 Knock in a diesel engine occurs due to:

- Ans
- ☒ A. instantaneous burning of the first part of the charge
 - ☒ B. reduction of delay period
 - ☒ C. instantaneous auto ignition of last part of charge
 - ☒ D. delayed burning of the first part of the charge

Question ID : 59445918325
Status : Answered
Chosen Option : 3

Q.93 A circular disc is rolling on a straight path, then the instantaneous centre of rotation is at:

- Ans
- ☒ A. the centre of the disc
 - ☒ B. Infinity
 - ☒ C. their point of contact
 - ☒ D. the centre of gravity of the disc

Question ID : 59445918273
Status : Answered
Chosen Option : 3

Q.94 The boiling point of Refrigerant R-32 is:

- Ans
- ☒ A. -10 °C
 - ☒ B. -52 °C
 - ☒ C. -43 °C
 - ☒ D. -76 °C

Question ID : 59445918327
Status : Answered
Chosen Option : 2

Q.95 When a material solidify due to latent heat of fusion is known as:

- Ans
- ☒ A. Thermometry
 - ☒ B. Supercooling
 - ☒ C. Undercooling
 - ☒ D. Thermal arrest

Question ID : 59445918335
Status : Answered
Chosen Option : 3

Q.96 A column has an effective length twice the actual length, then the ends of column are:

- Ans
- ☒ A. hinged at both the ends
 - ☒ B. fixed at one end and free at the other end
 - ☒ C. fixed at one end and hinged at the other end
 - ☒ D. fixed at both the ends

Question ID : 59445918267
Status : Answered
Chosen Option : 2

Q.97 Which of the following mechanism has Coriolis component?

- Ans
- ☒ A. Four bar chains
 - ☒ B. Slider crank mechanism
 - ☒ C. Quick return motion mechanisms
 - ☒ D. Gnome engine

Question ID : 59445918274
Status : Answered
Chosen Option : 3

Q.98 A pipe 500 mm in diameter is 981 m long. It delivers water at a velocity of 2 m/s. The loss of head when $f = 0.008$ is

- Ans
- ☒ A. 20.2 m
 - ☒ B. 12.8 m
 - ☒ C. 6.4 m
 - ☒ D. 35.6 m

Question ID : 59445918307
Status : Answered
Chosen Option : 2

Q.99 In carbon dioxide moulding process, the binder used is:

- Ans
- ☒ A. Sodium silicate
 - ☒ B. Sodium bentonite
 - ☒ C. Phenol formaldehyde
 - ☒ D. Calcium bentonite

Question ID : 59445918352
Status : Answered
Chosen Option : 1

Q.100 Austempering heat treatment process is practised to improve:

- Ans
- ☒ A. brittleness
 - ☒ B. hardness
 - ☒ C. toughness
 - ☒ D. ductility

Question ID : 59445918337
Status : Answered
Chosen Option : 3