HPCL Engineer

Previous Year Paper
(Mechanical)
27 Mar, 2025 Shift 2

हिन्दुस्तान पेट्रोलियम कॉर्पोरेशन लिमिटेड
Hindustan Petroleum Corporation Limited
(A Maharatna Company)

Participant ID	
Participant Name	
Test Center Name	
Test Date	27/03/2025
Test Time	2:00 PM - 4:30 PM
Subject	Mechanical Engineer

Section : **English Language**

Q.1 **Select the idiom that can substitute the underlined segment.**

The teacher instructed Rita that all the synonyms and antonyms given in the textbook exercises should be memorised.

Ans ✗ 1. should be faced

✗ 2. should be a l   fishy

✔ 3. should be learnt by heart

✗ 4. should be thick in the head

Question ID : **4410096021**
Option 1 ID : **44100923862**
Option 2 ID : **44100923863**
Option 3 ID : **44100923864**
Option 4 ID : **44100923861**
Status : **Answered**
Chosen Option : **3**

Q.2 **Select the most appropriate option to fill in the blank.**

No book, any electronic material or smart watches _____ allowed inside the exam hall.

Ans ✔ 1. is

✗ 2. are

✗ 3. had

✗ 4. were

Question ID : **4410095355**
Option 1 ID : **44100921215**
Option 2 ID : **44100921214**
Option 3 ID : **44100921217**
Option 4 ID : **44100921216**
Status : **Answered**
Chosen Option : **2**

Q.3 **Select the most appropriate article to fill in the blank. If no article is required, select 'No article required'.**

Radhu has lost _____ book which her uncle gave her as a birthday present.

Ans   ✗ 1. No article required

✔ 2. the

✗ 3. an

✗ 4. a

Question ID : **4410097030**
Option 1 ID : **44100927866**
Option 2 ID : **44100927865**
Option 3 ID : **44100927864**
Option 4 ID : **44100927863**
Status : **Answered**
Chosen Option : **2**

Q.4 **Sentences of a paragraph are given below. While the first and the last sentences (S1 and S6) are in the correct order, the sentences in between are jumbled up. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.**

S1: One day Matilda met Mrs. Forestier on the roadside.
P: The one she had returned was a replacement.
Q: Matilda said it had taken her ten years of hard labour to repay the loan.
R: Mrs. Forestier could not recognise her friend.
S: Matilda told her about the loss of the borrowed necklace.
S6: Mrs. Forestier said it was a false one.

Ans   ✔ 1. RSQP

✗ 2. SRQP

✗ 3. PSQR

✗ 4. QPRS

Question ID : **4410095954**
Option 1 ID : **44100923593**
Option 2 ID : **44100923595**
Option 3 ID : **44100923594**
Option 4 ID : **44100923596**
Status : **Answered**
Chosen Option : **1**

Q.5 **Select the most appropriate synonym of the given word.**

Grit

Ans   ✗ 1. Innocent and illiterate

✗ 2. Power to beat

✗ 3. Well known

✔ 4. Courage and determination

Question ID : **4410096045**
Option 1 ID : **44100923958**
Option 2 ID : **44100923959**
Option 3 ID : **44100923957**
Option 4 ID : **44100923960**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.6 Select the most appropriate option to fill in the blank.

Rakshana _____ reached the railway junction in time.

Ans ✅ 1. nearly

❌ 2. fairly

❌ 3. soon

❌ 4. even

Question ID : **4410098053**
Option 1 ID : **44100931938**
Option 2 ID : **44100931936**
Option 3 ID : **44100931939**
Option 4 ID : **44100931937**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.7 Select the most appropriate option to fill in the blank.

We met her _____ the Ayodhya Ram Lalla Temple when we went on a pilgrimage.

Ans ✅ 1. at

❌ 2. by

❌ 3. with

❌ 4. in

Question ID : **4410098057**
Option 1 ID : **44100931953**
Option 2 ID : **44100931954**
Option 3 ID : **44100931955**
Option 4 ID : **44100931952**
Status : **Answered**
Chosen Option : **4**

Q.8 Rectify the error in the sentence by selecting the correct spelling from the options.

The catheters are inserted into the body through a small incission in the groin.

Ans ❌ 1. incesion

❌ 2. inceseion

❌ 3. incession

✅ 4. incision

Question ID : **4410096037**
Option 1 ID : **44100923925**
Option 2 ID : **44100923927**
Option 3 ID : **44100923928**
Option 4 ID : **44100923926**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.9 Sentences of a paragraph are given below. While the first and the last sentences (S1 and S6) are in the correct order, the sentences in between are jumbled up. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

S1: The demise of castles can ultimately be attributed to gunpowder.
P: But the first gunpowder weapons were unreliable, inaccurate, and weak by standards.
Q: This greatly undermined the military role of castles.
R: During the 15th century, artillery became powerful enough to break through stone walls.
S: Gunpowder was first introduced to Europe during the 14th century.
S6: Castles were then replaced by artillery forts that had no role in civil administration.

Ans ✗ 1. QRSP

✗ 2. PSQR

✗ 3. RPSQ

✔ 4. SPRQ

Question ID : **4410095960**
Option 1 ID : **44100923620**
Option 2 ID : **44100923619**
Option 3 ID : **44100923617**
Option 4 ID : **44100923618**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.10 Select the most appropriate option that can substitute the underlined segment in the sentence.

Rita was <u>determined to achieve something</u> enough to chase after her dream of becoming a film actress.

Ans ✗ 1. diligent

✔ 2. tenacious

✗ 3. resolute

✗ 4. assertive

Question ID : **4410095978**
Option 1 ID : **44100923691**
Option 2 ID : **44100923690**
Option 3 ID : **44100923689**
Option 4 ID : **44100923692**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.11 Select the most appropriate option that can substitute the segment in brackets to fill in the blank.

It was my teacher's unique _____ (the approach or style of teaching) that made her favourite of every student.

Ans
✗ 1. didactics

✔ 2. pedagogy

✗ 3. aesthetics

✗ 4. andragogy

Question ID : **4410095985**
Option 1 ID : **44100923719**
Option 2 ID : **44100923717**
Option 3 ID : **44100923720**
Option 4 ID : **44100923718**
Status : **Not Answered**
Chosen Option : **--**

Q.12 Select the most appropriate ANTONYM of the given word.

Mitigate

Ans
✗ 1. Militate

✗ 2. Reduce

✔ 3. Increase

✗ 4. Produce

Question ID : **4410096042**
Option 1 ID : **44100923948**
Option 2 ID : **44100923946**
Option 3 ID : **44100923945**
Option 4 ID : **44100923947**
Status : **Answered**
Chosen Option : **3**

Comprehension:

Read the given passage and answer the questions that follow.

The English language has been significantly influenced by Greek, especially in fields like science, philosophy and the arts. Many English words, such as geography, architect and encyclopaedia, have Greek origins, often entering the language through Latin or French. Greek mythology has also contributed idioms like Achilles' heel (a person's weakness) and Midas touch (the ability to make a financial success of everything you do). This linguistic influence highlights the enduring legacy of Greek culture. Understanding these contributions helps us appreciate how ancient languages continue to shape modern communication. Even in medicine and technology, Greek roots are evident in terms like biology, psychology and telephone. The Greek alphabet has also influenced scientific symbols and mathematical notations, further demonstrating the deep connection between Greek and modern academic disciplines.

SubQuestion No : 13

Q.13 What is the most appropriate synonym of the word 'enduring' in the given passage?

Ans   ✗ 1. Momentary

         ✗ 2. Delicate

         ✓ 3. Lasting

         ✗ 4. Feeble

Question ID : **44100922027**
Option 1 ID : **44100987827**
Option 2 ID : **44100987830**
Option 3 ID : **44100987828**
Option 4 ID : **44100987829**
Status : **Answered**
Chosen Option : **3**

Comprehension:

Read the given passage and answer the questions that follow.

The English language has been significantly influenced by Greek, especially in fields like science, philosophy and the arts. Many English words, such as geography, architect and encyclopaedia, have Greek origins, often entering the language through Latin or French. Greek mythology has also contributed idioms like Achilles' heel (a person's weakness) and Midas touch (the ability to make a financial success of everything you do). This linguistic influence highlights the enduring legacy of Greek culture. Understanding these contributions helps us appreciate how ancient languages continue to shape modern communication. Even in medicine and technology, Greek roots are evident in terms like biology, psychology and telephone. The Greek alphabet has also influenced scientific symbols and mathematical notations, further demonstrating the deep connection between Greek and modern academic disciplines.

SubQuestion No : 14

Q.14 According to the passage, why did Greek have such a strong influence on English?

Ans   ✗ 1. Greek was first used in England.

         ✗ 2. The English language originated from Greek.

         ✓ 3. Many Greek words entered English through Latin and French due to their historical significance.

         ✗ 4. Greek is a widely spoken language today.

Question ID : **44100922028**
Option 1 ID : **44100987831**
Option 2 ID : **44100987833**
Option 3 ID : **44100987832**
Option 4 ID : **44100987834**
Status : **Answered**
Chosen Option : **3**

Comprehension:

Read the given passage and answer the questions that follow.

The English language has been significantly influenced by Greek, especially in fields like science, philosophy and the arts. Many English words, such as geography, architect and encyclopaedia, have Greek origins, often entering the language through Latin or French. Greek mythology has also contributed idioms like Achilles' heel (a person's weakness) and Midas touch (the ability to make a financial success of everything you do). This linguistic influence highlights the enduring legacy of Greek culture. Understanding these contributions helps us appreciate how ancient languages continue to shape modern communication. Even in medicine and technology, Greek roots are evident in terms like biology, psychology and telephone. The Greek alphabet has also influenced scientific symbols and mathematical notations, further demonstrating the deep connection between Greek and modern academic disciplines.

SubQuestion No : 15

Q.15 Identify the central theme of the passage.

Ans ✗ 1. The ancient conflicts between Greek and English speakers

✗ 2. The comparison of Greek with English

✓ 3. The influence of Greek on English idioms and academic vocabulary

✗ 4. The fall of the Greek language in recent times

Question ID : **44100922029**
Option 1 ID : **44100987835**
Option 2 ID : **44100987838**
Option 3 ID : **44100987837**
Option 4 ID : **44100987836**
Status : **Answered**
Chosen Option : **3**

Comprehension:

Read the given passage and answer the questions that follow.

The English language has been significantly influenced by Greek, especially in fields like science, philosophy and the arts. Many English words, such as geography, architect and encyclopaedia, have Greek origins, often entering the language through Latin or French. Greek mythology has also contributed idioms like Achilles' heel (a person's weakness) and Midas touch (the ability to make a financial success of everything you do). This linguistic influence highlights the enduring legacy of Greek culture. Understanding these contributions helps us appreciate how ancient languages continue to shape modern communication. Even in medicine and technology, Greek roots are evident in terms like biology, psychology and telephone. The Greek alphabet has also influenced scientific symbols and mathematical notations, further demonstrating the deep connection between Greek and modern academic disciplines.

SubQuestion No : 16

Q.16 According to the passage, which of the following words is derived from Greek?

Ans ✗ 1. Physics

✗ 2. Pastor

✓ 3. Encyclopaedia

✗ 4. Comics

Question ID : **44100922031**
Option 1 ID : **44100987844**
Option 2 ID : **44100987846**
Option 3 ID : **44100987843**
Option 4 ID : **44100987845**
Status : **Answered**
Chosen Option : **3**

Comprehension:

Read the given passage and answer the questions that follow.

The English language has been significantly influenced by Greek, especially in fields like science, philosophy and the arts. Many English words, such as geography, architect and encyclopaedia, have Greek origins, often entering the language through Latin or French. Greek mythology has also contributed idioms like Achilles' heel (a person's weakness) and Midas touch (the ability to make a financial success of everything you do). This linguistic influence highlights the enduring legacy of Greek culture. Understanding these contributions helps us appreciate how ancient languages continue to shape modern communication. Even in medicine and technology, Greek roots are evident in terms like biology, psychology and telephone. The Greek alphabet has also influenced scientific symbols and mathematical notations, further demonstrating the deep connection between Greek and modern academic disciplines.

SubQuestion No : 17

Q.17 What is the tone of the passage?

Ans ✔ 1. Informative

✘ 2. Influential

✘ 3. Critical

✘ 4. Entertaining

Question ID : **44100922030**
Option 1 ID : **44100987840**
Option 2 ID : **44100987841**
Option 3 ID : **44100987842**
Option 4 ID : **44100987839**
Status : **Answered**
Chosen Option : **2**

Section : **Quantitative Aptitude**

Q.1 The following frequency distribution represents the weights of 50 students of a class. What is the median weight of the students (correct to 2 decimal places)?

Weight (in kg)	Number of Students
40 - 45	8
45 - 50	10
50 - 55	6
55 - 60	12
60 - 65	10
65 - 70	4

Ans ✘ 1. 59.38 kg

✘ 2. 45.23 kg

✘ 3. 48.75 kg

✔ 4. 55.42 kg

Question ID : **44100937082**
Option 1 ID : **441009147824**
Option 2 ID : **441009147821**
Option 3 ID : **441009147822**
Option 4 ID : **441009147823**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.2 A car covers a distance of 280 km in 7 h. If the car reduces its speed by 10 km/hr, how much time (correct to 1 decimal place) will it take to cover the same distance?

Ans ✘ 1. 2.8 h

✘ 2. 6.7 h

✘ 3. 4.9 h

✔ 4. 9.3 h

Question ID : **44100937150**
Option 1 ID : **441009148101**
Option 2 ID : **441009148103**
Option 3 ID : **441009148102**
Option 4 ID : **441009148104**
Status : **Answered**
Chosen Option : **4**

Q.3 Find the compound interest gained on ₹10,000 at an annual interest rate of 20% compounded annually for 2 years.

Ans ✘ 1. ₹14,400

✔ 2. ₹4,400

✘ 3. ₹14,440

✘ 4. ₹4,440

Question ID : **44100919808**
Option 1 ID : **44100978963**
Option 2 ID : **44100978964**
Option 3 ID : **44100978966**
Option 4 ID : **44100978965**
Status : **Answered**
Chosen Option : **2**

Q.4 What is the value of the expression $\dfrac{(222+178)^2 - (178-222)^2}{(222 \times 222 - 178 \times 178)}$?

Ans ✘ 1. 7312/1203

✔ 2. 9879/1100

✘ 3. 8352/1407

✘ 4. 6587/1300

Question ID : **44100937223**
Option 1 ID : **441009148436**
Option 2 ID : **441009148437**
Option 3 ID : **441009148438**
Option 4 ID : **441009148439**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.5 The average score of 30 boys in a group test is recorded as 35. However, it was later discovered that two scores of 30 were mistakenly recorded as 40, and one score of 29 was incorrectly noted as 21. What is the correct average score of the group?

Ans ✗ 1. 38.7

✓ 2. 34.6

✗ 3. 39.3

✗ 4. 40.2

Question ID : **44100935758**
Option 1 ID : **441009142568**
Option 2 ID : **441009142567**
Option 3 ID : **441009142569**
Option 4 ID : **441009142570**
Status : **Answered**
Chosen Option : **2**

Q.6 A cistern has two inlet pipes, A and B, which can fill it in 12 hours and 18 hours, respectively. There is also a drain pipe, C, that can empty the full cistern in 36 hours. If all three pipes are opened together, then how long will it take to fill the cistern?

Ans ✗ 1. 12 hours

✓ 2. 9 hours

✗ 3. 10 hours

✗ 4. 6 hours

Question ID : **44100921210**
Option 1 ID : **44100984589**
Option 2 ID : **44100984587**
Option 3 ID : **44100984590**
Option 4 ID : **44100984588**
Status : **Answered**
Chosen Option : **2**

Q.7 A number is increased by 40% and then decreased by 25%. What is the net percentage change?

Ans ✓ 1. 5% increase

✗ 2. 4% decrease

✗ 3. 4% increase

✗ 4. 5% decrease

Question ID : **44100921565**
Option 1 ID : **44100986007**
Option 2 ID : **44100986009**
Option 3 ID : **44100986010**
Option 4 ID : **44100986008**
Status : **Answered**
Chosen Option : **1**

Q.8 A shopkeeper sells two types of grain mixtures, one containing 40% rice and the other containing 60% rice. How many kilograms of each type of rice mixture should be combined to obtain 70 kg of a mixture that contains 55% rice?

Ans ✗ 1. 20 kg of 40% rice and 50 kg of 60% rice

✓ 2. 17.5 kg of 40% rice and 52.5 kg of 60% rice

✗ 3. 18 kg of 40% rice and 52 kg of 60% rice

✗ 4. 15.3 kg of 40% rice and 54.7 kg of 60% rice

Question ID : **44100935845**
Option 1 ID : **441009142911**
Option 2 ID : **441009142913**
Option 3 ID : **441009142912**
Option 4 ID : **441009142914**
Status : **Answered**
Chosen Option : **2**

Q.9 The table below represents the daily pocket allowance of children in a locality. Given that the mean pocket allowance is ₹20.2, what is the value of the frequency x?

Pocket Allowance (in ₹)	Number of Children
10 - 14	7
14 - 18	15
18 - 22	x
22 - 26	12
26 - 30	10

Ans ✓ 1. 16

✗ 2. 11

✗ 3. 12

✗ 4. 14

Question ID : **44100936684**
Option 1 ID : **441009146240**
Option 2 ID : **441009146237**
Option 3 ID : **441009146238**
Option 4 ID : **441009146239**
Status : **Answered**
Chosen Option : **1**

Q.10 Vidhu lends a sum of money which becomes ₹6,500 after 3 years and ₹7,500 after 5 years at the same simple interest rate. What is the annual rate of simple interest?

Ans ✗ 1. 6%

✓ 2. 10%

✗ 3. 12%

✗ 4. 11%

Question ID : **44100935867**
Option 1 ID : **441009142999**
Option 2 ID : **441009143000**
Option 3 ID : **441009143002**
Option 4 ID : **441009143001**
Status : **Answered**
Chosen Option : **2**

Q.11 Simplify:

$$\sqrt{\frac{729}{225}} \div \sqrt{\frac{324}{3025}}$$

Ans ✗ 1. 2.2

✓ 2. 5.5

✗ 3. 3.3

✗ 4. 3

Question ID : **44100921607**
Option 1 ID : **44100986177**
Option 2 ID : **44100986175**
Option 3 ID : **44100986178**
Option 4 ID : **44100986176**
Status : **Answered**
Chosen Option : **2**

Q.12 A mixture contains milk and water in the ratio 4 : 1. If there is 20 litres of milk in the mixture, how much water should be added to make the ratio of milk and water 3 : 1?

Ans ✓ 1. $\dfrac{5}{3}$ litres

✗ 2. $\dfrac{3}{2}$ litres

✗ 3. $\dfrac{5}{2}$ litres

✗ 4. $\dfrac{4}{3}$ litres

Question ID : **44100936434**
Option 1 ID : **441009145252**
Option 2 ID : **441009145249**
Option 3 ID : **441009145251**
Option 4 ID : **441009145250**
Status : **Answered**
Chosen Option : **1**

Q.13 Water flows through a pipe with an inner radius of 1.4 cm at a speed of 6.3 m/sec. What is the volume of water discharged by the pipe in 30 min? $\left(\text{Take } \pi = \dfrac{22}{7} \right)$

Ans ✓ 1. 6,985.44 litre

✗ 2. 4,503.81 litre

✗ 3. 5,543.33 litre

✗ 4. 8,735.32 litre

Question ID : **44100938190**
Option 1 ID : **441009152325**
Option 2 ID : **441009152327**
Option 3 ID : **441009152326**
Option 4 ID : **441009152324**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.14 The roots of the equation $x^2 - 6x + k = 0$ are imaginary. Find the range of values for k.

Ans ✗ 1. $(-\infty, 9)$

✓ 2. $(9, \infty)$

✗ 3. $(-\infty, 6)$

✗ 4. $(6, \infty)$

Question ID : **44100937788**

Option 1 ID : **441009150729**

Option 2 ID : **441009150728**

Option 3 ID : **441009150731**

Option 4 ID : **441009150730**

Status : **Answered**

Chosen Option : **2**

Q.15 A bag contains 1 rupee, 50 paise and 25 paise coins in the ratio 1 : 7 : 11. If the total amount in the bag is ₹2,639, then find the number of coins of 50 paise.

Ans ✗ 1. 364

✓ 2. 2548

✗ 3. 1820

✗ 4. 1001

Question ID : **44100938816**

Option 1 ID : **441009154811**

Option 2 ID : **441009154814**

Option 3 ID : **441009154813**

Option 4 ID : **441009154812**

Status : **Not Attempted and Marked For Review**

Chosen Option : **--**

Q.16 If Anita had scored 90 additional marks in her examination, then 15 times her new total would have equaled the square of her original score. What was her actual score in the examination?

Ans ✗ 1. 34

✗ 2. 30

✗ 3. 42

✓ 4. 45

Question ID : **44100937942**

Option 1 ID : **441009151349**

Option 2 ID : **441009151348**

Option 3 ID : **441009151350**

Option 4 ID : **441009151351**

Status : **Not Answered**

Chosen Option : **--**

Q.17 The marked price of an article is ₹15,000. A trade discount of 25% is offered, and an additional scheme discount of 10% is applied on the new price. What is the final price?

Ans ✗ 1. ₹10,225

✓ 2. ₹10,125

✗ 3. ₹10,025

✗ 4. ₹10,325

Question ID : **44100921530**
Option 1 ID : **44100985868**
Option 2 ID : **44100985867**
Option 3 ID : **44100985870**
Option 4 ID : **44100985869**
Status : **Not Answered**
Chosen Option : **--**

Q.18 A and B can complete a piece of work in 8 days. B alone can do it in 12 days. If A alone starts the work and works for only 4 days and then leaves, then how many more days will B take to finish the remaining work?

Ans ✓ 1. 10 days

✗ 2. 12 days

✗ 3. 8 days

✗ 4. 9 days

Question ID : **44100921207**
Option 1 ID : **44100984575**
Option 2 ID : **44100984578**
Option 3 ID : **44100984576**
Option 4 ID : **44100984577**
Status : **Answered**
Chosen Option : **1**

Q.19 A train covers 120 km at a speed of 30 km/hr, then 180 km at 60 km/hr, and finally 240 km at 120 km/hr. Find the average speed of the train for the entire journey.

Ans ✗ 1. 68 km/hr

✗ 2. 58 km/hr

✓ 3. 60 km/hr

✗ 4. 65 km/hr

Question ID : **44100921200**
Option 1 ID : **44100984548**
Option 2 ID : **44100984549**
Option 3 ID : **44100984547**
Option 4 ID : **44100984550**
Status : **Answered**
Chosen Option : **3**

Q.20 Convert $2.3\overline{45}$ into a vulgar fraction.

Ans

✗ 1. $\dfrac{143}{61}$

✗ 2. $\dfrac{105}{50}$

✓ 3. $\dfrac{129}{55}$

✗ 4. $\dfrac{115}{45}$

Question ID : **44100920167**
Option 1 ID : **44100980404**
Option 2 ID : **44100980403**
Option 3 ID : **44100980401**
Option 4 ID : **44100980402**
Status : **Answered**
Chosen Option : **3**

Q.21 AB is a chord of length of 12 cm of a circle with a radius of 10 cm. The tangents drawn at points A and B meet at a common point D. What is the length of AD?

Ans ✓ 1. 7.5 cm

✗ 2. 6.6 cm

✗ 3. 9.2 cm

✗ 4. 8.4 cm

Question ID : **44100938234**
Option 1 ID : **441009152502**
Option 2 ID : **441009152503**
Option 3 ID : **441009152500**
Option 4 ID : **441009152501**
Status : **Not Answered**
Chosen Option : **--**

Q.22 A field is in the shape of an equilateral triangle whose side is 20 m. What is the cost of levelling the field at the rate of ₹40/m^2?
$(\text{Given } \sqrt{3} = 1.732)$

Ans ✗ 1. ₹3,954

✗ 2. ₹4,706

✗ 3. ₹5,388

✓ 4. ₹6,928

Question ID : **44100938023**
Option 1 ID : **441009151660**
Option 2 ID : **441009151661**
Option 3 ID : **441009151662**
Option 4 ID : **441009151663**
Status : **Answered**
Chosen Option : **4**

Q.23 Which of the following numbers is divisible by 11?

Ans ✗ 1. 856974

✓ 2. 132231

✗ 3. 234568

✗ 4. 987654

Question ID : **44100920147**
Option 1 ID : **44100980322**
Option 2 ID : **44100980321**
Option 3 ID : **44100980323**
Option 4 ID : **44100980324**
Status : **Answered**
Chosen Option : **2**

Q.24 Two trains, one 150 metres long and the other 200 metres long, are moving in opposite directions at speeds of 40 km/hr and 50 km/hr. How long will it take for them to cross each other?

Ans ✗ 1. 12 seconds

✗ 2. 10 seconds

✓ 3. 14 seconds

✗ 4. 16 seconds

Question ID : **44100921183**
Option 1 ID : **44100984481**
Option 2 ID : **44100984480**
Option 3 ID : **44100984479**
Option 4 ID : **44100984482**
Status : **Answered**
Chosen Option : **3**

Q.25 A person's monthly income is increased by 10%, but his expenditure also increases by 20%. If he used to save 20% of his income earlier, what is the new percentage of his savings? (Corrected to 2 decimal places)

Ans ✗ 1. 10%

✗ 2. 9.57%

✗ 3. 8%

✓ 4. 12.73%

Question ID : **44100936137**
Option 1 ID : **441009144077**
Option 2 ID : **441009144078**
Option 3 ID : **441009144079**
Option 4 ID : **441009144076**
Status : **Answered**
Chosen Option : **4**

Q.26 The marked price of a washing machine is ₹30,000. A dealer offers a 15% discount on it. After that, a festival discount of 5% is applied. What is the final selling price of the washing machine?

Ans ✗ 1. ₹20,290

✗ 2. ₹22,000

✗ 3. ₹24,000

✓ 4. ₹24,225

Question ID : **44100936380**
Option 1 ID : **441009145036**
Option 2 ID : **441009145035**
Option 3 ID : **441009145033**
Option 4 ID : **441009145034**
Status : **Answered**
Chosen Option : **4**

Q.27 Which of the following expressions is equivalent to (cosec A – sin A)(sec A – cos A)?

Ans ✗ 1. $\tan A + \cot A$

✓ 2. $\dfrac{1}{\tan A + \cot A}$

✗ 3. $\dfrac{1}{\tan A - \cot A}$

✗ 4. $\tan A - \cot A$

Question ID : **44100938508**
Option 1 ID : **441009153593**
Option 2 ID : **441009153592**
Option 3 ID : **441009153594**
Option 4 ID : **441009153591**
Status : **Not Answered**
Chosen Option : **--**

Q.28 A shopkeeper buys 10 kg of apples for ₹800 and sells 8 kg of same apples for ₹656. What is his profit or loss percentage?

Ans ✗ 1. 1.5% profit

✓ 2. 2.5% profit

✗ 3. 1.2% loss

✗ 4. 2% loss

Question ID : **44100936357**
Option 1 ID : **441009144942**
Option 2 ID : **441009144944**
Option 3 ID : **441009144941**
Option 4 ID : **441009144943**
Status : **Answered**
Chosen Option : **2**

Q.29 A milkman adds water to milk to gain profit. He mixes water with milk priced at ₹30 per litre to get a final mixture costing ₹25 per litre. What is the ratio of milk to water in the mixture? (Assume water is available free of cost.)

Ans ✗ 1. 1 : 5

✔ 2. 5 : 1

✗ 3. 6 : 1

✗ 4. 1 : 6

Question ID : **44100919801**
Option 1 ID : **44100978937**
Option 2 ID : **44100978935**
Option 3 ID : **44100978936**
Option 4 ID : **44100978938**
Status : **Answered**
Chosen Option : **2**

Q.30 The ratio of the present ages of two boys is 8 : 9. After 4 years, the ratio of their ages will be 12 : 13. What will be the ratio of their ages after 16 years?

Ans ✗ 1. 25 : 27

✗ 2. 32 : 33

✗ 3. 25 : 26

✔ 4. 24 : 25

Question ID : **44100938799**
Option 1 ID : **441009154749**
Option 2 ID : **441009154750**
Option 3 ID : **441009154748**
Option 4 ID : **441009154747**
Status : **Answered**
Chosen Option : **4**

Q.31 एक स्कूल में, कक्षा A में लड़के और लड़कियों का अनुपात 7 : 9 है, कक्षा B में लड़के और लड़कियों का अनुपात 5 : 6 है, और कक्षा C में लड़के और लड़कियों का अनुपात 8 : 9 है। किस कक्षा/कक्षाओं में लड़कों का अनुपात सर्वाधिक है?

Ans ✗ 1. A और B दोनों

✔ 2. C

✗ 3. B

✗ 4. A

Question ID : **44100936442**
Option 1 ID : **441009145284**
Option 2 ID : **441009145283**
Option 3 ID : **441009145282**
Option 4 ID : **441009145281**
Status : **Answered**
Chosen Option : **2**

Q.32 A car travels 90 km at a speed of 45 km/hr, then 120 km at 60 km/hr and finally 210 km at 70 km/hr. What is the average speed for the entire journey?

Ans   ✗ 1. 58.1 km/hr

   ✗ 2. 61.3 km/hr

   ✗ 3. 48 km/hr

   ✓ 4. 60 km /hr

Question ID : **44100937141**
Option 1 ID : **441009148066**
Option 2 ID : **441009148068**
Option 3 ID : **441009148065**
Option 4 ID : **441009148067**
Status : **Answered**
Chosen Option : **4**

Q.33 A conical tent with a radius of 6 m and a height of 8 m is made of polyester. What is the cost of the polyester used to make this tent, if the price of the polyester is ₹140 per m^2? (Given: π = 3.14)

Ans   ✓ 1. ₹26,376

   ✗ 2. ₹23,368

   ✗ 3. ₹24,582

   ✗ 4. ₹25,452

Question ID : **44100938101**
Option 1 ID : **441009151971**
Option 2 ID : **441009151968**
Option 3 ID : **441009151969**
Option 4 ID : **441009151970**
Status : **Answered**
Chosen Option : **1**

Q.34 The HCF of two numbers is 36, and their LCM is 1296. If one of the numbers is 144, what is the sum of the two numbers?

Ans   ✗ 1. 524

   ✗ 2. 345

   ✓ 3. 468

   ✗ 4. 632

Question ID : **44100936056**
Option 1 ID : **441009143747**
Option 2 ID : **441009143745**
Option 3 ID : **441009143746**
Option 4 ID : **441009143748**
Status : **Answered**
Chosen Option : **3**

Section : **Intellectual Potential Test**

Q.1 Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans ✔ 1. MQV

✘ 2. LOT

✘ 3. CFK

✘ 4. WZE

Question ID : **441009996**
Option 1 ID : **4410093978**
Option 2 ID : **4410093977**
Option 3 ID : **4410093979**
Option 4 ID : **4410093980**
Status : **Answered**
Chosen Option : **1**

Q.2 This question is based on the following words.

LEG PAW CUR BID

If in each of the words, each letter is changed to the letter following it in the English alphabetical order, how many letter-clusters thus formed will have no vowel?

Ans ✘ 1. One

✘ 2. Two

✔ 3. Three

✘ 4. Four

Question ID : **4410091011**
Option 1 ID : **4410094038**
Option 2 ID : **4410094040**
Option 3 ID : **4410094037**
Option 4 ID : **4410094039**
Status : **Answered**
Chosen Option : **3**

Q.3 Seven boxes A, B, C, D, E, F and G are kept one over the other but not necessarily in the same order. Only three boxes are kept above A. Only one box is kept between G and A. Only three boxes are kept between G and B. B is kept at some place above A. F is kept immediately below B. E is kept at one of the places above C. D is not kept immediately above or below G. How many boxes are kept below G?

Ans ✔ 1. 1

✘ 2. 2

✘ 3. 4

✘ 4. 3

Question ID : **441009794**
Option 1 ID : **4410093163**
Option 2 ID : **4410093164**
Option 3 ID : **4410093166**
Option 4 ID : **4410093165**
Status : **Answered**
Chosen Option : **1**

Q.4 In a certain code language, 'our new car' is coded as 'xa oc pu', 'new friends came' is coded as 'mi ld xa' and 'came with car' is coded as 'ld oc ny'. How is 'our' coded in the given language?

Ans ✔ 1. pu

✘ 2. ld

✘ 3. xa

✘ 4. oc

Question ID : **4410091869**
Option 1 ID : **4410097464**
Option 2 ID : **4410097463**
Option 3 ID : **4410097461**
Option 4 ID : **4410097462**
Status : **Answered**
Chosen Option : **1**

Q.5 Based on the English alphabetical order, three of the following four letter-cluster pairs are alike in a certain way and thus form a group. Which letter-cluster pair DOES NOT belong to that group?
(Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans ✘ 1. ZW-HY

✘ 2. QN-YP

✘ 3. FC-NE

✔ 4. OI-PL

Question ID : **441009637**
Option 1 ID : **4410092533**
Option 2 ID : **4410092535**
Option 3 ID : **4410092536**
Option 4 ID : **4410092534**
Status : **Answered**
Chosen Option : **4**

Q.6 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:
Some spades are hammers.
No hammer is a nail.
All nails are pipes.

Conclusions:
(I): Some spades are nails.
(II): All pipes can never be hammers.

Ans ✗ 1. Only conclusion I follows

✗ 2. Neither conclusion I nor II follows

✗ 3. Both conclusions I and II follow

✓ 4. Only conclusion II follows

Question ID : **4410091866**
Option 1 ID : **4410097449**
Option 2 ID : **4410097452**
Option 3 ID : **4410097451**
Option 4 ID : **4410097450**
Status : **Answered**
Chosen Option : **2**

Q.7 Which of the following letter-clusters should replace # and % so that the pattern and relationship followed between the letter-cluster pair on the left side of :: is the same as that on the right side of :: ?

: VEX :: PIN : %

Ans ✗ 1. # - SBR; % - TPV

✗ 2. # - TAS; % - RNU

✓ 3. # - TAR; % - RMT

✗ 4. # - SCS; % - TOT

Question ID : **4410091863**
Option 1 ID : **4410097439**
Option 2 ID : **4410097437**
Option 3 ID : **4410097438**
Option 4 ID : **4410097440**
Status : **Answered**
Chosen Option : **3**

Q.8 Seven boxes K, L, M, S, T, U and V are kept one over the other but not necessarily in the same order. T is kept immediately above K. V is kept immediately above S. Only L is kept above M. Only two boxes are kept above T. V is not kept at third position from the bottom. How many boxes are kept between U and L?

Ans ✗ 1. One

✗ 2. Four

✓ 3. Three

✗ 4. Two

Question ID : **441009432**
Option 1 ID : **4410091717**
Option 2 ID : **4410091720**
Option 3 ID : **4410091719**
Option 4 ID : **4410091718**
Status : **Answered**
Chosen Option : **3**

Q.9 If 'A' stands for '÷', 'B' stands for '×', 'C' stands for '+' and 'D' stands for '−', what will come in place of the question mark (?) in the following equation?

20 D 52 A 4 C 7 B 3 = ?

Ans ✗ 1. 33

✓ 2. 28

✗ 3. 21

✗ 4. 15

Question ID : **4410091310**
Option 1 ID : **4410095236**
Option 2 ID : **4410095235**
Option 3 ID : **4410095234**
Option 4 ID : **4410095233**
Status : **Answered**
Chosen Option : **2**

Q.10 X is the mother of L. C is the wife of L. D is the son of C. D has a sister named F. How is F related to L?

Ans ✗ 1. Daughter-in-law

✗ 2. Wife

✗ 3. Sister

✓ 4. Daughter

Question ID : **441009721**
Option 1 ID : **4410092873**
Option 2 ID : **4410092871**
Option 3 ID : **4410092874**
Option 4 ID : **4410092872**
Status : **Answered**
Chosen Option : **4**

Q.11 This question is based on the following words.

GAP ARK PEA HOP

In each of the words, each vowel is changed to the letter immediately following it in the English alphabetical order and each consonant is changed to the letter immediately preceding it in the English alphabetical order. In how many letter-clusters thus formed, will no vowel appear?

Ans ✘ 1. Four

✘ 2. Two

✔ 3. One

✘ 4. Three

Question ID : **441009655**
Option 1 ID : **4410092610**
Option 2 ID : **4410092608**
Option 3 ID : **4410092607**
Option 4 ID : **4410092609**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.12 Select the pair that follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

TIM : WKN
GUA : JWB

Ans ✔ 1. DBL : GDM

✘ 2. KUR : NWP

✘ 3. XNI : APH

✘ 4. MAH : DBI

Question ID : **441009723**
Option 1 ID : **4410092882**
Option 2 ID : **4410092881**
Option 3 ID : **4410092880**
Option 4 ID : **4410092879**
Status : **Answered**
Chosen Option : **1**

Q.13 In a certain code language, 'pistachio healthy nut' is coded as 'tu hy si' and 'coffee healthy drink' is coded as 'hy xe ph'. How is 'healthy' coded in the given language?

Ans ✘ 1. ph

✘ 2. tu

✘ 3. xe

✔ 4. hy

Question ID : **441009714**
Option 1 ID : **4410092846**
Option 2 ID : **4410092843**
Option 3 ID : **4410092845**
Option 4 ID : **4410092844**
Status : **Answered**
Chosen Option : **4**

Q.14 Based on the English alphabetical order, three of the following four letter-clusters are alike in a certain way and thus form a group. Which letter-cluster DOES NOT belong to that group? (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

Ans ✗ 1. IRA

✗ 2. ENW

✓ 3. NFW

✗ 4. GPY

Question ID : **441009642**
Option 1 ID : **4410092553**
Option 2 ID : **4410092555**
Option 3 ID : **4410092554**
Option 4 ID : **4410092556**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.15 If 2 is added to each even digit and 1 is subtracted from each odd digit in the number 5379264, what will be the sum of the digits which are first from the left and first from the right in the new number thus formed?

Ans ✗ 1. 12

✓ 2. 10

✗ 3. 8

✗ 4. 11

Question ID : **4410091814**
Option 1 ID : **4410097248**
Option 2 ID : **4410097245**
Option 3 ID : **4410097246**
Option 4 ID : **4410097247**
Status : **Answered**
Chosen Option : **2**

Q.16 Select the set in which the numbers are related in the same way as are the numbers of the following sets.
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into their constituent digits. E.g. 13 – Operations on 13 such as adding /subtracting /multiplying to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)
(15, 48, 63)
(30, 32, 62)

Ans ✓ 1. (25, 41, 66)

✗ 2. (20, 40, 52)

✗ 3. (45, 27, 70)

✗ 4. (62, 18, 44)

Question ID : **4410091210**
Option 1 ID : **4410094833**
Option 2 ID : **4410094836**
Option 3 ID : **4410094835**
Option 4 ID : **4410094834**
Status : **Answered**
Chosen Option : **1**

Q.17 What should come in place of the question mark (?) in the given series?

115 97 81 67 55 ?

Ans ✔ 1. 45

  ✘ 2. 30

  ✘ 3. 35

  ✘ 4. 40

Question ID : **4410091183**
Option 1 ID : **4410094725**
Option 2 ID : **4410094728**
Option 3 ID : **4410094727**
Option 4 ID : **4410094726**
Status : **Answered**
Chosen Option : **1**

Q.18 Kishor starts from Point A and drives 36 km towards east. He then takes a right turn, drives 34 km, turns right and drives 39 km. He then takes a right turn and drives 37 km. He takes a final right turn, drives 3 km and stops at Point P. How far (shortest distance) and towards which direction should he drive in order to reach Point A again? (All turns are 90-degree turns only, unless specified.)

Ans ✘ 1. 1 km to the south

  ✔ 2. 3 km to the south

  ✘ 3. 2 km to the north

  ✘ 4. 4 km to the north

Question ID : **441009651**
Option 1 ID : **4410092589**
Option 2 ID : **4410092590**
Option 3 ID : **4410092591**
Option 4 ID : **4410092592**
Status : **Answered**
Chosen Option : **2**

Q.19 Seven boxes K, L, M, S, T, U and V are kept one over the other but not necessarily in the same order. No box is kept above T. Only three boxes are kept between T and U. Only one box is kept between L and S. S is kept immediately above U. Only four boxes are kept between L and M. K is kept at some place above V. Which box is kept second below K?

Ans ✘ 1. L

  ✔ 2. U

  ✘ 3. T

  ✘ 4. S

Question ID : **441009431**
Option 1 ID : **4410091713**
Option 2 ID : **4410091716**
Option 3 ID : **4410091715**
Option 4 ID : **4410091714**
Status : **Answered**
Chosen Option : **2**

Q.20 What should come in place of the question mark (?) in the given series?

127 119 111 103 95 87 ?

Ans ✓ 1. 79

✗ 2. 63

✗ 3. 65

✗ 4. 77

Question ID : **4410091703**
Option 1 ID : **4410096806**
Option 2 ID : **4410096805**
Option 3 ID : **4410096808**
Option 4 ID : **4410096807**
Status : **Answered**
Chosen Option : **1**

Q.21 This question is based on the five, three-digit numbers given below.

(Left) 768 987 783 825 874 (Right)

(Example- 697 – First digit = 6, second digit = 9 and third digit = 7)
(NOTE: All operations to be done from left to right.)

What will be the resultant if the second digit of the highest number is multiplied with the third digit of the lowest number?

Ans ✓ 1. 64

✗ 2. 63

✗ 3. 45

✗ 4. 56

Question ID : **441009654**
Option 1 ID : **4410092606**
Option 2 ID : **4410092605**
Option 3 ID : **4410092604**
Option 4 ID : **4410092603**
Status : **Answered**
Chosen Option : **1**

Q.22 W is the mother of E. E is the father of R. R is the brother of T. T is the wife of Y. How is W related to Y?

Ans ✗ 1. Wife's father's sister

✗ 2. Wife's mother's mother

✓ 3. Wife's father's mother

✗ 4. Wife's mother's sister

Question ID : **441009804**
Option 1 ID : **4410093204**
Option 2 ID : **4410093205**
Option 3 ID : **4410093203**
Option 4 ID : **4410093206**
Status : **Answered**
Chosen Option : **3**

Q.23 If + means −, − means ×, × means ÷ and ÷ means +, then what will come in place of the question mark (?) in the following equation?

81 × 9 ÷ 14 + 4 − 4 = ?

Ans ✗ 1. 10

✗ 2. 13

✗ 3. 18

✓ 4. 7

Question ID : **4410091165**
Option 1 ID : **4410094655**
Option 2 ID : **4410094654**
Option 3 ID : **4410094653**
Option 4 ID : **4410094656**
Status : **Answered**
Chosen Option : **4**

Q.24 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusion(s) logically follow(s) from the statements.

Statements:
All swords are pens.
No dagger is a sword.

Conclusions:
(I): Some pens are daggers.
(II): No dagger is a pen.

Ans ✗ 1. Both conclusions (I) and (II) follow.

✓ 2. Neither conclusion (I) nor (II) follows.

✗ 3. Only conclusion (II) follows.

✗ 4. Only conclusion (I) follows.

Question ID : **441009718**
Option 1 ID : **4410092862**
Option 2 ID : **4410092861**
Option 3 ID : **4410092860**
Option 4 ID : **4410092859**
Status : **Answered**
Chosen Option : **2**

Q.25 If 1 is added to each even digit and 2 is subtracted from each odd digit in the number 3527468, how many digits will appear more than once in the new number thus formed?

Ans ✔ 1. Two

✗ 2. None

✗ 3. Three

✗ 4. One

Question ID : **4410091818**
Option 1 ID : **4410097263**
Option 2 ID : **4410097261**
Option 3 ID : **4410097264**
Option 4 ID : **4410097262**
Status : **Answered**
Chosen Option : **1**

Q.26 In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Select the pair in which the numbers are related in the same way as are the numbers of the following pairs.
(Note: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding/subtracting/multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

86, 126
70, 110

Ans ✗ 1. 35, 70

✔ 2. 25, 65

✗ 3. 42, 72

✗ 4. 64, 100

Question ID : **4410091218**
Option 1 ID : **4410094868**
Option 2 ID : **4410094866**
Option 3 ID : **4410094865**
Option 4 ID : **4410094867**
Status : **Answered**
Chosen Option : **2**

Q.27 A, B, C, D, E, F and G are sitting around a circular table facing the centre. Only one person sits between F and A when counted from the right of F. Only one person sits between A and C. Only one person sits between F and E. Only two people sit between G and C. Only one person sits between B and E. How many people sit between B and F when counted from the left of B?

Ans ✗ 1. 3

✗ 2. 4

✗ 3. 1

✔ 4. 2

Question ID : **441009792**
Option 1 ID : **4410093157**
Option 2 ID : **4410093158**
Option 3 ID : **4410093155**
Option 4 ID : **4410093156**
Status : **Answered**
Chosen Option : **4**

Q.28 Seven boxes, R, A, L, E, N, D and I, are kept one over the other but not necessarily in the same order. No box is kept below N. Only four boxes are kept between A and R. Only D is kept between L and R. E is kept immediately below A. What is the position of I from the top?

Ans ✔ 1. Third

  ✘ 2. Fifth

  ✘ 3. Second

  ✘ 4. Fourth

Question ID : **441009713**
Option 1 ID : **4410092840**
Option 2 ID : **4410092842**
Option 3 ID : **4410092839**
Option 4 ID : **4410092841**
Status : **Not Answered**
Chosen Option : --

Q.29 In the following number-pairs, the second number is obtained by applying certain mathematical operations to the first number. Select the set in which the numbers are related in the same way as are the numbers of the following sets.
(NOTE: Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. E.g. 13 – Operations on 13 such as adding / subtracting / multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed.)

23, 57
17, 45

Ans ✔ 1. 15, 41

  ✘ 2. 21, 63

  ✘ 3. 27, 74

  ✘ 4. 19, 39

Question ID : **4410091769**
Option 1 ID : **4410097065**
Option 2 ID : **4410097068**
Option 3 ID : **4410097067**
Option 4 ID : **4410097066**
Status : **Not Answered**
Chosen Option : --

Q.30 D, E, F, G, M, N and O are sitting around a circular table facing the centre of the table. D sits third to the left of M. E sits second to the left of N. Only M sits between G and E. O is not an immediate neighbour of D. How many people sit between F and E when counted from the right of F?

Ans ✘ 1. One

  ✘ 2. Three

  ✔ 3. Two

  ✘ 4. Four

Question ID : **441009433**
Option 1 ID : **4410091721**
Option 2 ID : **4410091723**
Option 3 ID : **4410091722**
Option 4 ID : **4410091724**
Status : **Not Answered**
Chosen Option : --

Q.31 Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete?

HNW 29, DPS 42, ZRO 55, VTK 68, RVG 81, ?

Ans ✓ 1. NXC 94

✗ 2. MXB 92

✗ 3. OWC 94

✗ 4. MYD 92

Question ID : **4410091000**
Option 1 ID : **4410093996**
Option 2 ID : **4410093995**
Option 3 ID : **4410093994**
Option 4 ID : **4410093993**
Status : **Answered**
Chosen Option : **1**

Q.32 Select the pair that follows the same pattern as that followed by the two pairs given below. Both pairs follow the same pattern.

RJE : TID
SKM : UJL

Ans ✗ 1. BST : ZTS

✗ 2. MAJ : OZH

✗ 3. LIM : JJN

✓ 4. PJM : RIL

Question ID : **441009724**
Option 1 ID : **4410092885**
Option 2 ID : **4410092884**
Option 3 ID : **4410092883**
Option 4 ID : **4410092886**
Status : **Not Answered**
Chosen Option : **--**

Q.33 This question is based on the five, three-digit numbers given below.

(Left) 847 429 517 371 386 (Right)

(Example- 697 – First digit = 6, second digit = 9 and third digit = 7)
(NOTE: All operations to be done from left to right.)

What will be the resultant if the second digit of the highest number is multiplied with the second digit of the lowest number?

Ans ✗ 1. 26

✓ 2. 28

✗ 3. 27

✗ 4. 25

Question ID : **441009653**
Option 1 ID : **4410092598**
Option 2 ID : **4410092600**
Option 3 ID : **4410092599**
Option 4 ID : **4410092597**
Status : **Not Answered**
Chosen Option : **--**

Q.34 Which of the following letter-number clusters will replace the question mark (?) in the given series to make it logically complete?

FIN53, ORW49, XAF45, GJO41, ?

Ans ✗ 1. PSX36

✗ 2. RSX37

✗ 3. PSY37

✓ 4. PSX37

Question ID : **441009647**
Option 1 ID : **4410092574**
Option 2 ID : **4410092575**
Option 3 ID : **4410092576**
Option 4 ID : **4410092573**
Status : **Not Answered**
Chosen Option : **--**

Section : **Domain Knowledge**

Q.1 In printing machines, cam and follower mechanisms are used to:

Ans ✗ 1. Adjust the font size automatically

✗ 2. Transfer ink to the paper

✓ 3. Feed paper sheets at regular intervals

✗ 4. Increase the pressure of printing rollers

Question ID : **4410093477**
Option 1 ID : **44100913918**
Option 2 ID : **44100913915**
Option 3 ID : **44100913916**
Option 4 ID : **44100913917**
Status : **Answered**
Chosen Option : **3**

Q.2 Which of the following statements is NOT correct for 'Product Layout'?

Ans ✓ 1. More process inventory

✗ 2. Less space requirement for same volume of production

✗ 3. Smooth and continuous workflow

✗ 4. Better co-ordination and simple production planning and control

Question ID : **441009720**
Option 1 ID : **4410092868**
Option 2 ID : **4410092869**
Option 3 ID : **4410092867**
Option 4 ID : **4410092870**
Status : **Answered**
Chosen Option : **1**

Q.3 The maximum deflection (δ_max) of a cantilever beam of length L subjected to a point load P at its free end is given by:

Ans ✗ 1. $PL^3/(8EI)$

✗ 2. $PL^3/(48EI)$

✗ 3. $PL^3/(6EI)$

✓ 4. $PL^3/(3EI)$

Question ID : **44100941902**
Option 1 ID : **441009167148**
Option 2 ID : **441009167150**
Option 3 ID : **441009167149**
Option 4 ID : **441009167151**
Status : **Answered**
Chosen Option : **4**

Q.4 The standard marking system of grinding wheels, as developed by the Indian standard marking system, gives the indication about:

Ans ✗ 1. the pressure between the grinding wheel and the workpiece

✗ 2. the time taken to complete the finishing of the workpiece

✓ 3. the hardness and grit size of the grinding wheel

✗ 4. material removal rate

Question ID : **4410093304**
Option 1 ID : **44100913226**
Option 2 ID : **44100913224**
Option 3 ID : **44100913225**
Option 4 ID : **44100913223**
Status : **Answered**
Chosen Option : **3**

Q.5 What is the primary function of a strain gauge?

Ans ✗ 1. To measure electrical resistance directly

✗ 2. To measure temperature changes

✓ 3. To measure strain in a material

✗ 4. To measure pressure variations

Question ID : **44100943228**
Option 1 ID : **441009172374**
Option 2 ID : **441009172371**
Option 3 ID : **441009172372**
Option 4 ID : **441009172373**
Status : **Answered**
Chosen Option : **3**

Q.6 **What is the main purpose of limits, fits, and tolerances in manufacturing?**

Ans ✔ 1. To ensure proper assembly and interchangeability

✘ 2. To eliminate the need for machining

✘ 3. To reduce the production cost only

✘ 4. To increase the weight of the components

Question ID : **44100943472**
Option 1 ID : **441009173340**
Option 2 ID : **441009173342**
Option 3 ID : **441009173341**
Option 4 ID : **441009173339**
Status : **Answered**
Chosen Option : **1**

Q.7 **Compute the value of 'Median' for the following data.**

Item in data array 1 2 3 4 5 6 7
Time in minutes 4.2 4.3 4.7 4.8 5.1 5.4 5.8

Ans ✘ 1. 5.1

✘ 2. 4.9

✘ 3. 4.7

✔ 4. 4.8

Question ID : **4410091129**
Option 1 ID : **4410094512**
Option 2 ID : **4410094511**
Option 3 ID : **4410094509**
Option 4 ID : **4410094510**
Status : **Answered**
Chosen Option : **4**

Q.8 **The power to weight ratio for external combustion engines as compared to internal combustion engines:**

Ans ✘ 1. is equal

✔ 2. is low

✘ 3. can be greater or lower, it depends on the situation

✘ 4. is high

Question ID : **4410091908**
Option 1 ID : **4410097617**
Option 2 ID : **4410097618**
Option 3 ID : **4410097620**
Option 4 ID : **4410097619**
Status : **Answered**
Chosen Option : **4**

Q.9 As per the Indian standard system, the point angle in a normal drill is:

Ans ✗ 1. 90 degrees

✓ 2. 118 degrees

✗ 3. 75 degrees

✗ 4. 100 degrees

Question ID : **4410093255**
Option 1 ID : **44100913028**
Option 2 ID : **44100913030**
Option 3 ID : **44100913027**
Option 4 ID : **44100913029**
Status : **Answered**
Chosen Option : **2**

Q.10 Which of the following processes is always quasi-static?

Ans ✓ 1. Reversible isothermal process

✗ 2. Sudden compression of a piston

✗ 3. Combustion in an engine

✗ 4. Free expansion of a gas

Question ID : **4410091139**
Option 1 ID : **4410094551**
Option 2 ID : **4410094550**
Option 3 ID : **4410094552**
Option 4 ID : **4410094549**
Status : **Answered**
Chosen Option : **1**

Q.11 Which of the following factors DOES NOT affect the bending stress in a beam?

Ans ✗ 1. Bending moment

✗ 2. Moment of inertia

✓ 3. Length of the beam

✗ 4. Distance from the neutral axis

Question ID : **44100942302**
Option 1 ID : **441009168723**
Option 2 ID : **441009168724**
Option 3 ID : **441009168725**
Option 4 ID : **441009168726**
Status : **Answered**
Chosen Option : **4**

Q.12 Which of the following is a key objective of material management in an organisation?

Ans ✗ 1. To maintain a high level of inventory to prevent any potential stockouts, even if it results in excessive storage costs

✗ 2. To procure materials at the lowest possible price, ignoring quality and supplier reliability to maximise short-term savings

✗ 3. To prioritise material procurement based solely on immediate production needs, without considering future demand fluctuations or long-term supplier relationships

✓ 4. To ensure the right quality and quantity of materials are available at the right time, at the lowest cost, while minimising waste and stockouts

Question ID : **4410099171**
Option 1 ID : **44100936435**
Option 2 ID : **44100936436**
Option 3 ID : **44100936438**
Option 4 ID : **44100936437**
Status : **Answered**
Chosen Option : **4**

Q.13 What is the primary safety advantage of the protected type flange coupling?

Ans ✓ 1. It protects the workman from injuries due to protruding bolts and nuts.

✗ 2. It enhances the torsional rigidity of the system.

✗ 3. It provides automatic lubrication to the shaft.

✗ 4. It minimises friction between the shaft and the coupling.

Question ID : **4410098524**
Option 1 ID : **44100933829**
Option 2 ID : **44100933831**
Option 3 ID : **44100933828**
Option 4 ID : **44100933830**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.14 Which of the following is NOT a characteristic of brittle fracture?

Ans ✓ 1. Ductile necking at the fracture site

✗ 2. Minimal plastic deformation before fracture

✗ 3. Rapid crack propagation

✗ 4. Occurs at low temperatures or high strain rates

Question ID : **4410092967**
Option 1 ID : **44100911902**
Option 2 ID : **44100911901**
Option 3 ID : **44100911900**
Option 4 ID : **44100911903**
Status : **Answered**
Chosen Option : **1**

Q.15 Which type of feed is needed in facing operation?

Ans   ✗ 1. Parallel to the axis of rotation

      ✗ 2. Neither parallel nor perpendicular to the axis of rotation

      ✓ 3. Perpendicular to the axis of rotation

      ✗ 4. Both parallel and perpendicular to the axis of rotation

Question ID : **4410093236**
Option 1 ID : **44100912951**
Option 2 ID : **44100912954**
Option 3 ID : **44100912952**
Option 4 ID : **44100912953**
Status : **Answered**
Chosen Option : **4**

Q.16 Observed time for a worker is 0.7 minutes and his performance rating is 80%. Calculate the normal time taken by the worker.

Ans   ✗ 1. 0.7 minutes

      ✓ 2. 0.56 minutes

      ✗ 3. 0.875 minutes

      ✗ 4. 0.95 minutes

Question ID : **441009882**
Option 1 ID : **4410093516**
Option 2 ID : **4410093515**
Option 3 ID : **4410093517**
Option 4 ID : **4410093518**
Status : **Answered**
Chosen Option : **2**

Q.17 Additives that are normally used for mixing with oils to increase lubricating and cooling qualities of various oils are _____.

Ans   ✓ 1. sulphur and chlorine

      ✗ 2. carbon and helium

      ✗ 3. sodium and potassium

      ✗ 4. hydrogen and nitrogen

Question ID : **4410094923**
Option 1 ID : **44100919520**
Option 2 ID : **44100919521**
Option 3 ID : **44100919518**
Option 4 ID : **44100919519**
Status : **Not Answered**
Chosen Option : **--**

Q.18 In oxyacetylene welding, if acetylene is observed to be in excess, theflame is called as:

Ans ✓ 1. reducing flame

✗ 2. neutral flame

✗ 3. originating flame

✗ 4. oxidising flame

Question ID : **4410094899**
Option 1 ID : **44100919428**
Option 2 ID : **44100919426**
Option 3 ID : **44100919429**
Option 4 ID : **44100919427**
Status : **Answered**
Chosen Option : **1**

Q.19 In a quasi-static process, irreversibilities are:

Ans ✗ 1. dominant

✗ 2. maximised

✓ 3. negligible

✗ 4. unpredictable

Question ID : **4410091083**
Option 1 ID : **4410094327**
Option 2 ID : **4410094325**
Option 3 ID : **4410094326**
Option 4 ID : **4410094328**
Status : **Answered**
Chosen Option : **3**

Q.20 Two masses of 3 kg and 6 kg are attached at 0.2 m and 0.1 m radius in the same plane. What should be the mass of a third counter mass at 0.15 m to balance the system?

Ans ✗ 1. 2 kg

✓ 2. 8 kg

✗ 3. 3 kg

✗ 4. 1 kg

Question ID : **44100914105**
Option 1 ID : **44100956246**
Option 2 ID : **44100956248**
Option 3 ID : **44100956247**
Option 4 ID : **44100956245**
Status : **Not Answered**
Chosen Option : **--**

Q.21 Which of the following is NOT a function of material management?

Ans ✗ 1. Procurement

✗ 2. Warehousing

✓ 3. Marketing strategy

✗ 4. Inventory control

Question ID : **4410099170**
Option 1 ID : **44100936431**
Option 2 ID : **44100936434**
Option 3 ID : **44100936433**
Option 4 ID : **44100936432**
Status : **Answered**
Chosen Option : **3**

Q.22 Which feature of CAD software helps in creating precise, scalable designs?

Ans ✗ 1. 3D rendering

✗ 2. Freehand drawing tool

✓ 3. Grid and snap settings

✗ 4. Image filter tools

Question ID : **4410091382**
Option 1 ID : **4410095524**
Option 2 ID : **4410095521**
Option 3 ID : **4410095522**
Option 4 ID : **4410095523**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.23 Which command is used to change the appearance of dimensions in AutoCAD?

Ans ✗ 1. DSTYLE

✗ 2. DSETTINGS

✗ 3. DIMEDIT

✓ 4. DIMSTYLE

Question ID : **4410091400**
Option 1 ID : **4410095593**
Option 2 ID : **4410095594**
Option 3 ID : **4410095596**
Option 4 ID : **4410095595**
Status : **Not Answered**
Chosen Option : **--**

Q.24 Which instrument is commonly used to check parallelism in machine tool testing?

Ans ✗ 1. Micrometer

✗ 2. Vernier caliper

✓ 3. Dial gauge and straightedge

✗ 4. Hardness tester

Question ID : **44100943708**
Option 1 ID : **441009174281**
Option 2 ID : **441009174280**
Option 3 ID : **441009174279**
Option 4 ID : **441009174282**
Status : **Answered**
Chosen Option : **3**

Q.25 Reaming is primarily used for achieving:

Ans ✗ 1. improved position tolerance

✓ 2. improved dimension tolerance

✗ 3. lower MRR

✗ 4. higher MRR

Question ID : **4410093267**
Option 1 ID : **44100913076**
Option 2 ID : **44100913075**
Option 3 ID : **44100913078**
Option 4 ID : **44100913077**
Status : **Answered**
Chosen Option : **2**

Q.26 What is the full form of COMSOAL?

Ans ✗ 1. Computerised Simulation and Optimisation of Assembly Line

✓ 2. Computer Method for Sequencing Operations for Assembly Lines

✗ 3. Computerised Solution of Assembly Line Balancing

✗ 4. Computerised Simulation of Assembly Line

Question ID : **4410099168**
Option 1 ID : **44100936425**
Option 2 ID : **44100936426**
Option 3 ID : **44100936424**
Option 4 ID : **44100936423**
Status : **Answered**
Chosen Option : **2**

Q.27 What is a block in CAD software?

Ans ✔️ 1. A pre-drawn object that can be reused multiple times.

❌ 2. A setting that controls line thickness.

❌ 3. A tool for creating 3D models.

❌ 4. A feature that deletes duplicate objects.

Question ID : **4410092551**
Option 1 ID : **44100910249**
Option 2 ID : **44100910251**
Option 3 ID : **44100910248**
Option 4 ID : **44100910250**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.28 When selecting plant and equipment for a manufacturing operation, which of the following factors will have the greatest impact on determining the break-even point (BEP)?

Ans ❌ 1. The depreciation rate of the equipment over its useful life

✔️ 2. The fixed operational costs associated with the equipment

❌ 3. The initial capital investment required for the equipment

❌ 4. The variability in the cost of raw materials used by the equipment

Question ID : **4410099182**
Option 1 ID : **44100936480**
Option 2 ID : **44100936481**
Option 3 ID : **44100936479**
Option 4 ID : **44100936482**
Status : **Answered**
Chosen Option : **2**

Q.29 For a cantilever beam subjected to a point load W at its free end, what is the slope at the free end?

Ans ❌ 1. $\theta = (W L) / EI$

❌ 2. $\theta = (W L^2) / 3EI$

✔️ 3. $\theta = (W L^2) / 2EI$

❌ 4. $\theta = (W L^2) / EI$

Question ID : **44100942272**
Option 1 ID : **441009168607**
Option 2 ID : **441009168610**
Option 3 ID : **441009168609**
Option 4 ID : **441009168608**
Status : **Answered**
Chosen Option : **3**

Q.30 Which of the following is the primary function of a helical compression spring?

Ans ✗ 1. To convert rotational motion into linear motion

✓ 2. To store and release energy

✗ 3. To resist bending stresses

✗ 4. To prevent axial displacement

Question ID : **44100942319**
Option 1 ID : **441009168793**
Option 2 ID : **441009168791**
Option 3 ID : **441009168792**
Option 4 ID : **441009168794**
Status : **Answered**
Chosen Option : **2**

Q.31 Man machine chart is a special type of:

Ans ✓ 1. multiple activity chart

✗ 2. flow process chart

✗ 3. string diagram

✗ 4. chronocycle graph

Question ID : **4410091091**
Option 1 ID : **4410094357**
Option 2 ID : **4410094358**
Option 3 ID : **4410094359**
Option 4 ID : **4410094360**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.32 Which of the following metals is commonly alloyed with iron to produce tool steels?

Ans ✗ 1. Lead

✓ 2. Tungsten

✗ 3. Zinc

✗ 4. Copper

Question ID : **4410092580**
Option 1 ID : **44100910365**
Option 2 ID : **44100910367**
Option 3 ID : **44100910366**
Option 4 ID : **44100910364**
Status : **Answered**
Chosen Option : **2**

Q.33 The length of a belt in a belt drive system is calculated using the formula L = 2C + π(D1 + D2) + (D1 − D2)2/4C, where L is the total length of the belt, C is the centre distance, and D1, D2 are the diameters of the pulleys. What does the term (D1 − D2)2/4C represent?

Ans ✗ 1. The effect of belt tension

✔ 2. The additional length due to the difference in pulley sizes

✗ 3. The correction factor for friction

✗ 4. The extra length due to pulley alignment

Question ID : **4410093632**
Option 1 ID : **44100914525**
Option 2 ID : **44100914523**
Option 3 ID : **44100914526**
Option 4 ID : **44100914524**
Status : **Not Answered**
Chosen Option : **--**

Q.34 What does the number '22' in the refrigerant R-22 indicate?

Ans ✔ 1. A specific designation assigned based on chemical composition.

✗ 2. The molecular weight of the refrigerant.

✗ 3. The pressure required for refrigeration cycle operation.

✗ 4. The boiling point of the refrigerant in °C.

Question ID : **44100941206**
Option 1 ID : **441009164262**
Option 2 ID : **441009164261**
Option 3 ID : **441009164263**
Option 4 ID : **441009164260**
Status : **Answered**
Chosen Option : **1**

Q.35 Which of the following CANNOT be considered as a part of a simple carburettor?

Ans ✗ 1. Float chamber

✗ 2. Throttle valve

✗ 3. Nozzle with metering orifice

✔ 4. Idling system

Question ID : **4410091925**
Option 1 ID : **4410097685**
Option 2 ID : **4410097686**
Option 3 ID : **4410097688**
Option 4 ID : **4410097687**
Status : **Answered**
Chosen Option : **3**

Q.36 A heavier flywheel is required in which of the following?

Ans ✔ 1. Four stroke engines relative to two stroke engines

✘ 2. Two stroke engines relative to four stroke engines

✘ 3. Both two and four stroke require same type of flywheel

✘ 4. Flywheel is not required in operation of two and four stroke engines

Question ID : **4410091924**
Option 1 ID : **4410097682**
Option 2 ID : **4410097681**
Option 3 ID : **4410097683**
Option 4 ID : **4410097684**
Status : **Answered**
Chosen Option : **1**

Q.37 Which of the following factors significantly affects the efficiency of a centrifugal compressor?

Ans ✘ 1. The use of intercooling between compression stages.

✔ 2. The shape and speed of the impeller.

✘ 3. The presence of a crankshaft for motion transmission.

✘ 4. The number of pistons used.

Question ID : **44100941196**
Option 1 ID : **441009164220**
Option 2 ID : **441009164221**
Option 3 ID : **441009164223**
Option 4 ID : **441009164222**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.38 Which of the following is a critical characteristic of a workpiece that influences process engineering decisions?

Ans ✘ 1. The brand name of the raw material supplier

✘ 2. The packaging method used for transportation

✘ 3. The colour of the workpiece

✔ 4. The machinability and hardness of the material

Question ID : **4410099115**
Option 1 ID : **44100936214**
Option 2 ID : **44100936215**
Option 3 ID : **44100936212**
Option 4 ID : **44100936213**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.39 What is the primary function of a bevel protractor?

Ans ✗ 1. To measure the diameter of cylindrical objects

✓ 2. To measure and set angles precisely

✗ 3. To check the flatness of a surface

✗ 4. To measure linear dimensions with high accuracy

Question ID : **44100943143**
Option 1 ID : **441009172046**
Option 2 ID : **441009172044**
Option 3 ID : **441009172045**
Option 4 ID : **441009172043**
Status : **Answered**
Chosen Option : **2**

Q.40 Which of the following statements regarding strain energy in the elastic region is true?

Ans ✗ 1. Strain energy increases permanently with each load cycle.

✓ 2. Strain energy is completely recoverable when the load is removed.

✗ 3. Strain energy is entirely lost as heat during unloading.

✗ 4. Strain energy is only partially recoverable after unloading.

Question ID : **44100941851**
Option 1 ID : **441009166947**
Option 2 ID : **441009166945**
Option 3 ID : **441009166946**
Option 4 ID : **441009166944**
Status : **Answered**
Chosen Option : **2**

Q.41 Why does a multi-plate clutch transmit more torque than a single-plate clutch?

Ans ✗ 1. It has a larger diameter.

✗ 2. It has less contact area.

✗ 3. It has a stronger pressure plate.

✓ 4. It has more friction surfaces.

Question ID : **44100913953**
Option 1 ID : **44100955626**
Option 2 ID : **44100955628**
Option 3 ID : **44100955625**
Option 4 ID : **44100955627**
Status : **Answered**
Chosen Option : **4**

Q.42 How does throttle governing affect the efficiency of a steam turbine?

Ans ✗ 1. Increases efficiency by improving heat recovery

✗ 2. Does not affect efficiency

✗ 3. Increases efficiency by reducing steam pressure drop

✓ 4. Reduces efficiency due to throttling losses

Question ID : **44100941322**
Option 1 ID : **441009164807**
Option 2 ID : **441009164806**
Option 3 ID : **441009164804**
Option 4 ID : **441009164805**
Status : **Not Answered**
Chosen Option : **--**

Q.43 The Delphi method is best described as:

Ans ✗ 1. a quantitative method that applies moving averages for forecasting

✓ 2. a method that forecasts by collecting expert opinions in multiple rounds

✗ 3. a method that uses historical data for trend analysis

✗ 4. a time-series technique for projecting future values

Question ID : **4410099125**
Option 1 ID : **44100936255**
Option 2 ID : **44100936253**
Option 3 ID : **44100936252**
Option 4 ID : **44100936254**
Status : **Answered**
Chosen Option : **2**

Q.44 The 'soap' present in soluble oil (a type of cutting fluid) acts as a/an:

Ans ✗ 1. lubricating, cooling as well as emulsifying agent

✓ 2. emulsifying agent only

✗ 3. lubricating agent only

✗ 4. cooling agent only

Question ID : **4410094929**
Option 1 ID : **44100919545**
Option 2 ID : **44100919544**
Option 3 ID : **44100919542**
Option 4 ID : **44100919543**
Status : **Answered**
Chosen Option : **3**

Q.45 What happens when the diameter of the shank of a bolt is made smaller than the core diameter of the thread (Dc)?

Ans ✗ 1. The bolt becomes weaker and more likely to fail.

✗ 2. The thread bears most of the load, and the shank is unaffected.

✗ 3. The bolt becomes heavier and less efficient.

✔ 4. The shank absorbs more energy, making the bolt stronger and better at absorbing shock.

Question ID : **4410098203**
Option 1 ID : **44100932524**
Option 2 ID : **44100932526**
Option 3 ID : **44100932527**
Option 4 ID : **44100932525**
Status : **Not Answered**
Chosen Option : **--**

Q.46 In a four-stroke cycle petrol engine, during suction stroke:

Ans ✔ 1. mixture of petrol and air is sucked in

✗ 2. Suction stroke is intermittent, thus cannot be judged precisely

✗ 3. only petrol is sucked in

✗ 4. only air is sucked in

Question ID : **4410091916**
Option 1 ID : **4410097651**
Option 2 ID : **4410097652**
Option 3 ID : **4410097650**
Option 4 ID : **4410097649**
Status : **Answered**
Chosen Option : **1**

Q.47 Which of the following is an advantage of using the Hole Basis System in manufacturing?

Ans ✗ 1. Eliminates the need for tolerances

✗ 2. Easier machining of holes with standard tools

✔ 3. Requires less precision in manufacturing

✗ 4. Makes it difficult to achieve interchangeability

Question ID : **44100943521**
Option 1 ID : **441009173537**
Option 2 ID : **441009173535**
Option 3 ID : **441009173536**
Option 4 ID : **441009173538**
Status : **Answered**
Chosen Option : **2**

Q.48 Which of the following represents the relationship between hoop strain (ε_h) and longitudinal strain (ε_l) in a thin cylinder?

Ans   ✗ 1. $\varepsilon\_h = 1/2\ \varepsilon\_l$

   ✗ 2. $\varepsilon\_h = 1/4\ \varepsilon\_l$

   ✗ 3. $\varepsilon\_h = \varepsilon\_l$

   ✔ 4. $\varepsilon\_h = 2\varepsilon\_l$

Question ID : **44100942361**
Option 1 ID : **441009168953**
Option 2 ID : **441009168954**
Option 3 ID : **441009168952**
Option 4 ID : **441009168951**
Status : **Answered**
Chosen Option : **4**

Q.49 What is the expression for the slope $\theta(x)$ of the deflection curve of a beam?

Ans   ✗ 1. $\theta(x) = y(x)$.

   ✗ 2. $\theta(x) = \int y(x)\ dx$.

   ✔ 3. $\theta(x) = dy/dx$.

   ✗ 4. $\theta(x) = d^2y/dx^2$.

Question ID : **44100942081**
Option 1 ID : **441009167854**
Option 2 ID : **441009167855**
Option 3 ID : **441009167853**
Option 4 ID : **441009167852**
Status : **Answered**
Chosen Option : **3**

Q.50 The compression ratio in case of diesel engines lies in the range of:

Ans   ✗ 1. 24-28

   ✗ 2. 2-3

   ✔ 3. 16-20

   ✗ 4. 8-10

Question ID : **4410091912**
Option 1 ID : **4410097636**
Option 2 ID : **4410097633**
Option 3 ID : **4410097635**
Option 4 ID : **4410097634**
Status : **Answered**
Chosen Option : **3**

Q.51 The glass transition temperature (Tg) of a polymer refers to:

Ans ✔ 1. the temperature at which it transitions from glassy to rubbery state

✘ 2. the temperature at which it starts to burn

✘ 3. the temperature at which it becomes crystalline

✘ 4. the temperature at which it melts

Question ID : **4410091259**
Option 1 ID : **4410095030**
Option 2 ID : **4410095029**
Option 3 ID : **4410095031**
Option 4 ID : **4410095032**
Status : **Not Answered**
Chosen Option : **--**

Q.52 The wages of a welder fabricating a structure is an example of a/an _____.

Ans ✔ 1. direct cost

✘ 2. amplified cost

✘ 3. calculated cost

✘ 4. indirect cost

Question ID : **4410091087**
Option 1 ID : **4410094342**
Option 2 ID : **4410094341**
Option 3 ID : **4410094344**
Option 4 ID : **4410094343**
Status : **Not Answered**
Chosen Option : **--**

Q.53 The load in a hydraulic dynamometer is controlled by ____.

Ans ✘ 1. varying the electrical resistance

✘ 2. increasing the brake pedal force

✔ 3. adjusting the quantity of working fluid

✘ 4. changing the air pressure

Question ID : **44100913695**
Option 1 ID : **44100954601**
Option 2 ID : **44100954604**
Option 3 ID : **44100954602**
Option 4 ID : **44100954603**
Status : **Answered**
Chosen Option : **3**

Q.54 Which characteristic of Mixed Model Line Balancing allows flexibility in adjusting the output of different products?

Ans ✗ 1. The production line must be stopped and reconfigured every time the product demand changes.

✗ 2. Only identical products can be produced on the same assembly line.

✔ 3. Products must have similar tasks and processing requirements to ensure smooth workflow.

✗ 4. Each product should have entirely different operations to maximise variety.

Question ID : **4410099167**
Option 1 ID : **44100936421**
Option 2 ID : **44100936422**
Option 3 ID : **44100936419**
Option 4 ID : **44100936420**
Status : **Not Answered**
Chosen Option : **--**

Q.55 A company produces a product with the following cost structure:
Fixed Costs = $500,000
Variable Cost per Unit = $25
Selling Price per Unit = $50
If the company wants to achieve a profit of $200,000, how many units must be sold?

Ans ✔ 1. 28,000 units

✗ 2. 35,000 units

✗ 3. 20,000 units

✗ 4. 14,000 units

Question ID : **4410099181**
Option 1 ID : **44100936476**
Option 2 ID : **44100936478**
Option 3 ID : **44100936477**
Option 4 ID : **44100936475**
Status : **Not Answered**
Chosen Option : **--**

Q.56 How does the COP of a refrigeration system change with an increase in evaporator temperature?

Ans ✔ 1. COP increases

✗ 2. COP becomes zero

✗ 3. COP decreases

✗ 4. COP remains constant

Question ID : **44100941249**
Option 1 ID : **441009164432**
Option 2 ID : **441009164435**
Option 3 ID : **441009164433**
Option 4 ID : **441009164434**
Status : **Answered**
Chosen Option : **1**

Q.57 Which of the following units is used for specific gravity?

Ans ✔ 1. No units

✗ 2. kg/m³

✗ 3. g/cm³

✗ 4. m³/kg

Question ID : **4410092976**
Option 1 ID : **44100911939**
Option 2 ID : **44100911936**
Option 3 ID : **44100911937**
Option 4 ID : **44100911938**
Status : **Answered**
Chosen Option : **1**

Q.58 Which of the following best describes the motion of the follower in a typical radial cam mechanism?

Ans ✔ 1. Reciprocating or oscillating motion perpendicular to cam rotation

✗ 2. Circular motion

✗ 3. Translational motion along the cam axis

✗ 4. Rotational motion synchronised with the cam

Question ID : **4410093485**
Option 1 ID : **44100913949**
Option 2 ID : **44100913947**
Option 3 ID : **44100913948**
Option 4 ID : **44100913950**
Status : **Answered**
Chosen Option : **1**

Q.59 What is the function of the WBLOCK command in AutoCAD?

Ans ✗ 1. To change the colour of a block

✔ 2. To write a block to an external file

✗ 3. To delete a block from the library

✗ 4. To create wireframe models

Question ID : **4410092553**
Option 1 ID : **44100910258**
Option 2 ID : **44100910257**
Option 3 ID : **44100910259**
Option 4 ID : **44100910256**
Status : **Not Answered**
Chosen Option : **--**

Q.60 A self-energising brake is one in which ____.

Ans ✗ 1. the brake operates without friction

✗ 2. no external force is needed

✗ 3. an external force is required to apply the brake

✓ 4. the friction force helps in applying the braking force

Question ID : **44100913675**
Option 1 ID : **44100954523**
Option 2 ID : **44100954524**
Option 3 ID : **44100954522**
Option 4 ID : **44100954521**
Status : **Answered**
Chosen Option : **2**

Q.61 Which of the following is a key characteristic of an open cycle gas turbine?

Ans ✗ 1. Uses a heat exchanger to reuse heat

✗ 2. The working fluid is continuously recirculated

✓ 3. The working fluid is exhausted to the atmosphere

✗ 4. Operates only in a vacuum

Question ID : **44100941290**
Option 1 ID : **441009164630**
Option 2 ID : **441009164628**
Option 3 ID : **441009164629**
Option 4 ID : **441009164631**
Status : **Answered**
Chosen Option : **3**

Q.62 For a simply supported beam subjected to a uniformly distributed load (UDL) of intensity w (force per unit length) over its entire length L, what is the reaction force at each support?

Ans ✗ 1. (wL)/4.

✗ 2. (wL)/8.

✗ 3. wL.

✓ 4. (wL)/2.

Question ID : **44100942025**
Option 1 ID : **441009167630**
Option 2 ID : **441009167631**
Option 3 ID : **441009167629**
Option 4 ID : **441009167628**
Status : **Answered**
Chosen Option : **4**

Q.63 When a bolted joint is subjected to eccentric loading, which stress is primarily induced in the bolt in addition to shear stress?

Ans ✅ 1. Bending stress

❌ 2. Torsional stress

❌ 3. Impact stress

❌ 4. Bearing stress

Question ID : **4410098210**
Option 1 ID : **44100932552**
Option 2 ID : **44100932553**
Option 3 ID : **44100932555**
Option 4 ID : **44100932554**
Status : **Answered**
Chosen Option : **1**

Q.64 Two-stroke engines in comparison to four-stroke engines have:

Ans ❌ 1. better power output and low mechanical simplicity

✅ 2. better power output and greater mechanical simplicity

❌ 3. low power output and greater mechanical simplicity

❌ 4. low power output and low mechanical simplicity

Question ID : **4410091913**
Option 1 ID : **4410097639**
Option 2 ID : **4410097637**
Option 3 ID : **4410097640**
Option 4 ID : **4410097638**
Status : **Answered**
Chosen Option : **2**

Q.65 In an eddy current dynamometer, eddy currents are produced in the _____.

Ans ✅ 1. rotating disc

❌ 2. cooling fins

❌ 3. bearings

❌ 4. stator coils

Question ID : **44100913746**
Option 1 ID : **44100954802**
Option 2 ID : **44100954803**
Option 3 ID : **44100954804**
Option 4 ID : **44100954801**
Status : **Answered**
Chosen Option : **4**

Q.66 An Ideal fluid is one which has:

Ans ✅ 1. no resistance to shear stress

❌ 2. no velocity gradient

❌ 3. quadratic relation between shear stress and velocity gradient

❌ 4. linear behaviour between shear stress and velocity gradient

Question ID : **4410091387**
Option 1 ID : **4410095544**
Option 2 ID : **4410095543**
Option 3 ID : **4410095542**
Option 4 ID : **4410095541**
Status : **Answered**
Chosen Option : **1**

Q.67 Which of the following operations CANNOT be included between CNC machining centres?

Ans ❌ 1. Drilling

❌ 2. Tapping

✅ 3. Welding

❌ 4. Milling

Question ID : **4410094917**
Option 1 ID : **44100919495**
Option 2 ID : **44100919497**
Option 3 ID : **44100919496**
Option 4 ID : **44100919494**
Status : **Answered**
Chosen Option : **3**

Q.68 Which process is used to increase the strength of aluminum alloys through controlled heating and cooling?

Ans ✅ 1. Precipitation hardening

❌ 2. Quenching

❌ 3. Normalising

❌ 4. Annealing

Question ID : **4410092965**
Option 1 ID : **44100911892**
Option 2 ID : **44100911895**
Option 3 ID : **44100911893**
Option 4 ID : **44100911894**
Status : **Answered**
Chosen Option : **2**

Q.69 In oxyacetylene gas welding, the temperature at the inner cone of neutral flame is around:

Ans ✅ 1. 3200°C

❌ 2. 2600°C

❌ 3. 2300°C

❌ 4. 4000°C

Question ID : **4410094889**
Option 1 ID : **44100919391**
Option 2 ID : **44100919392**
Option 3 ID : **44100919393**
Option 4 ID : **44100919390**
Status : **Answered**
Chosen Option : **1**

Q.70 In order to move the cross slide, the feed screw is turned by rotating the:

Ans ❌ 1. setover screw

❌ 2. barrel

❌ 3. square threaded screw

✅ 4. handwheel

Question ID : **4410092167**
Option 1 ID : **4410098607**
Option 2 ID : **4410098605**
Option 3 ID : **4410098608**
Option 4 ID : **4410098606**
Status : **Answered**
Chosen Option : **4**

Q.71 The symbol used to represent 'Inspection' in a flow process chart used in a work study is given by (a/an):

Ans ✅ 1. square

❌ 2. arrow

❌ 3. Dee

❌ 4. triangle

Question ID : **441009875**
Option 1 ID : **4410093488**
Option 2 ID : **4410093487**
Option 3 ID : **4410093490**
Option 4 ID : **4410093489**
Status : **Answered**
Chosen Option : **1**

Q.72 If a tire gauge reads 35 psi, what is the absolute pressure inside the tire, assuming atmospheric pressure is 14.7 psi?

Ans ✗ 1. 14.7 psi

✗ 2. 20.3 psi

✗ 3. 35 psi

✓ 4. 49.7 psi

Question ID : **4410093179**
Option 1 ID : **44100912731**
Option 2 ID : **44100912732**
Option 3 ID : **44100912733**
Option 4 ID : **44100912734**
Status : **Answered**
Chosen Option : **3**

Q.73 What is the function of coolant in a drilling operation?

Ans ✗ 1. To remove burrs from the hole

✓ 2. To reduce heat and improve tool life

✗ 3. To increase spindle speed

✗ 4. To clean the machine table

Question ID : **4410091356**
Option 1 ID : **4410095417**
Option 2 ID : **4410095419**
Option 3 ID : **4410095418**
Option 4 ID : **4410095420**
Status : **Answered**
Chosen Option : **2**

Q.74 According to the ASHRAE numbering system, which of the following correctly represents the refrigerant R-134a?

Ans ✗ 1. 1 Carbon, 2 Hydrogen, 3 Fluorine, 1 Chlorine atom

✗ 2. 1 Carbon, 4 Hydrogen, 2 Fluorine atoms

✓ 3. 2 Carbon, 2 Hydrogen, 4 Fluorine atoms

✗ 4. 1 Carbon, 3 Hydrogen, 4 Fluorine atoms

Question ID : **44100941239**
Option 1 ID : **441009164393**
Option 2 ID : **441009164395**
Option 3 ID : **441009164394**
Option 4 ID : **441009164392**
Status : **Answered**
Chosen Option : **3**

Q.75 Why is it important to apply uniform pressure while mounting a strain gauge?

Ans ✗ 1. To improve the flexibility of the gauge

✓ 2. To avoid air gaps and ensure proper adhesion

✗ 3. To increase the resistance of the strain gauge

✗ 4. To prevent the gauge from overheating

Question ID : **44100943253**
Option 1 ID : **441009172473**
Option 2 ID : **441009172471**
Option 3 ID : **441009172472**
Option 4 ID : **441009172474**
Status : **Answered**
Chosen Option : **2**

Q.76 The atoms in a simple cubic unit cell touch along:

Ans ✗ 1. the body diagonal

✗ 2. the corner

✓ 3. the edge

✗ 4. the face diagonal

Question ID : **4410092576**
Option 1 ID : **44100910348**
Option 2 ID : **44100910351**
Option 3 ID : **44100910350**
Option 4 ID : **44100910349**
Status : **Answered**
Chosen Option : **3**

Q.77 In a transverse fillet weld subjected to a tensile force, the primary mode of stress in the weld throat is:

Ans ✗ 1. bending stress

✓ 2. tensile stress

✗ 3. compressive stress

✗ 4. shear stress

Question ID : **4410098458**
Option 1 ID : **44100933567**
Option 2 ID : **44100933564**
Option 3 ID : **44100933565**
Option 4 ID : **44100933566**
Status : **Answered**
Chosen Option : **2**

Q.78 Which material is commonly used for strain gauge sensing elements?

Ans ✗ 1. Aluminium

✗ 2. Silver

✗ 3. Copper

✓ 4. Constantan

Question ID : **44100943232**
Option 1 ID : **441009172389**
Option 2 ID : **441009172390**
Option 3 ID : **441009172387**
Option 4 ID : **441009172388**
Status : **Answered**
Chosen Option : **4**

Q.79 Which of the following factors does NOT affect surface tension?

Ans ✗ 1. Presence of surfactants

✓ 2. Surface area of the liquid

✗ 3. Nature of the liquid

✗ 4. Temperature

Question ID : **4410092979**
Option 1 ID : **44100911949**
Option 2 ID : **44100911948**
Option 3 ID : **44100911950**
Option 4 ID : **44100911951**
Status : **Answered**
Chosen Option : **2**

Q.80 If the properties such as velocity, pressure etc. change at a point with respect to time, the flow is called _____ flow.

Ans ✗ 1. steady

✗ 2. uniform

✓ 3. unsteady

✗ 4. non-uniform

Question ID : **4410091138**
Option 1 ID : **4410094547**
Option 2 ID : **4410094545**
Option 3 ID : **4410094548**
Option 4 ID : **4410094546**
Status : **Answered**
Chosen Option : **3**

Q.81 What is gear backlash?

Ans ✗ 1. The hardness of the gear material

✓ 2. The clearance or play between meshing gear teeth

✗ 3. The total runout of a gear during rotation

✗ 4. The thickness of a single gear tooth

Question ID : **44100943700**
Option 1 ID : **441009174250**
Option 2 ID : **441009174247**
Option 3 ID : **441009174248**
Option 4 ID : **441009174249**
Status : **Answered**
Chosen Option : **2**

Q.82 A CAD object is rotated by 30° about the Z-axis. If the initial coordinates of a point are (4, 0), what will be the new coordinates after the rotation?

Ans ✓ 1. (3.46, 2)

✗ 2. (4, 2)

✗ 3. (4, 1)

✗ 4. (0, 4)

Question ID : **4410091386**
Option 1 ID : **4410095540**
Option 2 ID : **4410095537**
Option 3 ID : **4410095538**
Option 4 ID : **4410095539**
Status : **Not Attempted and Marked For Review**
Chosen Option : **--**

Q.83 Slip and creep are related to the operation of:

Ans ✗ 1. gear drive systems

✓ 2. all types of belt drive systems

✗ 3. V-belt drive systems only

✗ 4. flat belt drive systems only

Question ID : **4410093635**
Option 1 ID : **44100914537**
Option 2 ID : **44100914538**
Option 3 ID : **44100914535**
Option 4 ID : **44100914536**
Status : **Answered**
Chosen Option : **4**

Q.84 In a combined cycle power plant, which of the following is used to generate additional power after the gas turbine?

Ans   ✗ 1. Nuclear reactor

    ✓ 2. Steam turbine

    ✗ 3. Wind turbine

    ✗ 4. Hydraulic turbine

Question ID : **4410091184**
Option 1 ID : **4410094732**
Option 2 ID : **4410094730**
Option 3 ID : **4410094731**
Option 4 ID : **4410094729**
Status : **Not Answered**
Chosen Option : **--**

Q.85 Which of the following factors does NOT affect fluid pressure?

Ans   ✓ 1. Area of the surface

    ✗ 2. Depth of the fluid

    ✗ 3. Density of the fluid

    ✗ 4. Gravitational acceleration

Question ID : **4410092980**
Option 1 ID : **44100911954**
Option 2 ID : **44100911952**
Option 3 ID : **44100911953**
Option 4 ID : **44100911955**
Status : **Answered**
Chosen Option : **1**