



GOVT. OF NCT OF DELHI
Delhi Subordinate Services Selection Board
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Participant ID	
Participant Name	
Test Center Name	Aadarsh Pariksha Kendra CENTER B - Gate No 2 - Noida Sector 64
Test Date	26/09/2025
Test Time	9:00 AM - 12:00 PM
Subject	PGT Physics

Section : Mental Ability and Reasoning Ability

Q	What should come in place of the question mark (?) in the given series?
1	29, 32, 37, 44, 53, ?
A	☒ 1. 62
n	☒ 2. 65
s	☒ 3. 64
	☒ 4. 63

Question ID : 441009590865
Option 1 ID : 4410092318575
Option 2 ID : 4410092318576
Option 3 ID : 4410092318573
Option 4 ID : 4410092318574

Q	What will come in the place of the question mark (?) in the following equation, if '+' and '-' are interchanged and 'x' and '÷' are interchanged?
2	$7 \div 5 + 18 \times 6 - 21 = ? + 4$
A	☒ 1. 53
n	☒ 2. 61
s	☒ 3. 57
	☒ 4. 65

Question ID : 441009526663
Option 1 ID : 4410092062056
Option 2 ID : 4410092062058
Option 3 ID : 4410092062057
Option 4 ID : 4410092062059



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Q 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?
3 (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

A ☒ 1. LP - MQ

n
s

☒ 2. IM - JO

☒ 3. SW - TX

☒ 4. GK - HL

Question ID : 441009763116

Option 1 ID : 4410093006458

Option 2 ID : 4410093006460

Option 3 ID : 4410093006459

Option 4 ID : 4410093006457

Q This question consists of a statement followed by two arguments I and II. Read the statement and the arguments carefully and select the most appropriate answer from the given options.
4

Statement:

All schools should implement mandatory physical education classes to improve students' overall health and fitness.

Arguments:

I. Academic curriculum should prioritise subjects like mathematics and science over physical education.

II. Physical education classes help reduce the risk of childhood obesity and promote healthy habits.

A ☒ 1. II weakens while I strengthens the statement.

n
s

☒ 2. Both I and II weaken the statement.

☒ 3. Both I and II strengthen the statement.

☒ 4. I weakens while II strengthens the statement.

Question ID : 441009477554

Option 1 ID : 4410091865622

Option 2 ID : 4410091865623

Option 3 ID : 4410091865624

Option 4 ID : 4410091865621

Q Each of U, V, W, X, P, Q, and R has an exam on a different day of a week, starting from Monday and ending on Sunday of the same week.

5 Only three people have exam between W and U. U has exam on the last day of the week. Only one person has exam between Q and P. V has exam immediately the day before R. X doesn't have exam on Friday. How many people have exam after X?

A ☒ 1. Six

n
s

☒ 2. Five

☒ 3. One

☒ 4. Three

Question ID : 441009763882

Option 1 ID : 4410093009524

Option 2 ID : 4410093009523

Option 3 ID : 4410093009521

Option 4 ID : 4410093009522



Q Below are given two sets of numbers. In each set of numbers, certain mathematical operation(s) on the first number results in the second number. Similarly, certain mathematical operation(s) on the second number results in the third number and so on. Which of the given options follows the same set of operations as in the given 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.)

4 – 8 – 16 – 21 ; 3 – 6 – 12 – 17

- A

n

s

✓ 1. 6 – 12 – 24 – 29
- ✗ 2. 1 – 2 – 4 – 14
- ✗ 3. 2 – 4 – 8 – 12
- ✗ 4. 5 – 10 – 30 – 35

Question ID :	441009527551
Option 1 ID :	4410092065610
Option 2 ID :	4410092065608
Option 3 ID :	4410092065609
Option 4 ID :	4410092065611

Q This question is based on the five, three-digit numbers given below.
(Left) 771 911 138 123 834 (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 third digit of the highest number is added to the first digit of the lowest number?

- A

n

s

✓ 1. 2
- ✗ 2. 3
- ✗ 3. 5
- ✗ 4. 6

Question ID :	441009763785
Option 1 ID :	4410093009134
Option 2 ID :	4410093009135
Option 3 ID :	4410093009136
Option 4 ID :	4410093009133



Q Which of the given 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 :: ?

8

: TRP :: FDB : %

A ☒ 1. # = RRP , % = HFD

n

s

☒ 2. # = RPM , % = GEC

☒ 3. # = RPN , % = HFD

☒ 4. # = RPN , % = HEE

Question ID : 441009758883

Option 1 ID : 4410092989527

Option 2 ID : 4410092989528

Option 3 ID : 4410092989525

Option 4 ID : 4410092989526

Q Dhruv starts from point A and drives 8 km towards the West. He then takes a left turn and drives 6 km. He takes a final left turn and drives 3 km and stops at point B. Jamil starts from point P, which is 9 km to the east of Point A, and drives 7 km towards the East. He then takes a right turn and drives 6 km. He takes a final left turn and drives 11 km and stops at Point Q. What is the shortest distance between Point Q and Point B? (All turns are 90 degree turns only, unless specified.)

A ☒ 1. 31 km

n

s

☒ 2. 32 km

☒ 3. 33 km

☒ 4. 30 km

Question ID : 441009761340

Option 1 ID : 4410092999354

Option 2 ID : 4410092999355

Option 3 ID : 4410092999356

Option 4 ID : 4410092999353

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

1

0 KIL 17 IGJ 22 GEH 27 ECF 32 ?

A ☒ 1. CBC 37

n

s

☒ 2. CAD 37

☒ 3. CZC 36

☒ 4. CHN 36

Question ID : 441009809416

Option 1 ID : 4410093191788

Option 2 ID : 4410093191787

Option 3 ID : 4410093191789

Option 4 ID : 4410093191790



Q

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?

1

14 D 2 A 56 B 26 C 13 = ?

A

1. 82

n

2. 102

s

3. 47

4. 107

Question ID :

441009527313

Option 1 ID :

4410092064658

Option 2 ID :

4410092064656

Option 3 ID :

4410092064659

Option 4 ID :

4410092064657

Q

This question is based on the following words.

1

(Left) FLY NOD FIG FOX (Right)

2

How many letters are there between the first letter of the second word from the right and the second letter of the first word from the left, in the English alphabetical order?

A

1. 12

n

2. 5

s

3. 18

4. 9

Question ID :

441009757185

Option 1 ID :

4410092982735

Option 2 ID :

4410092982733

Option 3 ID :

4410092982736

Option 4 ID :

4410092982734

Q

In the following series, only one letter-cluster is incorrect. Select the INCORRECT letter-cluster.

1

UDK VFJ WHI XJH YLG LYH880

3

A

1. WHI

n

2. XJH

s

3. YLG

4. LYH

Question ID :

441009804305

Option 1 ID :

4410093171343

Option 2 ID :

4410093171344

Option 3 ID :

4410093171345

Option 4 ID :

4410093171346

Q Eight people are sitting in two parallel rows containing 4 people each, in such a way that there is equal distance between adjacent persons.

- 1 In row 1 – H, A, R and D are seated and all of them are facing south.
4 In row 2 – K, L, M and N are seated and all of them are facing north.
Thus, each person faces another person from the other row.

Only R sits to the left of H. Only N sits to the left of K. Only one person sits between K and M. Only one person sits between R and D. Which of the following represents both people facing each other?

A ☒ 1. H and N

☒ 2. A and L

☒ 3. R and M

☒ 4. D and M

Question ID : 441009760672

Option 1 ID : 4410092996682

Option 2 ID : 4410092996681

Option 3 ID : 4410092996684

Option 4 ID : 4410092996683

Q Each of P, Q, R, S, T, U, and V has an exam on a different day of a week, starting from Monday and ending on Sunday of the same week.

- 1 U has an exam on Friday. Only two people have an exam between U and R. Q has an exam immediately before V and S has an exam immediately after T. Only two people have an exam between P and V.
How many people have an exam between P and T?

A ☒ 1. 2

☒ 2. 4

☒ 3. 3

☒ 4. 1

Question ID : 441009814076

Option 1 ID : 4410093210428

Option 2 ID : 4410093210430

Option 3 ID : 4410093210429

Option 4 ID : 4410093210427

Q In a certain code language,
'took some hits' is coded as 'zo iq qy',
1 'took all place' is coded as 'ca xn zo', and
6 'some place there' is coded as 'iq rk xn'.
(All the codes are two-letter codes only.)

What is the code for 'hits all'?

A ☒ 1. ca zo

☒ 2. ca qy

☒ 3. iq xn

☒ 4. qy rk

Question ID : 441009766018

Option 1 ID : 4410093018068

Option 2 ID : 4410093018066

Option 3 ID : 4410093018067

Option 4 ID : 4410093018065



Q

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.)

(13, 4, 15)

(18, 9, 25)

A

☒ 1. (17, 26, 59)

☒ 2. (20, 11, 15)

☒ 3. (15 , 6, 19)

☒ 4. (12, 3, 15)

Question ID :	441009526855
Option 1 ID :	4410092062825
Option 2 ID :	4410092062826
Option 3 ID :	4410092062827
Option 4 ID :	4410092062824

Q

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 crows are lamps.

All crows are peacocks.

All onions are peacocks.

Conclusions:

(I) All onions are lamps.

(II) Some peacocks are lamps.

A

☒ 1. Both conclusions (I) and (II) follow

☒ 2. Only conclusion (II) follows

☒ 3. Only conclusion (I) follows

☒ 4. Neither conclusion (I) nor (II) follows

Question ID :	441009767409
Option 1 ID :	4410093023632
Option 2 ID :	4410093023630
Option 3 ID :	4410093023629
Option 4 ID :	4410093023631

Q

In a certain code language,
A ÷ B means 'A is the father of B',
A × B means 'A is the wife of B',
A + B means 'A is the brother of B', and
A = B means 'A is the daughter of B'.

Based on the above, which of the following means that K is the brother's wife of S?⁶⁶⁴⁴

A
n
s

✗ 1. K × I = L ÷ O + S

✓ 2. K × I + L = O ÷ S

✗ 3. K × I = L + O ÷ S

✗ 4. K × I ÷ L + O = S

Question ID :	441009760854
Option 1 ID :	4410092997410
Option 2 ID :	4410092997412
Option 3 ID :	4410092997411
Option 4 ID :	4410092997409

Q

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?
2 (Note: The odd one out is not based on the number of consonants/vowels or their position in the letter-cluster.)

A
n
s

✓ 1. GI - KO

✗ 2. LN - JL

✗ 3. HJ - FH

✗ 4. NP - LN

Question ID :	441009768750
Option 1 ID :	4410093028993
Option 2 ID :	4410093028994
Option 3 ID :	4410093028996
Option 4 ID :	4410093028995

Section : General Awareness

Q

In 2025, which of the following institutes collaborated to launch personalised and real-time climate advisory services for farmers by leveraging Artificial Intelligence (AI) and Machine Learning (ML)?

1

A

✖

1. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and G. B. Pant University of Agriculture and Technology

✖

2. The International Livestock Research Institute (ILRI) and the Center of Excellence in AI for Agriculture (IIT Ropar)

✖

3. The Indian Institute of Tropical Meteorology (IITM) and India Meteorological Department (IMD)

✔

4. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) and the Indian Council of Agricultural Research (ICAR)

Question ID :	4410091182336
Option 1 ID :	4410094663441
Option 2 ID :	4410094663444
Option 3 ID :	4410094663442
Option 4 ID :	4410094663443

Q

Which of the following law states that 'two systems in thermal equilibrium with a third system separately are in thermal equilibrium with each other'?

2

A

✖

1. The first law of thermodynamics

✖

2. Fourier's law

✖

3. Joule's First law

✔

4. The zeroth law of thermodynamics

Question ID :	441009509740
Option 1 ID :	4410091994119
Option 2 ID :	4410091994121
Option 3 ID :	4410091994120
Option 4 ID :	4410091994118

Q

Who won the 2025 United Nations Population Award for her work in promoting gender equality and preventing sex-selective abortions?

3

A

✔

1. Varsha Deshpande

✖

2. Mira Kulkarni

✖

3. Kiran Bedi

✖

4. Aruna Roy

Question ID :	4410091186895
Option 1 ID :	4410094681722
Option 2 ID :	4410094681724
Option 3 ID :	4410094681723
Option 4 ID :	4410094681725



Q	Which of the following term defines an association between national security and the availability of natural resources for energy consumption?	
4		
A	✓ 1. Energy Security	
n		
s		
	✗ 2. Forest Security	
	✗ 3. Foreign Security	
	✗ 4. Mineral Security	
Question ID : 441009639251 Option 1 ID : 4410092511147 Option 2 ID : 4410092511149 Option 3 ID : 4410092511150 Option 4 ID : 4410092511148		
Q	In which of the following years was the Family Courts Act introduced in India to promote conciliation in family and marriage-related disputes?	
5		
A	✓ 1. 1984	
n		
s		
	✗ 2. 1975	
	✗ 3. 1989	
	✗ 4. 1992	
Question ID : 441009502390 Option 1 ID : 4410091964731 Option 2 ID : 4410091964730 Option 3 ID : 4410091964732 Option 4 ID : 4410091964733		
Q	Which of the following cities is home to the famous Sun Temple, a UNESCO World Heritage Site?	
6		
A	✗ 1. Hampi	
n		
s		
	✗ 2. Jaipur	
	✗ 3. Agra	
	✓ 4. Konark	
Question ID : 441009632885 Option 1 ID : 4410092485686 Option 2 ID : 4410092485684 Option 3 ID : 4410092485685 Option 4 ID : 4410092485683		

Q

_____ means fixing the maximum size of land which could be owned by an individual, with the purpose of reducing the concentration of land ownership in a few hands.

7

A

✓ 1. Land ceiling

n

✗ 2. Unification of land

s

✗ 3. Land redistribution

✗ 4. Land consolidation

Question ID :	441009627256
Option 1 ID :	4410092463176
Option 2 ID :	4410092463178
Option 3 ID :	4410092463179
Option 4 ID :	4410092463177

Q

Who among the following foreign travellers of the Mughal period stated that both Agra and Fatehpur Sikri were bigger cities than London?

8

A

✓ 1. Ralph Fitch

n

✗ 2. Francisco Pelsaert

s

✗ 3. Anthony Monserrate

✗ 4. Francois Bernier

Question ID :	441009632191
Option 1 ID :	4410092482909
Option 2 ID :	4410092482910
Option 3 ID :	4410092482908
Option 4 ID :	4410092482907

Q

Which Article of the Indian Constitution states that 'this Constitution may be called the Constitution of India'?

9

A

✓ 1. Article 393

n

✗ 2. Article 441

s

✗ 3. Article 1

✗ 4. Article 1 B

Question ID :	441009502566
Option 1 ID :	4410091965435
Option 2 ID :	4410091965436
Option 3 ID :	4410091965434
Option 4 ID :	4410091965437

Q Which sector is the backbone of the Indian economy?

10

A ☒ 1. Agriculture

Ans

☒ 2. Services

☒ 3. Information Technology

☒ 4. Manufacturing

Question ID : 441009609918

Option 1 ID : 4410092394792

Option 2 ID : 4410092394791

Option 3 ID : 4410092394789

Option 4 ID : 4410092394790

Q Which is the largest (highest capacity) nuclear plant in India?

11

A ☒ 1. Muppandal

Ans

☒ 2. Mundra

☒ 3. Kudankulam

☒ 4. Vindhyachal

Question ID : 441009639157

Option 1 ID : 4410092510774

Option 2 ID : 4410092510773

Option 3 ID : 4410092510772

Option 4 ID : 4410092510771

Q Who moved the main resolution on non-cooperation in the annual session of the Congress in Nagpur in 1920?

12

A ☒ 1. C R Das

Ans

☒ 2. Subhash C Bose

☒ 3. Rajendra Prasad

☒ 4. Jawaharlal Nehru

Question ID : 441009631332

Option 1 ID : 4410092479471

Option 2 ID : 4410092479474

Option 3 ID : 4410092479473

Option 4 ID : 4410092479472



Q	Which country announced the closure of its consulate in Shenyang in December 2024?
.	
1	
3	
A	✓ 1. Australia
n	
s	
	✗ 2. The United Kingdom
	✗ 3. Canada
	✗ 4. The United States of America

Question ID :	441009630409
Option 1 ID :	4410092475785
Option 2 ID :	4410092475784
Option 3 ID :	4410092475786
Option 4 ID :	4410092475783

Q	In July 2025, which of the following states launched the Mukh Mantri Sehat Yojna to provide cashless medical treatment worth ₹10 lakh to the residents of the state?
.	
1	
4	
A	✗ 1. Assam
n	
s	
	✓ 2. Punjab
	✗ 3. Sikkim
	✗ 4. Chhattisgarh

Question ID :	4410091182096
Option 1 ID :	4410094662481
Option 2 ID :	4410094662483
Option 3 ID :	4410094662484
Option 4 ID :	4410094662482

Q	Which among the following is NOT a characteristic of peninsular rivers of India?
.	
1	
5	
A	✗ 1. Most of the major peninsular rivers except Narmada and Tapti flow from west to east.
n	
s	
	✗ 2. The Mahanadi rises near Sihawa in Raipur district of Chhattisgarh.
	✓ 3. Most of the major peninsular rivers except Narmada and Tapti flow from east to west.
	✗ 4. The Peninsular drainage system is older than the Himalayan.

Question ID :	4410091181938
Option 1 ID :	4410094661855
Option 2 ID :	4410094661856
Option 3 ID :	4410094661854
Option 4 ID :	4410094661853

Q Which of the following statements regarding jurisdiction of Subordinate Courts in India is INCORRECT?

- 1
6
- Answers
- ☒ 1. The district judge is the highest judicial authority in the district.
 - ☒ 2. There are three tiers of civil and criminal courts below the High Court.
 - ☒ 3. The district judge exercises both judicial and administrative powers.
 - ☒ 4. The organisational structure and jurisdiction of these courts are laid down by the Union Government and they are the same in every state.

Question ID :	441009502724
Option 1 ID :	4410091966068
Option 2 ID :	4410091966067
Option 3 ID :	4410091966069
Option 4 ID :	4410091966066

Q What is India's rank in the Environmental Performance Index (EPI) 2024, released by the Yale Center for Environmental Law and Policy?

- 1
7
- Answers
- ☒ 1. 156
 - ☒ 2. 166
 - ☒ 3. 176
 - ☒ 4. 146

Question ID :	441009629796
Option 1 ID :	4410092473333
Option 2 ID :	4410092473332
Option 3 ID :	4410092473331
Option 4 ID :	4410092473334

Q Which of the following statements related to Fundamental Rights as per the Constitution of India is/are correct?

- 1 Article 17 abolishes untouchability and forbids its practice in any form.
8 The concept of equality before law is taken from the British Constitution.
Article 15 prohibits discrimination against any citizen on grounds of religion, race, caste, sex, or place of birth.
- Answers
- ☒ 1. Only 1 and 2
 - ☒ 2. All 1, 2 and 3
 - ☒ 3. Only 3
 - ☒ 4. Only 2 and 3

Question ID :	441009635282
Option 1 ID :	4410092495275
Option 2 ID :	4410092495278
Option 3 ID :	4410092495277
Option 4 ID :	4410092495276



Q Which of the following acidic functional groups is present in picric acid?

19

A 1. hydroxyl (-OH)

Answers

2. carboxylic acid (-COOH)

3. phosphoric acid (-PO₄H₂)

4. sulfonic acid (-SO₃H)

Question ID : 441009624822

Option 1 ID : 4410092453420

Option 2 ID : 4410092453421

Option 3 ID : 4410092453422

Option 4 ID : 4410092453423

Q The Gandamak treaty was signed in 1879 between which of the following parties?

20

A 1. The British and Yaqub Khan

Answers

2. The British and Abdurrahman

3. The British and Sher Ali

4. The British and Habbullah

Question ID : 441009632353

Option 1 ID : 4410092483556

Option 2 ID : 4410092483558

Option 3 ID : 4410092483557

Option 4 ID : 4410092483555

Section : Numerical Aptitude and Data Interpretation



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Q 1	Simplify: $\frac{1}{\frac{7}{8} + \frac{4}{6}} \div \frac{9}{19}$
A n s	☒ 1. $\frac{141}{101}$
	☒ 2. $\frac{152}{101}$
	☒ 3. $\frac{152}{111}$
	☒ 4. $\frac{141}{111}$

Question ID :	441009622582
Option 1 ID :	4410092444462
Option 2 ID :	4410092444461
Option 3 ID :	4410092444460
Option 4 ID :	4410092444463

Q 2	A can complete a piece of work in 25 days and B can complete the same work in 15 days. If they work on alternate days, starting with B on the first day, then in how many days will the work be finished?
A n s	☒ 1. $18\frac{3}{5}$
	☒ 2. $19\frac{3}{5}$
	☒ 3. 18
	☒ 4. 19

Question ID :	441009623629
Option 1 ID :	4410092448648
Option 2 ID :	4410092448649
Option 3 ID :	4410092448651
Option 4 ID :	4410092448650



Q	The number of non-square numbers between 285^2 and 286^2 is:	1651
.		
3		
A	☒ 1. 561	
n		
s	☒ 2. 570	
	☒ 3. 562	
	☒ 4. 569	

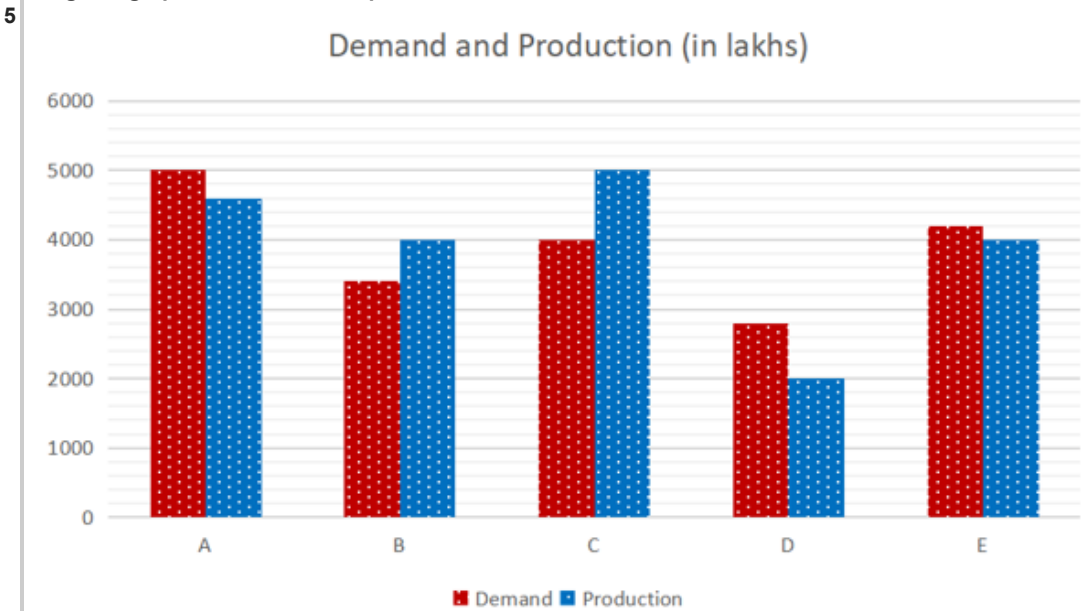
Question ID :	441009539978
Option 1 ID :	4410092115309
Option 2 ID :	4410092115308
Option 3 ID :	4410092115310
Option 4 ID :	4410092115311

Q	Two engines of trains that are 50 km apart start towards each other at speeds of 41 km/hr and 19 km/hr . respectively. After how much time will they meet each other? (Assume the length of the engine is 4 negligible)	3589
A	☒ 1. 55 minutes	
n	☒ 2. 49 minutes	
s	☒ 3. 46 minutes	
	☒ 4. 50 minutes	

Question ID :	441009896902
Option 1 ID :	4410093541679
Option 2 ID :	4410093541680
Option 3 ID :	4410093541681
Option 4 ID :	4410093541678



Q The following graph represents the demand and production of certain products for five companies. Study the given graph and answer the question that follows.



Find the ratio of companies with more demand than production to those with more production than demand.

- A n s
- ☒ 1. 2 : 5
 - ☒ 2. 5 : 2
 - ☒ 3. 3 : 2
 - ☒ 4. 2 : 3

Question ID :	441009623399
Option 1 ID :	4410092447729
Option 2 ID :	4410092447730
Option 3 ID :	4410092447731
Option 4 ID :	4410092447728

Q One-third of a journey is covered at a speed of 73 km/hr, the next one-third of the journey is covered at a speed of 37 km/hr, and the remaining journey is covered at a speed of 8 km/hr. The average speed (in km/hr, rounded off to 1 decimal place) for the entire journey is:

- A n s
- ☒ 1. 20.2
 - ☒ 2. 18.1
 - ☒ 3. 19.6
 - ☒ 4. 16.2

Question ID :	441009541452
Option 1 ID :	4410092121207
Option 2 ID :	4410092121204
Option 3 ID :	4410092121206
Option 4 ID :	4410092121205

Q The average of the marks of 18 students in a class is 36. If the marks of each student are doubled, find the new average.

7

A ☒ 1. 72

n

s ☐ 2. 39

☐ 3. 18

☐ 4. 36

Question ID : 441009581618

Option 1 ID : 4410092281598

Option 2 ID : 4410092281599

Option 3 ID : 4410092281600

Option 4 ID : 4410092281601

Q During a sale, Raghav bought a notebook marked for ₹25 at 24% discount and a pen marked for ₹100 at 85% discount. How much (in ₹) did he save due to this sale?

8

A ☐ 1. 92

n

s ☒ 2. 91

☐ 3. 89

☐ 4. 88

Question ID : 441009545045

Option 1 ID : 4410092135578

Option 2 ID : 4410092135576

Option 3 ID : 4410092135577

Option 4 ID : 4410092135579

Q Virat invested ₹39,375 at 16% p.a. for 1 year at compound interest, compounded half-yearly. The amount received by him is:2338

9

A ☐ 1. ₹46,133

n

s ☐ 2. ₹45,031

☒ 3. ₹45,927

☐ 4. ₹46,883

Question ID : 441009540665

Option 1 ID : 4410092118059

Option 2 ID : 4410092118057

Option 3 ID : 4410092118056

Option 4 ID : 4410092118058



Q A shopkeeper allows a discount of 40% on his articles and still makes a profit of 20%. What would be the cost price for the shopkeeper, for an article whose marked price is ₹9,600?

10

A ☒ 1. ₹5,000

n

☒ 2. ₹4,800

☒ 3. ₹5,600

☒ 4. ₹4,600

Question ID : 441009542281

Option 1 ID : 4410092124522

Option 2 ID : 4410092124521

Option 3 ID : 4410092124520

Option 4 ID : 4410092124523

Q If A's salary is 73% more than B's salary, then by what percentage is B's salary less than A's salary (rounded off to two decimal places)?

11

A ☒ 1. 46.08%

n

☒ 2. 42.20%

☒ 3. 41.26%

☒ 4. 45.32%

Question ID : 441009544766

Option 1 ID : 4410092134462

Option 2 ID : 4410092134460

Option 3 ID : 4410092134463

Option 4 ID : 4410092134461

Q Namit's average earning per month in the first three months of a year was ₹74,808. In April, his earning was 50% more than the average earning in the first three months. If his average earning per month for the whole year is ₹90,191, then what will be Namit's average earning (in ₹) per month from May to December?

12

A ☒ 1. 93,204

n

☒ 2. 93,202

☒ 3. 93,207

☒ 4. 93,209

Question ID : 441009545748

Option 1 ID : 4410092138389

Option 2 ID : 4410092138391

Option 3 ID : 4410092138388

Option 4 ID : 4410092138390



Q Akshay purchased 10 kg of rice at the rate of ₹38 per kg and 38 kg of rice at ₹45 per kg. He sold the whole mixture at the rate of ₹42.5 per kg. Find his loss (in ₹).

- 1
3
- A n s
- ☒ 1. 58
- ☒ 2. 45
- ☒ 3. 55
- ☒ 4. 50

Question ID : 441009573758

Option 1 ID : 4410092250155

Option 2 ID : 4410092250154

Option 3 ID : 4410092250153

Option 4 ID : 4410092250152

Q The volume (in m³) of a cube, each of whose edge is 26 m, is:

- 1
4
- A n s
- ☒ 1. 17717
- ☒ 2. 17668
- ☒ 3. 17576
- ☒ 4. 17631

Question ID : 441009593987

Option 1 ID : 4410092331067

Option 2 ID : 4410092331068

Option 3 ID : 4410092331065

Option 4 ID : 4410092331066

Q Kalpana and Sudha got 714 and 840 marks, respectively, in the same examination. If Kalpana scored 51% marks, then what is the percentage of marks scored by Sudha?

- 1
5
- A n s
- ☒ 1. 60%
- ☒ 2. 59%
- ☒ 3. 58%
- ☒ 4. 61%

Question ID : 441009544752

Option 1 ID : 4410092134404

Option 2 ID : 4410092134407

Option 3 ID : 4410092134406

Option 4 ID : 4410092134405



Q The ratio of the number of girls to the number of boys participating in sports events in a school is 1 : 5. If the number of girls is 261, determine the number of boys participating in these sports.

- 1
6
- A n s
- ✗ 1. 1335
- ✗ 2. 1325
- ✓ 3. 1305
- ✗ 4. 1280

Question ID : 441009542778

Option 1 ID : 4410092126511

Option 2 ID : 4410092126510

Option 3 ID : 4410092126508

Option 4 ID : 4410092126509

Q Two pipes can fill a tank in 39 hours and 42 hours, respectively. The time (in hours) required to fill the tank, when both pipes are opened simultaneously, is:

- 1
7
- A n s
- ✓ 1. $\frac{182}{9}$
- ✗ 2. $\frac{181}{12}$
- ✗ 3. $\frac{184}{11}$
- ✗ 4. $\frac{183}{10}$

Question ID : 441009623200

Option 1 ID : 4410092446932

Option 2 ID : 4410092446934

Option 3 ID : 4410092446935

Option 4 ID : 4410092446933

Q A started a business with a capital of ₹4,33,000. After 4 months, B joined him with a certain amount of capital. At the end of a year of A's starting the business, the profit was shared in the ratio 5 : 2. How much (in ₹) did B invest?3111

- 1
8
- A n s
- ✗ 1. 2,64,100
- ✗ 2. 2,59,300
- ✗ 3. 2,74,800
- ✓ 4. 2,59,800

Question ID : 441009541438

Option 1 ID : 4410092121151

Option 2 ID : 4410092121150

Option 3 ID : 4410092121149

Option 4 ID : 4410092121148



Q If the radius of the base of a right circular cylinder is decreased by 20% and its height is increased by 129%, then what is the percentage increase (rounded off to the nearest integer) in its volume?

- 1
9
- A n s
- ☐ 1. 36%
- ☐ 2. 53%
- ☒ 3. 47%
- ☐ 4. 77%

Question ID : 441009594481

Option 1 ID : 4410092333042

Option 2 ID : 4410092333044

Option 3 ID : 4410092333041

Option 4 ID : 4410092333043

Q On a certain sum, the simple interest for 12 years at 10% per annum is ₹450. Find the sum (in ₹).

- 2
0
- A n s
- ☐ 1. 372
- ☐ 2. 374
- ☒ 3. 375
- ☐ 4. 378

Question ID : 441009544309

Option 1 ID : 4410092132635

Option 2 ID : 4410092132634

Option 3 ID : 4410092132632

Option 4 ID : 4410092132633

Section : English Language and Comprehension

Q Select the most appropriate verb to fill in the blank.

1 The research team _____ a new approach to data analysis that could revolutionise the way large datasets are processed in the field of artificial intelligence.

- A n s
- ☐ 1. mitigated
- ☐ 2. contrived
- ☐ 3. neglected
- ☒ 4. initiated

Question ID : 441009499610

Option 1 ID : 4410091953655

Option 2 ID : 4410091953652

Option 3 ID : 4410091953654

Option 4 ID : 4410091953653



Q Select the most appropriate word that can substitute the underlined word in the given passage.

2 The philanthropist's munificence inspired others to give. She donated millions to charitable causes, changing countless lives. Her selflessness left a lasting legacy.7133

A ☒ 1. benevolence

n
s

☒ 2. frugality

☒ 3. parsimony

☒ 4. slowness

Question ID : 441009434789

Option 1 ID : 4410091698674

Option 2 ID : 4410091698676

Option 3 ID : 4410091698677

Option 4 ID : 4410091698675

Q Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

3

1. The importance of learning multiple languages cannot be overstated.
2. Research has shown that multilingualism enhances cognitive abilities.
3. Additionally, it opens doors to global opportunities and cultural exchange.
4. For these reasons, schools are increasingly emphasising language learning.

A ☒ 1. 1, 2, 3, 4

n
s

☒ 2. 1, 3, 2, 4

☒ 3. 1, 2, 4, 3

☒ 4. 2, 1, 4, 3

Question ID : 441009435909

Option 1 ID : 4410091703154

Option 2 ID : 4410091703157

Option 3 ID : 4410091703155

Option 4 ID : 4410091703156

Q Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph.

4

- A. Its empire was in decline, and the roles of men and women were starting to change.
- B. Britain was going through a time of change in the early twentieth century.
- C. This heroic image of Scott remained until a biography that destroyed the myth was published in the 1970s.
- D. Scott became a national hero who once again made Britain feel 'great'.

8224

A ☒ 1. ABCD

n
s

☒ 2. DABC

☒ 3. CDBA

☒ 4. BADC

Question ID : 441009435880

Option 1 ID : 4410091703039

Option 2 ID : 4410091703040

Option 3 ID : 4410091703041

Option 4 ID : 4410091703038



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

5 Ritika _____ Raju were colleagues for a long time.

A
n
s

✓ 1. and

✗ 2. but

✗ 3. yet

✗ 4. or

Question ID : 441009480634

Option 1 ID : 4410091877885

Option 2 ID : 4410091877887

Option 3 ID : 4410091877888

Option 4 ID : 4410091877886

Q Identify and rectify the INCORRECTLY spelt word in the given paragraph.

6 Although the athlete suffered a severe injury, her perseverance, mental strength, and structured rehabilitation plan helped her recover and return to competition with even greater tenacity and commitment.

A
n
s

✗ 1. perseverance

✗ 2. committment

✓ 3. rehabilitation

✗ 4. tenacity

Question ID : 441009929804

Option 1 ID : 4410093673171

Option 2 ID : 4410093673173

Option 3 ID : 4410093673170

Option 4 ID : 4410093673172

Q Select the most appropriate ANTONYM for the underlined word based on the context of the conversation.

7 A: His narrative is tedious—monotonous and painfully drawn out.
B: Even compelling ideas got lost in the delivery.

A
n
s

✗ 1. Credible

✓ 2. Engaging

✗ 3. Eloquent

✗ 4. Objective

Question ID : 441009933149

Option 1 ID : 4410093686372

Option 2 ID : 4410093686370

Option 3 ID : 4410093686369

Option 4 ID : 4410093686371



Q

Select the most appropriate idiom that can substitute the underlined segment in the given sentence.

.

8 The new employee felt very nervous and awkward on his first day.

A

✓

1. like a fish out of water

✗

2. like spilling the beans

✗

3. like hitting the sack

✗

4. like breaking the ice

Question ID :

441009408503

Option 1 ID :

4410091599405

Option 2 ID :

4410091599404

Option 3 ID :

4410091599402

Option 4 ID :

4410091599403

Q

Read the paragraph given below and identify the INCORRECTLY spelt word.

.

9 In an attempt to improve productivity, the company implemented several strategik changes, but their impact was far less significant than originally anticipated. While initial responses were optimistic, long-term performance metrics showed minimal improvement. Some employees even reported confusion and reduced morale due to the abrupt transition.

A

✓

1. strategik

✗

2. significant

✗

3. implemented

✗

4. productivity

Question ID :

441009929447

Option 1 ID :

4410093671745

Option 2 ID :

4410093671746

Option 3 ID :

4410093671744

Option 4 ID :

4410093671743

Q

Select the most appropriate preposition to fill in the blank.

.

1 The discussion will focus _____ the impact of climate change on coastal communities.

0

A

✓

1. on

✗

2. at

✗

3. in

✗

4. with

Question ID :

441009498476

Option 1 ID :

4410091949117

Option 2 ID :

4410091949118

Option 3 ID :

4410091949116

Option 4 ID :

4410091949119



Adda247 Telegram Channel



Adda247 Instagram

Q

Select the most appropriate option to substitute the underlined segment in the given sentence.

.

1 Her breathtaking performance left an unforgettable and lasting mark on everyone in attendance,

1 captivating the audience so completely that her exceptional talent would be cherished and remembered for many years to come, with the impact of her artistry resonating well beyond the evening and ensuring her legacy in their minds.

5297

A

ns

s

✖

1. infeasible

✔

2. indelible

✖

3. inedible

✖

4. indivisible

Question ID :	441009432953
Option 1 ID :	4410091691332
Option 2 ID :	4410091691331
Option 3 ID :	4410091691330
Option 4 ID :	4410091691333

Q

Replace the underlined segment in the paragraph with the correct idiom from the options given below.

.

1 The students were asked to work in a team, but they were apprehensive in the beginning. They were of

2 the view that individual scores would suffer, and the group leader would get the credit for the success. But soon they realised that through teamwork, they could learn from each other, grow stronger together, and that every difficult or unpleasant situation has some advantage. Though each one had to adjust with others in the team they could work by collaborating.

A

ns

s

✖

1. luck of the draw

✖

2. down on one's luck

✖

3. born under a bad sign

✔

4. every cloud has a silver lining

Question ID :	441009407831
Option 1 ID :	4410091596716
Option 2 ID :	4410091596717
Option 3 ID :	4410091596715
Option 4 ID :	4410091596714

Q

Select the most appropriate synonym for the underlined word based on the context of the conversation.

.

1 A: The methodology section was rigorous, adhering to every protocol.

3 B: That's why the findings are so well respected.

A

ns

s

✔

1. Meticulous

✖

2. Lax

✖

3. Intuitive

✖

4. Superficial

Question ID :	441009933231
Option 1 ID :	4410093686699
Option 2 ID :	4410093686697
Option 3 ID :	4410093686700
Option 4 ID :	4410093686698

Q

Select the most appropriate option to fill in the blank.

.

1

The workers have managed to finish the construction ahead of time, _____?

4

A

ns

✗

1. have they

✗

2. didn't they

✗

3. won't they

✓

4. haven't they

Question ID :	441009929320
Option 1 ID :	4410093671240
Option 2 ID :	4410093671241
Option 3 ID :	4410093671242
Option 4 ID :	4410093671243

Q

Select the most appropriate option to fill in the blank.

.

1

She hadn't prepared the presentation slides in advance, _____?

5

A

ns

✗

1. does she

✗

2. didn't she

✓

3. had she

✗

4. hadn't she

Question ID :	441009929281
Option 1 ID :	4410093671091
Option 2 ID :	4410093671088
Option 3 ID :	4410093671089
Option 4 ID :	4410093671090

Comprehension:

Read the given passage carefully and answer the questions that follow.

The Industrial Revolution marked a turning point in human history, bringing unparalleled advancements in technology and productivity. Societies transitioned from agrarian economies to industrial powerhouses, leading to significant improvements in living standards. However, this progress came at a cost. Urbanisation led to overcrowded cities and unsanitary living conditions, while the reliance on fossil fuels accelerated environmental degradation. The dichotomy of progress persists today, as technological innovations continue to enhance human life while posing ethical and environmental challenges.

For instance, the advent of artificial intelligence has revolutionised industries, enabling automation and reducing labour costs. Yet, it has also raised concerns about job displacement and privacy violations. Similarly, medical advancements have eradicated diseases, but they often remain inaccessible to marginalised populations due to economic disparities.

This paradoxical relationship between progress and its consequences urges societies to reflect on the nature of development. Progress cannot merely be measured in terms of GDP or technological prowess; it must also account for sustainability and inclusivity. As the world advances further into the 21st Century, striking a balance between innovation and ethical responsibility becomes imperative. Only by adopting a holistic approach to progress can humanity ensure a future that is both prosperous and equitable.

130

SubQuestion No : 16

Q What is the most appropriate title for the passage?

1 131
6

A 1. Technological Innovation and Ethics

2. Sustainability in the 21st Century

3. The Paradox of Progress

4. The Industrial Revolution: A Turning Point

Question ID : 441009417902

Option 1 ID : 4410091636908

Option 2 ID : 4410091636909

Option 3 ID : 4410091636907

Option 4 ID : 4410091636906



Comprehension:

Read the given passage carefully and answer the questions that follow.

The Industrial Revolution marked a turning point in human history, bringing unparalleled advancements in technology and productivity. Societies transitioned from agrarian economies to industrial powerhouses, leading to significant improvements in living standards. However, this progress came at a cost. Urbanisation led to overcrowded cities and unsanitary living conditions, while the reliance on fossil fuels accelerated environmental degradation. The dichotomy of progress persists today, as technological innovations continue to enhance human life while posing ethical and environmental challenges.

For instance, the advent of artificial intelligence has revolutionised industries, enabling automation and reducing labour costs. Yet, it has also raised concerns about job displacement and privacy violations. Similarly, medical advancements have eradicated diseases, but they often remain inaccessible to marginalised populations due to economic disparities.

This paradoxical relationship between progress and its consequences urges societies to reflect on the nature of development. Progress cannot merely be measured in terms of GDP or technological prowess; it must also account for sustainability and inclusivity. As the world advances further into the 21st C entury, striking a balance between innovation and ethical responsibility becomes imperative. Only by adopting a holistic approach to progress can humanity ensure a future that is both prosperous and equitable.

130

SubQuestion No : 17

Q What is the central theme of the passage?

132
7

A 1. The importance of economic development

2. The dual impact of progress on humanity

3. Urbanisation and its challenges

4. The role of artificial intelligence in industries

Question ID : 441009417903

Option 1 ID : 4410091636913

Option 2 ID : 4410091636911

Option 3 ID : 4410091636910

Option 4 ID : 4410091636912



Comprehension:

Read the given passage carefully and answer the questions that follow.

The Industrial Revolution marked a turning point in human history, bringing unparalleled advancements in technology and productivity. Societies transitioned from agrarian economies to industrial powerhouses, leading to significant improvements in living standards. However, this progress came at a cost. Urbanisation led to overcrowded cities and unsanitary living conditions, while the reliance on fossil fuels accelerated environmental degradation. The dichotomy of progress persists today, as technological innovations continue to enhance human life while posing ethical and environmental challenges.

For instance, the advent of artificial intelligence has revolutionised industries, enabling automation and reducing labour costs. Yet, it has also raised concerns about job displacement and privacy violations. Similarly, medical advancements have eradicated diseases, but they often remain inaccessible to marginalised populations due to economic disparities.

This paradoxical relationship between progress and its consequences urges societies to reflect on the nature of development. Progress cannot merely be measured in terms of GDP or technological prowess; it must also account for sustainability and inclusivity. As the world advances further into the 21st C entury, striking a balance between innovation and ethical responsibility becomes imperative. Only by adopting a holistic approach to progress can humanity ensure a future that is both prosperous and equitable.

130

SubQuestion No : 18

Q Which fact is mentioned in the passage?

1338

Answers

✗ 1. Artificial intelligence has no ethical concerns.

✓ 2. The Industrial Revolution improved living standards.

✗ 3. GDP is the sole measure of progress.

✗ 4. Economic disparities have been eliminated.

Question ID :	441009417904
Option 1 ID :	4410091636914
Option 2 ID :	4410091636915
Option 3 ID :	4410091636917
Option 4 ID :	4410091636916



Comprehension:

Read the given passage carefully and answer the questions that follow.

The Industrial Revolution marked a turning point in human history, bringing unparalleled advancements in technology and productivity. Societies transitioned from agrarian economies to industrial powerhouses, leading to significant improvements in living standards. However, this progress came at a cost. Urbanisation led to overcrowded cities and unsanitary living conditions, while the reliance on fossil fuels accelerated environmental degradation. The dichotomy of progress persists today, as technological innovations continue to enhance human life while posing ethical and environmental challenges.

For instance, the advent of artificial intelligence has revolutionised industries, enabling automation and reducing labour costs. Yet, it has also raised concerns about job displacement and privacy violations. Similarly, medical advancements have eradicated diseases, but they often remain inaccessible to marginalised populations due to economic disparities.

This paradoxical relationship between progress and its consequences urges societies to reflect on the nature of development. Progress cannot merely be measured in terms of GDP or technological prowess; it must also account for sustainability and inclusivity. As the world advances further into the 21st C entury, striking a balance between innovation and ethical responsibility becomes imperative. Only by adopting a holistic approach to progress can humanity ensure a future that is both prosperous and equitable.

130

SubQuestion No : 19

Q What inference can be drawn from the passage?

1 134
9

A
n
s

✗ 1. Artificial intelligence is the only driver of future progress.

✗ 2. Urbanisation is entirely beneficial for societies.

✗ 3. Technological advancements rarely pose challenges.

✓ 4. Ethical considerations are essential for sustainable progress.

Question ID :	441009417905
Option 1 ID :	4410091636920
Option 2 ID :	4410091636918
Option 3 ID :	4410091636921
Option 4 ID :	4410091636919



Comprehension:

Read the given passage carefully and answer the questions that follow.

The Industrial Revolution marked a turning point in human history, bringing unparalleled advancements in technology and productivity. Societies transitioned from agrarian economies to industrial powerhouses, leading to significant improvements in living standards. However, this progress came at a cost. Urbanisation led to overcrowded cities and unsanitary living conditions, while the reliance on fossil fuels accelerated environmental degradation. The dichotomy of progress persists today, as technological innovations continue to enhance human life while posing ethical and environmental challenges.

For instance, the advent of artificial intelligence has revolutionised industries, enabling automation and reducing labour costs. Yet, it has also raised concerns about job displacement and privacy violations. Similarly, medical advancements have eradicated diseases, but they often remain inaccessible to marginalised populations due to economic disparities.

This paradoxical relationship between progress and its consequences urges societies to reflect on the nature of development. Progress cannot merely be measured in terms of GDP or technological prowess; it must also account for sustainability and inclusivity. As the world advances further into the 21st Century, striking a balance between innovation and ethical responsibility becomes imperative. Only by adopting a holistic approach to progress can humanity ensure a future that is both prosperous and equitable.

130

SubQuestion No : 20

Q What is the tone of the passage?

2 135

A 1. Sarcastic

2. Neutral

3. Optimistic

4. Cautionary

Question ID : 441009417906

Option 1 ID : 4410091636924

Option 2 ID : 4410091636925

Option 3 ID : 4410091636922

Option 4 ID : 4410091636923

Section : Hindi Language and Comprehension

Q 'समुद्र मंथन' मुहावरे का अर्थ निम्न में से है--

1

A 1. देवताओं का कार्य

2. मुश्किल कार्य

3. कठिन परिश्रम

4. धार्मिक आयोजन

Question ID : 4410091114224

Option 1 ID : 4410094392872

Option 2 ID : 4410094392873

Option 3 ID : 4410094392870

Option 4 ID : 4410094392871



Q निम्नलिखित वाक्य में वर्तनी की त्रुटियाँ पहचानें और शुद्ध वाक्य लिखें।
2 ये बढ़ई कम पैसों में बहुत मशक्कत करवाता हैं।

- A n s
- ✗ 1. यह बढ़ई कम पैसों में बहुत मशक्कत करवाता हैं।
 - ✓ 2. यह बढ़ई कम पैसों में बहुत मशक्कत करवाता है।
 - ✗ 3. यह बाढ़ई कम पैसों में बोहोत मोशक्कत कारवाता है।
 - ✗ 4. यह बड़ाई कम पैसों में बहुत मशक्कत करावाता हैं।

Question ID : 4410091085000
Option 1 ID : 4410094277301
Option 2 ID : 4410094277298
Option 3 ID : 4410094277299
Option 4 ID : 4410094277300

Q दिए गए वाक्य में रेखांकित शब्द का विलोम बताएँ।
3 हिमालय को देखो, कितना विराट है।

- A n s
- ✓ 1. क्षुद्र
 - ✗ 2. विस्तृत
 - ✗ 3. सुनसान
 - ✗ 4. विशाल

Question ID : 4410091121386
Option 1 ID : 4410094421423
Option 2 ID : 4410094421424
Option 3 ID : 4410094421426
Option 4 ID : 4410094421425

Q दिए गए वाक्यांश के लिए निम्न में से एक शब्द होगा—
4 'एक बार कही बात को दोहराते रहना'

- A n s
- ✗ 1. पिष्टक
 - ✗ 2. अनुवाद
 - ✗ 3. पिष्टोदक
 - ✓ 4. पिष्टपेषण

Question ID : 4410091079428
Option 1 ID : 4410094254989
Option 2 ID : 4410094254988
Option 3 ID : 4410094254987
Option 4 ID : 4410094254986



Q दिए गए वाक्यांश के लिए निम्न में से एक शब्द होगा—
5 'जिसका निषेध किया गया है'

A ☒ 1. निष्कृत

n ☒ 2. निर्वोज

s ☒ 3. निषिद्ध

☒ 4. निशीथ

Question ID : 4410091079449

Option 1 ID : 4410094255073

Option 2 ID : 4410094255070

Option 3 ID : 4410094255071

Option 4 ID : 4410094255072

Q निम्नलिखित वाक्य को उचित कारक द्वारा पूर्ण करें।
6 नारियल __ पानी निकाल कर गिलास __ डाल दो।

A ☒ 1. से,में

n ☒ 2. द्वारा,का

s ☒ 3. ने,की

☒ 4. का,से

Question ID : 4410091084828

Option 1 ID : 4410094276488

Option 2 ID : 4410094276491

Option 3 ID : 4410094276490

Option 4 ID : 4410094276489

Q सर्वोचित क्रिया शब्द से दिए गए वाक्य का रिक्त स्थान पूर्ण करें--
7 सगुण भक्ति में लीलावतार को आराध्य स्वीकार है।

A ☒ 1. लिया गया

n ☒ 2. माना गया

s ☒ 3. किया गया

☒ 4. जाना गया

Question ID : 4410091079916

Option 1 ID : 4410094256897

Option 2 ID : 4410094256898

Option 3 ID : 4410094256896

Option 4 ID : 4410094256899



Q वाक्य-विन्यास की दृष्टि से दिये गये वाक्य का शुद्ध रूप पहचानें—

8 मध्ययुग में कृष्णभक्ति का प्रचार ब्रजमण्डल में बड़े उत्साह के हुआ साथ।

A ☒ 1. प्रचार मध्ययुग में कृष्णभक्ति का ब्रजमण्डल में बड़े उत्साह के साथ हुआ।

n
s

☒ 2. मध्ययुग में कृष्णभक्ति का प्रचार बड़े उत्साह के साथ हुआ ब्रजमण्डल में ।

☒ 3. मध्ययुग में प्रचार ब्रजमण्डल में बड़े उत्साह के साथ हुआ कृष्णभक्ति का।

☒ 4. मध्ययुग में कृष्णभक्ति का प्रचार ब्रजमण्डल में बड़े उत्साह के साथ हुआ।

Question ID : 4410091079329

Option 1 ID : 4410094254595

Option 2 ID : 4410094254596

Option 3 ID : 4410094254597

Option 4 ID : 4410094254594

Q सर्वोचित क्रिया शब्द से दिए गए वाक्य का रिक्त स्थान पूर्ण करें--

9 किसी बच्चे को ईश्वर की अराधना करने से कम नहीं है।

A ☒ 1. बहलाना

n
s

☒ 2. हँसवाना

☒ 3. रुलाना

☒ 4. हँसाना

Question ID : 4410091079915

Option 1 ID : 4410094256895

Option 2 ID : 4410094256893

Option 3 ID : 4410094256894

Option 4 ID : 4410094256892

Q वर्तनी की दृष्टि से दिए गए वाक्य के किस अंश में त्रुटि है?

10 सन् 1893 में विवेकानंद विश्वधरम संसद में सम्मिलित होने के लिए शिकागो गये।

A ☒ 1. सम्मिलित होने के

n
s

☒ 2. लिए शिकागो गये।

☒ 3. सन् 1893 में विवेकानंद

☒ 4. विश्वधरम संसद में

Question ID : 4410091083437

Option 1 ID : 4410094270829

Option 2 ID : 4410094270830

Option 3 ID : 4410094270827

Option 4 ID : 4410094270828



Q वाक्य-विन्यास की दृष्टि से दिये गये वाक्य का शुद्ध रूप पहचानें—
1 कृष्णविषयक काव्य का प्राचुर्य बारहवीं शताब्दी के बाद मिलता है देखने को।

- A n s
- ✗ 1. कृष्णविषयक काव्य का प्राचुर्य शताब्दी बारहवीं के बाद देखने को मिलता है।
- ✗ 2. प्राचुर्य कृष्णविषयक काव्य का बारहवीं शताब्दी के बाद देखने को मिलता है।
- ✗ 3. काव्य का कृष्णविषयक प्राचुर्य बारहवीं शताब्दी के बाद देखने को मिलता है।
- ✓ 4. कृष्णविषयक काव्य का प्राचुर्य बारहवीं शताब्दी के बाद देखने को मिलता है।

Question ID : 4410091079296

Option 1 ID : 4410094254473

Option 2 ID : 4410094254470

Option 3 ID : 4410094254472

Option 4 ID : 4410094254471

Q सर्वोचित क्रिया शब्द से दिए गए वाक्य का रिक्त स्थान पूर्ण करें--
1 बड़ों से उनका अनुभव जानना जीने का आधार ।

- A n s
- ✓ 1. बनता है
- ✗ 2. दिखाता है
- ✗ 3. सकता है
- ✗ 4. सिखाता है

Question ID : 4410091079931

Option 1 ID : 4410094256953

Option 2 ID : 4410094256955

Option 3 ID : 4410094256952

Option 4 ID : 4410094256954

Q निम्नलिखित वाक्य में रेखांकित शब्द का विलोम बताएँ।
1 पुराने समय में राज्य का राजा ही सारे निर्णय लेता था।

- A n s
- ✗ 1. नेता
- ✓ 2. रंक
- ✗ 3. अंक
- ✗ 4. व्यग्र

Question ID : 4410091121372

Option 1 ID : 4410094421369

Option 2 ID : 4410094421367

Option 3 ID : 4410094421368

Option 4 ID : 4410094421370



Q सर्वोचित क्रिया-विशेषण शब्द से दिए गए वाक्य का रिक्त स्थान पूर्ण करें--

1 निकल चलो वर्ना गाड़ी छूट जायेगी।

- 4
- A n s
- ✗ 1. अलबत्ता
- ✓ 2. फटाफट
- ✗ 3. स्वतः
- ✗ 4. प्रत्युत

Question ID : 4410091079950

Option 1 ID : 4410094257030

Option 2 ID : 4410094257029

Option 3 ID : 4410094257028

Option 4 ID : 4410094257031

Q निम्न में से कौन-सा मुहावरा अपने अर्थ से असुमेलित है?

- 1
- 5
- A n s
- ✓ 1. हाथ धोना -- सफाई करना
- ✗ 2. हाथ उठाना -- मारने को तैयार होना
- ✗ 3. हवा हो जाना -- भाग जाना
- ✗ 4. हाथ मारना -- सफाई से चोरी

Question ID : 4410091114220

Option 1 ID : 4410094392857

Option 2 ID : 4410094392855

Option 3 ID : 4410094392854

Option 4 ID : 4410094392856



Comprehension:

दिए गए गद्यांश के आधार पर निम्नांकित प्रश्नों के उत्तर दीजिए--
स्वच्छंदतावाद की प्रमुख विशेषताओं में हैं -- वन का महत्व, प्रकृति-पर्यवेक्षण, प्रेम का स्वच्छंद भंगिमाओं में चित्रण और बैलैड या कथा-गीत का प्रयोग, और काव्यभाषा के रूप में खड़ी बोली की स्वीकृति । श्रीधर पाठक के प्रकृति-काव्य में यदि जीवन से लगाव की ओर संकेत है तो वहीं ऐहिकता का भाव भी फूटता दिखाई देता है । प्रकृति को यहाँ रीतिकाल जैसी उद्दीपन की भूमिका से मुक्त किया गया । उत्तर रीतिकाल के घटिया काव्य में नारी को महज भोग्य उपकरण मान लिया गया था । छायावाद ने नारी को इस निष्क्रिय- शिथिल रूप में चित्रित करने का विरोध किया । कुछ जैसे ही स्वच्छंदतावाद ने अग्रणी स्थिति में प्रकृति को निष्क्रिय सजावट के तौर पर नहीं देखा, उसे अपने में जीवन का एक सजीव पक्ष मान कर चित्रित किया । श्रीधर पाठक उन विरल रचनाकारों में हैं, जिनकी प्रशंसा में हिंदी साहित्य के सबसे बड़े संपादक महावीरप्रसाद द्विवेदी तथा सबसे बड़े आलोचक रामचंद्र शुक्ल ने कविताएँ लिखी थीं । श्रीधर पाठक के बाद स्वच्छंदतावादी धारा में मुकुटधर पांडेय, लोचनप्रसाद पांडेय तथा रूपनारायण पांडेय काव्य-रचना कर रहे थे । रामनरेश त्रिपाठी में जहाँ स्वच्छंदतावाद का सहज उल्लास है, वहीं भाषा का अनुशासन भी पूरा है । 'मिलन', 'पथिक' तथा 'स्वप्न' शीर्षक कवि के तीन खंड-काव्य छायावाद-पूर्व कविता की उल्लेखनीय उपलब्धियाँ हैं । वे मूलतः कवि हैं, ग्राम-गीतों के संकलन का आरंभिक कार्य उन्होंने किया, 'कविता-कौमुदी' नाम से कई जिल्लों में हिंदी, उर्दू, बंगला आदि काव्य-धाराओं का आलोचनात्मक सामग्री के साथ संकलन-संपादन किया।

SubQuestion No : 16

Q निम्न में से स्वच्छंदतावाद की विशेषता कौन-सी नहीं है?

16

Answers

✗ 1. कथा-गीत का प्रयोग

✓ 2. खड़ी बोली हिंदी की अस्वीकृति

✗ 3. प्रेम का उन्मुक्त चित्रण

✗ 4. प्रकृति पर्यवेक्षण

Question ID :	4410091114201
Option 1 ID :	4410094392780
Option 2 ID :	4410094392781
Option 3 ID :	4410094392779
Option 4 ID :	4410094392778



Comprehension:

दिए गए गद्यांश के आधार पर निम्नांकित प्रश्नों के उत्तर दीजिए--
स्वच्छंदतावाद की प्रमुख विशेषताओं में हैं -- वन का महत्व, प्रकृति-पर्यवेक्षण, प्रेम का स्वच्छंद भंगिमाओं में चित्रण और बैलैड या कथा-गीत का प्रयोग, और काव्यभाषा के रूप में खड़ी बोली की स्वीकृति । श्रीधर पाठक के प्रकृति-काव्य में यदि जीवन से लगाव की ओर संकेत है तो वहीं ऐहिकता का भाव भी फूटता दिखाई देता है । प्रकृति को यहाँ रीतिकाल जैसी उद्दीपन की भूमिका से मुक्त किया गया । उत्तर रीतिकाल के घटिया काव्य में नारी को महज भोग्य उपकरण मान लिया गया था । छायावाद ने नारी को इस निष्क्रिय- शिथिल रूप में चित्रित करने का विरोध किया । कुछ वैसे ही स्वच्छंदतावाद ने अग्रणी स्थिति में प्रकृति को निष्क्रिय सजावट के तौर पर नहीं देखा, उसे अपने में जीवन का एक सजीव पक्ष मान कर चित्रित किया । श्रीधर पाठक उन विरल रचनाकारों में हैं, जिनकी प्रशंसा में हिंदी साहित्य के सबसे बड़े संपादक महावीरप्रसाद द्विवेदी तथा सबसे बड़े आलोचक रामचंद्र शुक्ल ने कविताएँ लिखी थीं । श्रीधर पाठक के बाद स्वच्छंदतावादी धारा में मुकुटधर पांडेय, लोचनप्रसाद पांडेय तथा रूपनारायण पांडेय काव्य-रचना कर रहे थे । रामनरेश त्रिपाठी में जहाँ स्वच्छंदतावाद का सहज उल्लास है, वहीं भाषा का अनुशासन भी पूरा है । 'मिलन', 'पथिक' तथा 'स्वप्न' शीर्षक कवि के तीन खंड-काव्य छायावाद-पूर्व कविता की उल्लेखनीय उपलब्धियाँ हैं । वे मूलतः कवि हैं, ग्राम-गीतों के संकलन का आरंभिक कार्य उन्होंने किया, 'कविता-कौमुदी' नाम से कई जिल्लों में हिंदी, उर्दू, बंगला आदि काव्य-धाराओं का आलोचनात्मक सामग्री के साथ संकलन-संपादन किया।

SubQuestion No : 17

Q 'कविता कौमुदी' निम्न में से किसकी कृति है--

17

Answers

✓ 1. रामनरेश त्रिपाठी

✗ 2. रूपनारायण पांडेय

✗ 3. लोचनप्रसाद पांडेय

✗ 4. मुकुटधर पांडेय

Question ID : 4410091114202

Option 1 ID : 4410094392784

Option 2 ID : 4410094392785

Option 3 ID : 4410094392783

Option 4 ID : 4410094392782



Comprehension:

दिए गए गद्यांश के आधार पर निम्नांकित प्रश्नों के उत्तर दीजिए--
स्वच्छंदतावाद की प्रमुख विशेषताओं में हैं -- वन का महत्व, प्रकृति-पर्यवेक्षण, प्रेम का स्वच्छंद भंगिमाओं में चित्रण और बैलैड या कथा-गीत का प्रयोग, और काव्यभाषा के रूप में खड़ी बोली की स्वीकृति । श्रीधर पाठक के प्रकृति-काव्य में यदि जीवन से लगाव की ओर संकेत है तो वहीं ऐहिकता का भाव भी फूटता दिखाई देता है । प्रकृति को यहाँ रीतिकाल जैसी उद्दीपन की भूमिका से मुक्त किया गया । उत्तर रीतिकाल के घटिया काव्य में नारी को महज भोग्य उपकरण मान लिया गया था । छायावाद ने नारी को इस निष्क्रिय- शिथिल रूप में चित्रित करने का विरोध किया । कुछ जैसे ही स्वच्छंदतावाद ने अग्रणी स्थिति में प्रकृति को निष्क्रिय सजावट के तौर पर नहीं देखा, उसे अपने में जीवन का एक सजीव पक्ष मान कर चित्रित किया । श्रीधर पाठक उन विरल रचनाकारों में हैं, जिनकी प्रशंसा में हिंदी साहित्य के सबसे बड़े संपादक महावीरप्रसाद द्विवेदी तथा सबसे बड़े आलोचक रामचंद्र शुक्ल ने कविताएँ लिखी थीं । श्रीधर पाठक के बाद स्वच्छंदतावादी धारा में मुकुटधर पांडेय, लोचनप्रसाद पांडेय तथा रूपनारायण पांडेय काव्य-रचना कर रहे थे । रामनरेश त्रिपाठी में जहाँ स्वच्छंदतावाद का सहज उल्लास है, वहीं भाषा का अनुशासन भी पूरा है । 'मिलन', 'पथिक' तथा 'स्वप्न' शीर्षक कवि के तीन खंड-काव्य छायावाद-पूर्व कविता की उल्लेखनीय उपलब्धियाँ हैं । वे मूलतः कवि हैं, ग्राम-गीतों के संकलन का आरंभिक कार्य उन्होंने किया, 'कविता-कौमुदी' नाम से कई जिल्लों में हिंदी, उर्दू, बंगला आदि काव्य-धाराओं का आलोचनात्मक सामग्री के साथ संकलन-संपादन किया।

SubQuestion No : 18

Q स्वच्छंदतावाद के प्रकृति काव्य की विशेषता निम्न में से कौन-सी नहीं है?

.
1
8

A
n
s

☒ 1. वनों के महत्व का आकलन

☒ 2. जीवन से लगाव की ओर संकेत

☒ 3. प्रकृति का उद्दीपक रूप में वर्णन

☒ 4. ऐहिकता के भाव का प्रकटन

Question ID : 4410091114203

Option 1 ID : 4410094392788

Option 2 ID : 4410094392786

Option 3 ID : 4410094392789

Option 4 ID : 4410094392787



Comprehension:

दिए गए गद्यांश के आधार पर निम्नांकित प्रश्नों के उत्तर दीजिए--
स्वच्छंदतावाद की प्रमुख विशेषताओं में हैं -- वन का महत्व, प्रकृति-पर्यवेक्षण, प्रेम का स्वच्छंद भंगिमाओं में चित्रण और बैलैड या कथा-गीत का प्रयोग, और काव्यभाषा के रूप में खड़ी बोली की स्वीकृति । श्रीधर पाठक के प्रकृति-काव्य में यदि जीवन से लगाव की ओर संकेत है तो वहीं ऐहिकता का भाव भी फूटता दिखाई देता है । प्रकृति को यहाँ रीतिकाल जैसी उद्दीपन की भूमिका से मुक्त किया गया । उत्तर रीतिकाल के घटिया काव्य में नारी को महज भोग्य उपकरण मान लिया गया था । छायावाद ने नारी को इस निष्क्रिय- शिथिल रूप में चित्रित करने का विरोध किया । कुछ जैसे ही स्वच्छंदतावाद ने अग्रणी स्थिति में प्रकृति को निष्क्रिय सजावट के तौर पर नहीं देखा, उसे अपने में जीवन का एक सजीव पक्ष मान कर चित्रित किया । श्रीधर पाठक उन विरल रचनाकारों में हैं, जिनकी प्रशंसा में हिंदी साहित्य के सबसे बड़े संपादक महावीरप्रसाद द्विवेदी तथा सबसे बड़े आलोचक रामचंद्र शुक्ल ने कविताएँ लिखी थीं । श्रीधर पाठक के बाद स्वच्छंदतावादी धारा में मुकुटधर पांडेय, लोचनप्रसाद पांडेय तथा रूपनारायण पांडेय काव्य-रचना कर रहे थे । रामनरेश त्रिपाठी में जहाँ स्वच्छंदतावाद का सहज उल्लास है, वहीं भाषा का अनुशासन भी पूरा है । 'मिलन', 'पथिक' तथा 'स्वप्न' शीर्षक कवि के तीन खंड-काव्य छायावाद-पूर्व कविता की उल्लेखनीय उपलब्धियाँ हैं । वे मूलतः कवि हैं, ग्राम-गीतों के संकलन का आरंभिक कार्य उन्होंने किया, 'कविता-कौमुदी' नाम से कई जिल्लों में हिंदी, उर्दू, बंगला आदि काव्य-धाराओं का आलोचनात्मक सामग्री के साथ संकलन-संपादन किया।

SubQuestion No : 19

Q. रामचंद्र शुक्ल तथा महावीर प्रसाद द्विवेदी ने निम्न में से किस साहित्यकार की प्रशंसा की है?

A. 1. रामनरेश त्रिपाठी

2. कबीर

3. मुकुटधर पांडेय

4. श्रीधर पाठक

Question ID : 4410091114204

Option 1 ID : 4410094392791

Option 2 ID : 4410094392793

Option 3 ID : 4410094392792

Option 4 ID : 4410094392790



Comprehension:

दिए गए गद्यांश के आधार पर निम्नांकित प्रश्नों के उत्तर दीजिए--
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SubQuestion No : 20

Q गद्यांश के लिए उपयुक्त शीर्षक चुनें--

20

Answers

✗ 1. स्वच्छंदतावाद और रीतिकाल

✗ 2. स्वच्छंदतावाद और आलोचना

✗ 3. स्वच्छंदतावाद और छायावाद

✓ 4. स्वच्छंदतावादी काव्यधारा

Question ID : 4410091114205

Option 1 ID : 4410094392795

Option 2 ID : 4410094392797

Option 3 ID : 4410094392794

Option 4 ID : 4410094392796

Section : Discipline1

Q The electrical conductivity (σ) of a metal depends on the number of electrons per unit volume (n) and the mean collision time (τ). Which of the following correctly represents this dependence?

1

Answers

✗ 1. $\sigma \propto n$ and $\sigma \propto 1/\tau$

✓ 2. $\sigma \propto n$ and $\sigma \propto \tau$

✗ 3. $\sigma \propto 1/n$ and $\sigma \propto \tau$

✗ 4. $\sigma \propto 1/n$ and $\sigma \propto 1/\tau$

Question ID : 4410091262645

Option 1 ID : 4410094983515

Option 2 ID : 4410094983517

Option 3 ID : 4410094983516

Option 4 ID : 4410094983518



Q	On what factors does the EMF of a cell depend?											
.												
2												
A	✗ 1. The size of the cell											
n												
s	✓ 2. Both the nature of electrodes and electrolyte											
	✗ 3. The nature of electrodes only											
	✗ 4. The nature of electrolyte only											
<table><tr><td>Question ID :</td><td>4410091231812</td></tr><tr><td>Option 1 ID :</td><td>4410094860892</td></tr><tr><td>Option 2 ID :</td><td>4410094860891</td></tr><tr><td>Option 3 ID :</td><td>4410094860889</td></tr><tr><td>Option 4 ID :</td><td>4410094860890</td></tr></table>			Question ID :	4410091231812	Option 1 ID :	4410094860892	Option 2 ID :	4410094860891	Option 3 ID :	4410094860889	Option 4 ID :	4410094860890
Question ID :	4410091231812											
Option 1 ID :	4410094860892											
Option 2 ID :	4410094860891											
Option 3 ID :	4410094860889											
Option 4 ID :	4410094860890											

Q	Which of the following is the application of gamma rays?											
.												
3												
A	✓ 1. Used in medicine to destroy cancer cells											
n												
s	✗ 2. Used as a diagnostic tool in medicine											
	✗ 3. Used in lamps to kill germs in water purifiers											
	✗ 4. Used in LASIK eye surgery											
<table><tr><td>Question ID :</td><td>4410091271160</td></tr><tr><td>Option 1 ID :</td><td>4410095016598</td></tr><tr><td>Option 2 ID :</td><td>4410095016596</td></tr><tr><td>Option 3 ID :</td><td>4410095016597</td></tr><tr><td>Option 4 ID :</td><td>4410095016599</td></tr></table>			Question ID :	4410091271160	Option 1 ID :	4410095016598	Option 2 ID :	4410095016596	Option 3 ID :	4410095016597	Option 4 ID :	4410095016599
Question ID :	4410091271160											
Option 1 ID :	4410095016598											
Option 2 ID :	4410095016596											
Option 3 ID :	4410095016597											
Option 4 ID :	4410095016599											

Q	Which of the following is the correct reason for using the 'laminated' cores in transformers?											
.												
4												
A	✓ 1. To reduce the Eddy current loss											
n												
s	✗ 2. To reduce the resistance of the windings											
	✗ 3. To reduce the Hysteresis loss											
	✗ 4. To reduce the flux leakage											
<table><tr><td>Question ID :</td><td>4410091271105</td></tr><tr><td>Option 1 ID :</td><td>4410095016371</td></tr><tr><td>Option 2 ID :</td><td>4410095016368</td></tr><tr><td>Option 3 ID :</td><td>4410095016369</td></tr><tr><td>Option 4 ID :</td><td>4410095016370</td></tr></table>			Question ID :	4410091271105	Option 1 ID :	4410095016371	Option 2 ID :	4410095016368	Option 3 ID :	4410095016369	Option 4 ID :	4410095016370
Question ID :	4410091271105											
Option 1 ID :	4410095016371											
Option 2 ID :	4410095016368											
Option 3 ID :	4410095016369											
Option 4 ID :	4410095016370											



Q Which of the following statements correctly describes the total energy stored in the Ideal LC circuit?

- 5
- A n s
- ☒ 1. It constantly decreases due to the oscillation.
 - ☒ 2. It remains constant and is always stored in the electric field of the capacitor.
 - ☒ 3. It remains constant and oscillates between the capacitor's electric field and the inductor's magnetic field.
 - ☒ 4. It remains constant and is always stored in the magnetic field of the inductor.

Question ID : 4410091271142

Option 1 ID : 4410095016519

Option 2 ID : 4410095016517

Option 3 ID : 4410095016516

Option 4 ID : 4410095016518

Q Ohm's law in terms of resistivity (ρ) is expressed as _____.

6 (Here, E = electric field, j = current density, V = potential difference, I = current in the conductor)

- A n s
- ☒ 1. $E = \rho j$
 - ☒ 2. $I = \rho V$
 - ☒ 3. $V = \rho I$
 - ☒ 4. $j = \rho E$

Question ID : 4410091262685

Option 1 ID : 4410094983672

Option 2 ID : 4410094983674

Option 3 ID : 4410094983671

Option 4 ID : 4410094983673

Q In a metallic conductor at constant temperature, the electric current is proportional to _____.

- 7
- A n s
- ☒ 1. resistance of the conductor
 - ☒ 2. reciprocal of applied voltage
 - ☒ 3. voltage across the conductor
 - ☒ 4. square of resistance

Question ID : 4410091231825

Option 1 ID : 4410094860942

Option 2 ID : 4410094860943

Option 3 ID : 4410094860941

Option 4 ID : 4410094860944



Q

If two non-identical cells with EMFs E_1 , E_2 and internal resistances r_1 , r_2 are connected in parallel, what is the expression for equivalent EMF (E_{eq})?

8

A

✓ 1. $E_{eq} = (E_1 r_2 + E_2 r_1) / (r_1 + r_2)$

✗ 2. $E_{eq} = (E_1 r_1 + E_2 r_2) / (r_1 + r_2)$

✗ 3. $E_{eq} = E_1 / r_1 + E_2 / r_2$

✗ 4. $E_{eq} = (E_1 + E_2) / 2$

s

Question ID :

4410091231819

Option 1 ID :

4410094860918

Option 2 ID :

4410094860919

Option 3 ID :

4410094860920

Option 4 ID :

4410094860917

Q

In a series LCR circuit driven at resonance, the voltages across the inductor and capacitor are _____.

9

A

✗ 1. both zero

✗ 2. equal in magnitude and in same phase

✓ 3. equal in magnitude and in opposite phase

✗ 4. different in magnitude and in same phase

s

Question ID :

4410091231830

Option 1 ID :

4410094860961

Option 2 ID :

4410094860963

Option 3 ID :

4410094860962

Option 4 ID :

4410094860964

Q

Under which condition is the emf of a cell equal to the potential difference between its two electrodes?

10

A

✗ 1. The emf of a cell is always equal to the potential difference between the two electrodes

✗ 2. When the cell is connected in a closed circuit

✓ 3. When the cell is connected in an open circuit

✗ 4. When the cell has an internal resistance

s

Question ID :

4410091202635

Option 1 ID :

4410094744095

Option 2 ID :

4410094744094

Option 3 ID :

4410094744093

Option 4 ID :

4410094744092

Q If two resistors of different resistances are connected in parallel, which of the following statements is true?

11

A ☒ 1. The equivalent resistance is smaller than either of the two resistances.

n
s

☐ 2. The equivalent resistance cannot be determined.

☐ 3. The equivalent resistance is greater than either of the two resistances.

☐ 4. The equivalent resistance is zero.

Question ID : 4410091202692

Option 1 ID : 4410094744317

Option 2 ID : 4410094744319

Option 3 ID : 4410094744318

Option 4 ID : 4410094744316

Q How much electric current flows through a conductor if 24 coulombs of charge are transferred in 3 seconds?

12

A ☐ 1. 72 A

n
s

☐ 2. 12 A

☒ 3. 8 A

☐ 4. 48 A

Question ID : 4410091241487

Option 1 ID : 4410094899303

Option 2 ID : 4410094899300

Option 3 ID : 4410094899301

Option 4 ID : 4410094899302

Q According to Faraday's law of electromagnetic induction, in which of the following situations will no EMF be induced in a coil?

13

A ☐ 1. When the magnet is pushed into the coil

n
s

☒ 2. When the magnet is held stationary near the coil

☐ 3. When the magnet is moving toward the coil

☐ 4. When the magnet is moving away from the coil

Question ID : 4410091241527

Option 1 ID : 4410094899459

Option 2 ID : 4410094899458

Option 3 ID : 4410094899456

Option 4 ID : 4410094899457



Q Under which condition is Ohm's law applicable?

- 1
4
- Answers
- ☒ 1. Semiconductors operating at elevated temperatures
 - ☒ 2. Metallic conductors when temperature remains constant
 - ☒ 3. All types of conductors in every condition
 - ☒ 4. Electrolytes undergoing chemical change

Question ID : 4410091241497

Option 1 ID : 4410094899342

Option 2 ID : 4410094899341

Option 3 ID : 4410094899340

Option 4 ID : 4410094899343

Q A carbon resistor is marked with the colour bands: Red, Black, Brown and Gold. What is the resistance value (with tolerance) of this resistor?

- 1
5
- Answers
- ☒ 1. $20 \Omega \pm 20\%$
 - ☒ 2. $200 \Omega \pm 20\%$
 - ☒ 3. $20 \Omega \pm 5\%$
 - ☒ 4. $200 \Omega \pm 5\%$

Question ID : 4410091241468

Option 1 ID : 4410094899227

Option 2 ID : 4410094899225

Option 3 ID : 4410094899226

Option 4 ID : 4410094899224

Q Two cells with EMFs of 2 V and 6 V, internal resistances of 2Ω and 4Ω , respectively. The equivalent EMF (E_{eq}) of this combination?

- 1
6
- Answers
- ☒ 1. 1.5 V
 - ☒ 2. 0.33 V
 - ☒ 3. 3.33 V
 - ☒ 4. 4.0 V

Question ID : 4410091209069

Option 1 ID : 4410094769779

Option 2 ID : 4410094769780

Option 3 ID : 4410094769778

Option 4 ID : 4410094769781



Q Microwaves are absorbed most effectively by:

- 1
- 7
- A n s
- ☐ 1. glass strongly
- ☐ 2. metals completely
- ☐ 3. vacuum only
- ☒ 4. water molecules

Question ID : 4410091231835

Option 1 ID : 4410094860984

Option 2 ID : 4410094860981

Option 3 ID : 4410094860983

Option 4 ID : 4410094860982

Q In which of the following cases is the wattless (non-power-consuming) current in an AC circuit the greatest?

- 1
- 8
- A n s
- ☐ 1. When a resistor and capacitor are connected in series
- ☒ 2. When the circuit contains only a capacitor or only an inductor
- ☐ 3. When a resistor and inductor are connected in parallel
- ☐ 4. When the circuit consists of a resistor alone

Question ID : 4410091241507

Option 1 ID : 4410094899382

Option 2 ID : 4410094899381

Option 3 ID : 4410094899383

Option 4 ID : 4410094899380

Q If two cells of emf 2 V and 4 V and of internal resistances 1 Ω and 2 Ω , respectively, are connected in parallel, then the equivalent emf (in V) is given by:

- 1
- 9
- A n s
- ☐ 1. $\frac{4}{3}$
- ☒ 2. $\frac{8}{3}$
- ☐ 3. $\frac{1}{3}$
- ☐ 4. $\frac{2}{3}$

Question ID : 4410091202671

Option 1 ID : 4410094744237

Option 2 ID : 4410094744236

Option 3 ID : 4410094744239

Option 4 ID : 4410094744238



Q In AC circuits, when phasors are represented using sine functions, the instantaneous values of voltage and current are given by the _____.

20

A ☒ 1. projections on horizontal axis

n

s ☒ 2. magnitude

☒ 3. projections on vertical axis

☒ 4. tangent to circle

Question ID : 4410091262727

Option 1 ID : 4410094983847

Option 2 ID : 4410094983849

Option 3 ID : 4410094983848

Option 4 ID : 4410094983850

Section : Discipline2

Q Which of the following best distinguishes gamma rays from X-rays?

1

A ☒ 1. Gamma rays originate from nuclear transitions, whereas X-rays originate from electronic transitions.

n

s ☒ 2. Both have the same origin but different frequencies.

☒ 3. X-rays are always more penetrating than gamma rays.

☒ 4. X-rays have shorter wavelengths than gamma rays.

Question ID : 4410091260175

Option 1 ID : 4410094973557

Option 2 ID : 4410094973558

Option 3 ID : 4410094973559

Option 4 ID : 4410094973556

Q To create a p-type extrinsic semiconductor from germanium, which of the following elements should be added as a dopant?

2

A ☒ 1. Bismuth

n

s ☒ 2. Nitrogen

☒ 3. Arsenic

☒ 4. Gallium

Question ID : 4410091242048

Option 1 ID : 4410094901552

Option 2 ID : 4410094901553

Option 3 ID : 4410094901551

Option 4 ID : 4410094901550



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Q In the circuit diagram of a full-wave bridge rectifier, the load resistor is connected across:

- 3
- Answers
- ☒ 1. AC input supply
 - ☒ 2. transformer primary coil
 - ☒ 3. one diode
 - ☒ 4. the diagonal of the diode bridge

Question ID : 4410091231837

Option 1 ID : 4410094860992

Option 2 ID : 4410094860990

Option 3 ID : 4410094860989

Option 4 ID : 4410094860991

Q Consider a satellite in a circular orbit of a distance ($R_E + h$) from the centre of the earth, where R_E = radius of the earth. If m is the mass of the satellite and M is the mass of the earth, then which of the following is the correct formula for orbital speed (V) of the satellite?

- Answers
- ☒ 1. $V = \sqrt{\frac{Gm}{(R_E + h)}}$
 - ☒ 2. $V = \sqrt{\frac{GmM}{(R_E + h)}}$
 - ☒ 3. $V = \sqrt{\frac{GM}{(R_E + h)}}$
 - ☒ 4. $V = \sqrt{\frac{2GM}{(R_E + h)}}$

Question ID : 4410091287009

Option 1 ID : 4410095079829

Option 2 ID : 4410095079828

Option 3 ID : 4410095079830

Option 4 ID : 4410095079827

Q Which of the following regions of the output characteristics of a CE transistor is used for amplification?

- 5
- Answers
- ☒ 1. Saturation region
 - ☒ 2. Breakdown region
 - ☒ 3. Active region
 - ☒ 4. Cut-off region

Question ID : 4410091239681

Option 1 ID : 4410094892175

Option 2 ID : 4410094892177

Option 3 ID : 4410094892176

Option 4 ID : 4410094892174



Q The minimum speed required for an object to escape from the earth is given by (symbols have their usual meanings):

- Answers
- ✗ 1. $\sqrt{\frac{GM_E}{R_E}}$
- ✗ 2. $\sqrt{\frac{2GM_E^2}{R_E}}$
- ✓ 3. $\sqrt{\frac{2GM_E}{R_E}}$
- ✗ 4. $\sqrt{\frac{2GM_E}{R_E^2}}$

Question ID : 4410091225202

Option 1 ID : 4410094834304

Option 2 ID : 4410094834302

Option 3 ID : 4410094834301

Option 4 ID : 4410094834303

Q In the electromagnetic spectrum, visible light falls in between which of the following types of radiation?

- Answers
- ✗ 1. Between microwaves and radio waves
- ✗ 2. Between ultraviolet radiation and gamma rays
- ✓ 3. Between infrared radiation and ultraviolet radiation
- ✗ 4. Between radio waves and infrared radiation

Question ID : 4410091242032

Option 1 ID : 4410094901487

Option 2 ID : 4410094901486

Option 3 ID : 4410094901485

Option 4 ID : 4410094901484

Q Which of the following colours of visible rays is scattered most in the atmosphere?

- Answers
- ✓ 1. Blue
- ✗ 2. Red
- ✗ 3. Green
- ✗ 4. Indigo

Question ID : 4410091231836

Option 1 ID : 4410094860986

Option 2 ID : 4410094860985

Option 3 ID : 4410094860988

Option 4 ID : 4410094860987



Q

In the input characteristic curve of a common-emitter transistor, what happens to the base current as the base-emitter voltage is steadily increased?

Answers

✗

1. It becomes negligible regardless of the applied voltage.

✓

2. It rises rapidly in a nonlinear (exponential) manner.

✗

3. It drops sharply toward zero.

✗

4. It stays nearly unchanged.

Question ID :	4410091242041
Option 1 ID :	4410094901525
Option 2 ID :	4410094901524
Option 3 ID :	4410094901522
Option 4 ID :	4410094901523

Q

When a P-N junction is formed, which current balances the diffusion current?

Answers

✓

1. Drift current

✗

2. Electron current

✗

3. Hole current

✗

4. Recombination current

Question ID :	4410091236594
Option 1 ID :	4410094879947
Option 2 ID :	4410094879946
Option 3 ID :	4410094879945
Option 4 ID :	4410094879948

Q

In an ideal transformer, the number of turns in the secondary coil is three times the turns in the primary coil. If the voltage applied across the primary is 80 V, what will be the voltage across the secondary coil?

Answers

✓

1. 240 V

✗

2. 100 V

✗

3. 80 V

✗

4. $\frac{80}{3}$ V

Question ID :	4410091241547
Option 1 ID :	4410094899538
Option 2 ID :	4410094899536
Option 3 ID :	4410094899537
Option 4 ID :	4410094899539



Q

From Maxwell's equations, which of the following established the relationship between the magnitude of the electric and magnetic fields in an electromagnetic wave?

1

2

A

n

s

✗ 1. $B_0 = E_0 c^2$

✓ 2. $B_0 = E_0 /c$

✗ 3. $E_0 = B_0 /c$

✗ 4. $B_0 = E_0 /c^2$

Question ID :	4410091271254
Option 1 ID :	4410095016997
Option 2 ID :	4410095016994
Option 3 ID :	4410095016996
Option 4 ID :	4410095016995

Q

Which of the following series circuits produces oscillations and gives maximum current at angular frequency ω ? (Given: L = Inductor, C = Capacitor, R = Resistor)

1

3

A

n

s

✗ 1. RC; $\omega = 1/\sqrt{RC}$

✓ 2. LC; $\omega = 1/\sqrt{LC}$

✗ 3. LCR; $\omega = \sqrt{LC}$

✗ 4. LR; $\omega = 1/\sqrt{LR}$

Question ID :	4410091262795
Option 1 ID :	4410094984115
Option 2 ID :	4410094984116
Option 3 ID :	4410094984118
Option 4 ID :	4410094984117

Q

The current in a coil increases uniformly from 2 A to 6 A over a time span of 1 second. If the coil has a self-inductance of 3 H, what will be the magnitude of the induced EMF during this interval?

1

4

A

n

s

✓ 1. 12 V

✗ 2. 8 V

✗ 3. 22 V

✗ 4. 11 V

Question ID :	4410091241536
Option 1 ID :	4410094899492
Option 2 ID :	4410094899493
Option 3 ID :	4410094899495
Option 4 ID :	4410094899494



Q	In the electromagnetic spectrum, radio waves are most commonly generated by which of the following processes?											
.												
1												
5												
A	☒ 1. Fusion reactions occurring inside stars											
n												
s	☒ 2. Random motion of atoms due to heat											
	☒ 3. Emissions from ionised atmospheric gases											
	☒ 4. Alternating currents in tuned electrical circuits											
		<table><tr><td>Question ID :</td><td>4410091242035</td></tr><tr><td>Option 1 ID :</td><td>4410094901500</td></tr><tr><td>Option 2 ID :</td><td>4410094901498</td></tr><tr><td>Option 3 ID :</td><td>4410094901501</td></tr><tr><td>Option 4 ID :</td><td>4410094901499</td></tr></table>	Question ID :	4410091242035	Option 1 ID :	4410094901500	Option 2 ID :	4410094901498	Option 3 ID :	4410094901501	Option 4 ID :	4410094901499
Question ID :	4410091242035											
Option 1 ID :	4410094901500											
Option 2 ID :	4410094901498											
Option 3 ID :	4410094901501											
Option 4 ID :	4410094901499											

Q	Which of the following does NOT affect the magnitude of motional EMF?											
.												
1												
6												
A	☒ 1. Length of the conductor only											
n												
s	☒ 2. Strength of the magnetic field											
	☒ 3. Resistance of the conductor											
	☒ 4. Length of the conductor and velocity of motion											
		<table><tr><td>Question ID :</td><td>4410091231832</td></tr><tr><td>Option 1 ID :</td><td>4410094860970</td></tr><tr><td>Option 2 ID :</td><td>4410094860971</td></tr><tr><td>Option 3 ID :</td><td>4410094860972</td></tr><tr><td>Option 4 ID :</td><td>4410094860969</td></tr></table>	Question ID :	4410091231832	Option 1 ID :	4410094860970	Option 2 ID :	4410094860971	Option 3 ID :	4410094860972	Option 4 ID :	4410094860969
Question ID :	4410091231832											
Option 1 ID :	4410094860970											
Option 2 ID :	4410094860971											
Option 3 ID :	4410094860972											
Option 4 ID :	4410094860969											

Q	Which of the following technologies typically makes use of microwave radiation?											
.												
1												
7												
A	☒ 1. X-ray imaging for medical diagnostics											
n												
s	☒ 2. Germicidal treatment using ultraviolet light											
	☒ 3. Capturing images with visible-light cameras											
	☒ 4. Wireless communication in cellular networks											
		<table><tr><td>Question ID :</td><td>4410091241556</td></tr><tr><td>Option 1 ID :</td><td>4410094901464</td></tr><tr><td>Option 2 ID :</td><td>4410094901466</td></tr><tr><td>Option 3 ID :</td><td>4410094901467</td></tr><tr><td>Option 4 ID :</td><td>4410094901465</td></tr></table>	Question ID :	4410091241556	Option 1 ID :	4410094901464	Option 2 ID :	4410094901466	Option 3 ID :	4410094901467	Option 4 ID :	4410094901465
Question ID :	4410091241556											
Option 1 ID :	4410094901464											
Option 2 ID :	4410094901466											
Option 3 ID :	4410094901467											
Option 4 ID :	4410094901465											

Q The magnetic energy (V_B) stored in an inductance coil when a current (I) is flowing through it is

1. _____.

8

Ans ☒ 1. $V_B \propto 1/I^2$

☒ 2. $V_B \propto I$

☒ 3. $V_B \propto 1/I$

☒ 4. $V_B \propto I^2$

Question ID : 4410091262777

Option 1 ID : 4410094984048

Option 2 ID : 4410094984049

Option 3 ID : 4410094984047

Option 4 ID : 4410094984050

Q The formula for self-inductance of a long solenoid of length l , cross-sectional area A , and number of turns N is _____.

1

9

Ans ☒ 1. $L = \frac{\mu_0 NA}{l^2}$

☒ 2. $L = \frac{\mu_0 A}{NI}$

☒ 3. $L = \frac{\mu_0 N^2 A}{l}$

☒ 4. $L = \mu_0 N^2 Al$

Question ID : 4410091231833

Option 1 ID : 4410094860974

Option 2 ID : 4410094860976

Option 3 ID : 4410094860973

Option 4 ID : 4410094860975

Q Which of the following best describes the process of transistor action?

2

0

Ans ☒ 1. Complete prevention of current through both junctions

☒ 2. Conversion of direct current into alternating current

☒ 3. Transfer of current from emitter region to collector region

☒ 4. Amplification caused by movement of minority carriers

Question ID : 4410091231839

Option 1 ID : 4410094861000

Option 2 ID : 4410094860997

Option 3 ID : 4410094860999

Option 4 ID : 4410094860998



Section : Discipline3

Q What will be the value of capacitance of a parallel plate capacitor, having values $A = 1 \text{ m}^2$ and $d = 1 \text{ mm}$, where $\epsilon_0 = 8.85 \times 10^{-12} \text{ F/m}$ (permittivity of free space)?

Ans ☒ 1. $8.85 \times 10^{-9} \text{ C}$

☒ 2. $8.85 \times 10^{-15} \text{ F}$

☒ 3. $8.85 \times 10^{-9} \text{ F}$

☒ 4. $8.85 \times 10^{-15} \text{ C}$

Question ID : 4410091276000

Option 1 ID : 4410095036116

Option 2 ID : 4410095036118

Option 3 ID : 4410095036115

Option 4 ID : 4410095036117

Q Which of the following is correct for electric field lines?

2

Ans ☒ 1. They start at negative charges and end at positive charges

☒ 2. Parallel to the equipotential surface at every point

☒ 3. They form closed loops

☒ 4. Normal to the equipotential surface at every point

Question ID : 4410091286976

Option 1 ID : 4410095079702

Option 2 ID : 4410095079700

Option 3 ID : 4410095079701

Option 4 ID : 4410095079699

Q Two equipotential surfaces are labelled 20 V and 30 V, and are separated by 2 cm. What is the electric field strength in the space between them?

3

Ans ☒ 1. 300 V/m

☒ 2. 1200 V/m

☒ 3. 600 V/m

☒ 4. 500 V/m

Question ID : 4410091242071

Option 1 ID : 4410094901644

Option 2 ID : 4410094901645

Option 3 ID : 4410094901642

Option 4 ID : 4410094901643



Q If Earth suddenly shrinks to half its present radius without changing its mass, the value of 'g' on its surface will be:

- 4
- A n s
- ☒ 1. twice the present value
 - ☒ 2. half the present value
 - ☒ 3. same as before
 - ☒ 4. four times the present value

Question ID : 4410091236650

Option 1 ID : 4410094880158

Option 2 ID : 4410094880160

Option 3 ID : 4410094880157

Option 4 ID : 4410094880159

Q The electric field at distance r from an infinite line charge with linear charge density (λ) is _____.

- 5
- A n s
- ☒ 1. $E = \frac{\lambda}{4\pi r\epsilon_0}$
 - ☒ 2. $E = \frac{\lambda}{2\pi r\epsilon_0}$
 - ☒ 3. $E = \frac{\lambda}{\pi\epsilon_0 r^2}$
 - ☒ 4. $E = \frac{\lambda}{2\pi\epsilon_0 r^2}$

Question ID : 4410091236645

Option 1 ID : 4410094880138

Option 2 ID : 4410094880137

Option 3 ID : 4410094880139

Option 4 ID : 4410094880140

Q A 2 microfarad capacitor is connected across a 100-volt battery. How much energy is stored in the capacitor?

- 6
- A n s
- ☒ 1. 0.01 joules
 - ☒ 2. 0.02 joules
 - ☒ 3. 0.2 joules
 - ☒ 4. 0.1 joules

Question ID : 4410091242055

Option 1 ID : 4410094901581

Option 2 ID : 4410094901578

Option 3 ID : 4410094901579

Option 4 ID : 4410094901580



Q	The direction of the electric field due to a positive point charge is:	
.		
7		
A	✓ 1. radially outward	
n		
s		
	✗ 2. tangential to the equipotential surface	
	✗ 3. radially inward	
	✗ 4. circular around the charge	
		Question ID : 4410091236624 Option 1 ID : 4410094880058 Option 2 ID : 4410094880057 Option 3 ID : 4410094880059 Option 4 ID : 4410094880060
Q	If a uniformly charged surface has a total charge Q and surface area A, then surface charge density is	
.	_____.	
8		
A	✓ 1. $\sigma = \frac{Q}{A}$	
n		
s		
	✗ 2. $\sigma = \frac{Q}{A^2}$	
	✗ 3. $\sigma = Q \cdot A$	
	✗ 4. $\sigma = \frac{A}{Q}$	
		Question ID : 4410091236612 Option 1 ID : 4410094880013 Option 2 ID : 4410094880016 Option 3 ID : 4410094880015 Option 4 ID : 4410094880014
Q	In an oscillator circuit, what is the primary function performed by the transistor?	
.		
9		
A	✗ 1. Converts AC to DC	
n		
s		
	✗ 2. Maintains a constant output voltage	
	✓ 3. Boosts the signal to maintain continuous oscillation	
	✗ 4. Removes unwanted frequency components	
		Question ID : 4410091242052 Option 1 ID : 4410094901566 Option 2 ID : 4410094901569 Option 3 ID : 4410094901567 Option 4 ID : 4410094901568

Q

A particular Zener diode is rated to operate in reverse breakdown at 6 volts and can safely dissipate up to 0.3 watts of power. What is the highest reverse current it can handle without exceeding this power limit?

1

0

A

n

s

✗

1. 0.18 A

✗

2. 0.2 A

✗

3. 1.8 A

✓

4. 0.05 A

Question ID :	4410091242045
Option 1 ID :	4410094901539
Option 2 ID :	4410094901541
Option 3 ID :	4410094901540
Option 4 ID :	4410094901538

Q

The electric dipole moment is defined as:

1

1

A

n

s

✗

1. charge multiplied by square of the separation

✗

2. ratio of potential energy to electric field

✓

3. product of charge and distance between charges

✗

4. charge divided by distance between charges

Question ID :	4410091248588
Option 1 ID :	4410094927577
Option 2 ID :	4410094927578
Option 3 ID :	4410094927576
Option 4 ID :	4410094927575

Q

What should be the minimum energy gap between valence band and conduction band for a material to be the perfect insulator?

1

2

A

n

s

✗

1. band gap $E_g < 3$ eV

✗

2. band gap $E_g > 7.4$ eV

✗

3. band gap $E_g = 0$ eV

✓

4. band gap $E_g > 3$ eV

Question ID :	4410091275936
Option 1 ID :	4410095035824
Option 2 ID :	4410095035825
Option 3 ID :	4410095035826
Option 4 ID :	4410095035823



Q If the reverse bias voltage exceeds the breakdown limit of a diode, then:

13

A ☒ 1. the diode stops working as a transistor

☒ 2. the diode blocks all current

☒ 3. a very large reverse current flows

☒ 4. the diode works as an amplifier

Question ID : 4410091236562

Option 1 ID : 4410094879821

Option 2 ID : 4410094879824

Option 3 ID : 4410094879822

Option 4 ID : 4410094879823

Q A point charge of $+6\text{ }\mu\text{C}$ is placed in space. What is the electric potential at a distance of 3 m from the charge? (Consider: Coulomb's constant $k = 9 \times 10^9 \text{ N.m}^2/\text{C}^2$)

14

A ☒ 1. 15,000 V

☒ 2. 24,000 V

☒ 3. 18,000 V

☒ 4. 12,000 V

Question ID : 4410091242064

Option 1 ID : 4410094901615

Option 2 ID : 4410094901617

Option 3 ID : 4410094901616

Option 4 ID : 4410094901614

Q If the electric field in a region is uniform, the variation of electric potential with distance is _____.

15

A ☒ 1. constant

☒ 2. exponential

☒ 3. linear

☒ 4. quadratic

Question ID : 4410091236628

Option 1 ID : 4410094880076

Option 2 ID : 4410094880075

Option 3 ID : 4410094880073

Option 4 ID : 4410094880074



Q	A planet has mass M and radius R. If both mass and radius are doubled, then the escape speed will:
1	
6	
A	✗ 1. increase by a factor of $(2)^{1/2}$
n	✗ 2. decrease by a factor of 2
s	✗ 3. increase by a factor of 2
	✓ 4. remain the same
Question ID : 4410091265377 Option 1 ID : 4410094994421 Option 2 ID : 4410094994420 Option 3 ID : 4410094994419 Option 4 ID : 4410094994418	
Q	The point on the I–V characteristic where the zener diode enters breakdown region is called _____.
1	
7	
A	✗ 1. cut-in voltage
n	✓ 2. knee point voltage
s	✗ 3. reverse saturation voltage
	✗ 4. drift voltage
Question ID : 4410091236603 Option 1 ID : 4410094879978 Option 2 ID : 4410094879977 Option 3 ID : 4410094879979 Option 4 ID : 4410094879980	
Q	An electric dipole is formed by two charges of $\pm 2\text{ }\mu\text{C}$ separated by 5 mm. What is the magnitude of the electric field at a point on the axial line, located 2 m from the centre of the dipole? (Consider: Coulomb's constant $k = 9 \times 10^9\text{ N.m}^2/\text{C}^2$)
1	
8	
A	✗ 1. 45 N/C
n	✓ 2. 22.5 N/C
s	✗ 3. 4.5 N/C
	✗ 4. 2.25 N/C
Question ID : 4410091242060 Option 1 ID : 4410094901601 Option 2 ID : 4410094901600 Option 3 ID : 4410094901599 Option 4 ID : 4410094901598	

Q Which of the following statements is true regarding the behaviour of a dielectric, in the absence of any external electric field?

- 1
9
- A
n
s
- ☒ 1. Net dipole moment of the dielectric is negative
- ☒ 2. Net dipole moment of the dielectric is zero
- ☒ 3. The dielectric is polarised
- ☒ 4. Net dipole moment of the dielectric is positive

Question ID : 4410091286996

Option 1 ID : 4410095079780

Option 2 ID : 4410095079781

Option 3 ID : 4410095079782

Option 4 ID : 4410095079779

Q Which of the following is NOT a valid state of a transistor working as a switch with base-biased in CE configuration?

- 2
0
- A
n
s
- ☒ 1. Cut off state
- ☒ 2. Saturation state
- ☒ 3. Breakdown state
- ☒ 4. Active state

Question ID : 4410091275962

Option 1 ID : 4410095035935

Option 2 ID : 4410095035937

Option 3 ID : 4410095035938

Option 4 ID : 4410095035936

Section : Discipline4

Q If the position vector of a particle at time t is $\vec{r}(t) = (t^2 - 2t)\hat{i} + (3t)\hat{j}$, the displacement between $t=1$ and $t=3$ is _____.

- 1
- A
n
s
- ☒ 1. $2\hat{i} + 3\hat{j}$
- ☒ 2. $6\hat{i} + 6\hat{j}$
- ☒ 3. $6\hat{i} + 9\hat{j}$
- ☒ 4. $4\hat{i} + 6\hat{j}$

Question ID : 4410091235802

Option 1 ID : 4410094876893

Option 2 ID : 4410094876891

Option 3 ID : 4410094876894

Option 4 ID : 4410094876892



Q

Which of the following statements is correct for the triangle law of vector addition?

2

A

ns

✗

1. It is a special case of the parallelogram law.

✓

2. It can be applied to any two vectors irrespective of direction.

✗

3. It is applicable only when vectors are parallel.

✗

4. It is not applicable to displacement vectors.

Question ID :

4410091237213

Option 1 ID :

4410094882410

Option 2 ID :

4410094882411

Option 3 ID :

4410094882408

Option 4 ID :

4410094882409

Q

A car is moving in a circle of radius R on a flat horizontal road with coefficient of static friction μ_s . The force required for circular motion is provided by _____ and the maximum speed of the car is proportional to _____.

3

A

ns

✗

1. gravitational force; R

✓

2. frictional force; $\sqrt{\mu_s R}$

✗

3. frictional force; $\mu_s R$

✗

4. gravitational force; $\sqrt{R}$

Question ID :

4410091227657

Option 1 ID :

4410094844123

Option 2 ID :

4410094844124

Option 3 ID :

4410094844126

Option 4 ID :

4410094844125

Q

Which of the following best describes uniform motion?

4

A

ns

✗

1. Motion with equal velocity in unequal intervals of time

✗

2. Motion that covers unequal distances in equal intervals of time

✗

3. Motion with varying acceleration

✓

4. Motion with equal displacement in equal intervals of time

Question ID :

4410091236665

Option 1 ID :

4410094880218

Option 2 ID :

4410094880220

Option 3 ID :

4410094880219

Option 4 ID :

4410094880217

Q Why are ball bearings used between moving parts?

5

A ☒ 1. They increase the weight of the machine.

n

s ☒ 2. They generate more heat.

☒ 3. They convert sliding friction into rolling friction.

☒ 4. They prevent motion completely.

Question ID : 4410091260657

Option 1 ID : 4410094975484

Option 2 ID : 4410094975487

Option 3 ID : 4410094975485

Option 4 ID : 4410094975486

Q Consider a car moving in a circular path with constant speed. Which of the following correctly describes the forces acting on the car?

6

A ☒ 1. Normal reaction (N)- Weight of the car(mg)=0 and frictional force(f)= centripetal force

n

s ☒ 2. Weight of the car(mg)+ $\frac{1}{2}$ Normal reaction (N)=0 and Frictional force(f)+ centripetal force=0

☒ 3. Weight of the car(mg)+ Normal reaction (N) + Frictional force(f)=0

☒ 4. Weight of the car(mg)+ centripetal force=0 and Frictional force(f)+ Normal reaction (N)=0

Question ID : 4410091227678

Option 1 ID : 4410094844210

Option 2 ID : 4410094844208

Option 3 ID : 4410094844207

Option 4 ID : 4410094844209

Q If a player in volleyball game exerts a force of 1000 N on the volleyball for 0.5 s, the impulse experienced by the ball is _____.

7

A ☒ 1. 500 N s

n

s ☒ 2. 2000 N/s

☒ 3. 1000 N s

☒ 4. -1000 N

Question ID : 4410091227697

Option 1 ID : 4410094844284

Option 2 ID : 4410094844285

Option 3 ID : 4410094844286

Option 4 ID : 4410094844283



Q Which of the following is NOT true about multiplication of a vector by a real number?

.
8

Answers

☒ 1. It produces a scalar quantity.

☐ 2. Its direction can change depending on the sign of the number.

☐ 3. Its magnitude is scaled by the real number.

☐ 4. The result is always a vector.

Question ID :	4410091236663
Option 1 ID :	4410094880212
Option 2 ID :	4410094880211
Option 3 ID :	4410094880210
Option 4 ID :	4410094880209

Q _____ quantities follow parallelogram law of addition due to their _____ dependence.

.
9

Answers

☐ 1. Vector; magnitude

☐ 2. Scalar; magnitude

☒ 3. Vector; direction

☐ 4. Scalar; direction

Question ID :	4410091227612
Option 1 ID :	4410094843935
Option 2 ID :	4410094843938
Option 3 ID :	4410094843937
Option 4 ID :	4410094843936

Q As per the Aristotle's fallacy concerning motion, what is required to keep an object moving at a uniform velocity?

.
10

Answers

☐ 1. A continuous external force is required to counteract the opposing force of gravity.

☐ 2. No external force is required, as the object's natural state is uniform in motion.

☐ 3. The force applied must be greater than the mass of the object.

☒ 4. An external force is required to keep a body in motion.

Question ID :	4410091291979
Option 1 ID :	4410095099983
Option 2 ID :	4410095099982
Option 3 ID :	4410095099980
Option 4 ID :	4410095099981



Q Which of the following is NOT a kinematic equation for uniformly accelerated motion?

1
1

Ans ☒ 1. $v = v_0 + v_0 t + \frac{1}{2} a t^2$

☒ 2. $v = v_0 + a t$

☒ 3. $x = x_0 + v_0 t + \frac{1}{2} a t^2$

☒ 4. $v^2 = v_0^2 + 2 a (x - x_0)$

Question ID : 4410091291927

Option 1 ID : 4410095099758

Option 2 ID : 4410095099756

Option 3 ID : 4410095099757

Option 4 ID : 4410095099759

Q A vector is given by $\vec{A} = 3\hat{i} + 4\hat{j}$. Which of the following correctly represents the unit vector?

1
2

Ans ☒ 1. $5\hat{k}$

☒ 2. $3\hat{i} + 4\hat{j}$

☒ 3. $\frac{3}{5}\hat{i} + \frac{4}{5}\hat{j}$

☒ 4. $\frac{4}{5}\hat{i} + \frac{3}{5}\hat{j}$

Question ID : 4410091250690

Option 1 ID : 4410094935928

Option 2 ID : 4410094935927

Option 3 ID : 4410094935925

Option 4 ID : 4410094935926

Q Which of the following is the magnitude of the resultant (R) of two concurrent vectors (A and B) with an angle θ between them?

1
3

Ans ☒ 1. $R = \sqrt{A^2 + B^2 + 2 AB \sin \theta}$

☒ 2. $R = \sqrt{A^2 + B^2 - 2 AB \sin \theta}$

☒ 3. $R = \sqrt{A^2 + B^2 + 2 AB \cos \theta}$

☒ 4. $R = \sqrt{A^2 + B^2 - 2 AB \cos \theta}$

Question ID : 4410091287076

Option 1 ID : 4410095080053

Option 2 ID : 4410095080054

Option 3 ID : 4410095080052

Option 4 ID : 4410095080051



Q A vehicle moves 5 km north, then reverses and travels 3 km south, all along a straight line. What is the path length during the entire trip?

- 1
4
- A n s
- ☒ 1. 2 km
- ☒ 2. 8 km
- ☒ 3. 5 km
- ☒ 4. 3 km

Question ID : 4410091250816

Option 1 ID : 4410094936428

Option 2 ID : 4410094936430

Option 3 ID : 4410094936431

Option 4 ID : 4410094936429

Q Newton's second law of motion is mathematically derived using the relation between:

- 1
5
- A n s
- ☒ 1. rate of change of momentum and force
- ☒ 2. mass and acceleration only
- ☒ 3. force and displacement
- ☒ 4. impulse and displacement

Question ID : 4410091236682

Option 1 ID : 4410094880286

Option 2 ID : 4410094880287

Option 3 ID : 4410094880285

Option 4 ID : 4410094880288

Q Which of the following statements about the motion of a body is/are correct?

- 1
6
- Statement A: An object moving at a constant speed in a straight line may still have acceleration.
Statement B: An object can have zero velocity at an instant but still possess non-zero acceleration.
- A n s
- ☒ 1. Neither Statement A nor B is correct
- ☒ 2. Both Statements A and B are correct
- ☒ 3. Only Statement B is correct
- ☒ 4. Only Statement A is correct

Question ID : 4410091250677

Option 1 ID : 4410094935876

Option 2 ID : 4410094935875

Option 3 ID : 4410094935874

Option 4 ID : 4410094935873



Q For a car of mass m moving at constant speed v in a horizontal circular path of radius r , the net force F on the car is:

- 1
7
- A n s
- ☒ 1. $\frac{m v^2}{r}$ directed away from the centre
- ☒ 2. mg downward
- ☒ 3. Zero
- ☒ 4. $\frac{m v^2}{r}$ directed towards the centre

Question ID : 4410091246088

Option 1 ID : 4410094917632

Option 2 ID : 4410094917633

Option 3 ID : 4410094917630

Option 4 ID : 4410094917631

Q When a man is 6 m away from the door of a train standing on platform, the train just starts to move with an acceleration of 3 m/s^2 . The man starts to run and catch the train after 4 s. The man runs with an acceleration (in m/s^2) of:

- 1
8
- A n s
- ☒ 1. 4.5
- ☒ 2. 4
- ☒ 3. 3.75
- ☒ 4. 3

Question ID : 4410091232107

Option 1 ID : 4410094898765

Option 2 ID : 4410094898764

Option 3 ID : 4410094898763

Option 4 ID : 4410094898762

Q Two particles are moving with velocities given by $\vec{v}_1 = 3\hat{i} + 4\hat{j} \text{ m/s}$ and $\vec{v}_2 = a\hat{i} + b\hat{j}$. If both particles have the same velocity, what is the magnitude of the vector sum $\vec{v}_1$

- 1
9
- A n s
- ☒ 1. 14 m/s
- ☒ 2. 7 m/s
- ☒ 3. 5 m/s
- ☒ 4. 10 m/s

Question ID : 4410091250701

Option 1 ID : 4410094935972

Option 2 ID : 4410094935970

Option 3 ID : 4410094935969

Option 4 ID : 4410094935971



Q What will be the maximum acceleration of the train in which a person standing on its floor will remain stationary? (The co-efficient of static friction between the person and the train's floor is 0.15, and the value of $g = 10 \text{ m/s}^2$.)

- Answers
- ☒ 1. 15 m/s^2
 - ☒ 2. 0.15 m/s^2
 - ☒ 3. 1.5 m/s^2
 - ☒ 4. 0.015 m/s^2

Question ID : 4410091291960

Option 1 ID : 4410095099897

Option 2 ID : 4410095099898

Option 3 ID : 4410095099896

Option 4 ID : 4410095099899

Section : Discipline5

Q In a uniform magnetic field, if a particle moves at an angle (θ) with the field, the radius of the circular motion depends on:

- Answers
- ☒ 1. the total velocity
 - ☒ 2. the component of velocity perpendicular to the field
 - ☒ 3. the component of velocity parallel to the field
 - ☒ 4. the field direction only

Question ID : 4410091236708

Option 1 ID : 4410094880391

Option 2 ID : 4410094880390

Option 3 ID : 4410094880389

Option 4 ID : 4410094880392

Q The slope of the stopping potential vs frequency graph is useful for determining:

- Answers
- ☒ 1. the threshold frequency
 - ☒ 2. Planck's constant
 - ☒ 3. the work function of the material
 - ☒ 4. the electron mass

Question ID : 4410091236743

Option 1 ID : 4410094880529

Option 2 ID : 4410094880530

Option 3 ID : 4410094880528

Option 4 ID : 4410094880531



Q	_____ were used in the Geiger-Marsden experiment to study the nature of the atomic nucleus.
.	
3	
A	☒ 1. Gold particles
n	
s	
	☒ 2. γ -rays
	☒ 3. Alpha particles
	☒ 4. Beta particles

Question ID :	4410091232939
Option 1 ID :	4410094865453
Option 2 ID :	4410094865451
Option 3 ID :	4410094865452
Option 4 ID :	4410094865450

Q	Which of the following is NOT the correct use of cyclotron?
.	
4	
A	☒ 1. Used to bombard atomic nuclei
n	
s	
	☒ 2. Used in radiation therapy
	☒ 3. Used in medical imaging as a diagnostic tool
	☒ 4. Studying the atmospheric cyclones

Question ID :	4410091294402
Option 1 ID :	4410095109578
Option 2 ID :	4410095109580
Option 3 ID :	4410095109579
Option 4 ID :	4410095109577

Q	According to Ampere's circuital law, the line integral of the magnetic field around a closed path is directly related to which of the following?
.	
5	
A	☒ 1. Potential difference across the loop
n	
s	
	☒ 2. Strength of the electric field
	☒ 3. Net current passing through the enclosed loop
	☒ 4. Amount of charge per unit volume

Question ID :	4410091250861
Option 1 ID :	4410094937671
Option 2 ID :	4410094937669
Option 3 ID :	4410094937670
Option 4 ID :	4410094937672



Q A material with a narrow hysteresis loop is most suitable for:

6

Ans ☒ 1. magnetic recording media

☒ 2. transformer cores

☒ 3. permanent magnets

☒ 4. electromagnets requiring high field strength

Question ID : 4410091281783

Option 1 ID : 4410095058944

Option 2 ID : 4410095058943

Option 3 ID : 4410095058942

Option 4 ID : 4410095058945

Q A magnetic needle is placed in a uniform magnetic field, making an angle with the direction of the field. Which of the following does the magnetic needle experience?

7

Ans ☒ 1. Only torque and no net force

☒ 2. No torque and no net force

☒ 3. Torque and a net force

☒ 4. Only force but no torque

Question ID : 4410091225760

Option 1 ID : 4410094836536

Option 2 ID : 4410094836539

Option 3 ID : 4410094836538

Option 4 ID : 4410094836537

Q On doubling both the length and width of a rectangular loop (keeping current and magnetic field same), the torque 'T' at a given angle θ becomes:

8

Ans ☒ 1. $8T$

☒ 2. $4T$

☒ 3. T

☒ 4. $2T$

Question ID : 4410091246137

Option 1 ID : 4410094917829

Option 2 ID : 4410094917828

Option 3 ID : 4410094917826

Option 4 ID : 4410094917827



Q The wave number of a spectral line corresponds to:

- Answers
- ☒ 1. the velocity of emitted photon
 - ☒ 2. the energy difference between two levels
 - ☒ 3. the inverse of wavelength of the spectral line
 - ☒ 4. the angular momentum of electron

Question ID : 4410091236721

Option 1 ID : 4410094880443

Option 2 ID : 4410094880441

Option 3 ID : 4410094880442

Option 4 ID : 4410094880444

Q Magnetic susceptibility of a material is a measure of which property?

- Answers
- ☒ 1. How strongly it reacts to an external magnetic field
 - ☒ 2. How well it allows electric current to pass
 - ☒ 3. How much gravitational force it produces
 - ☒ 4. How much it resists the flow of electric charge

Question ID : 4410091252621

Option 1 ID : 4410094943571

Option 2 ID : 4410094943570

Option 3 ID : 4410094943572

Option 4 ID : 4410094943573

Q Which phenomenon observed by Heinrich Hertz provided experimental evidence for the emission of electrons when light falls on a metal surface?

- Answers
- ☒ 1. Emission of electrons due to heating
 - ☒ 2. Emission due to collision with other particles
 - ☒ 3. Emission caused by incident light (photoelectric effect)
 - ☒ 4. Emission under a strong electric field

Question ID : 4410091252664

Option 1 ID : 4410094943742

Option 2 ID : 4410094943745

Option 3 ID : 4410094943743

Option 4 ID : 4410094943744



Q . 1 2 An electron of charge ($-e$) and mass (m_e) enters a region with cross uniform fields. $\vec{v} = v_x \hat{i}$. Which of the following statements describe the trajectory of the electron in

- A n s
- ☒ 1. Straight line motion along the x - axis if $v_x = \frac{E}{B}$.
 - ☒ 2. Cycloidal trajectory in the xy - plane for all the values of v_x .
 - ☒ 3. Uniform circular motion in the xy - plane.
 - ☒ 4. Helical motion around the z - axis.

Question ID : 4410091224289

Option 1 ID : 4410094830620

Option 2 ID : 4410094830622

Option 3 ID : 4410094830619

Option 4 ID : 4410094830621

Q . 1 3 A square wire loop of side 0.3 m carries a current of 5 A. What is the magnetic dipole moment of the loop?

- A n s
- ☒ 1. $0.90 \text{ A}\cdot\text{m}^2$
 - ☒ 2. $0.25 \text{ A}\cdot\text{m}^2$
 - ☒ 3. $0.45 \text{ A}\cdot\text{m}^2$
 - ☒ 4. $0.75 \text{ A}\cdot\text{m}^2$

Question ID : 4410091251131

Option 1 ID : 4410094937708

Option 2 ID : 4410094937705

Option 3 ID : 4410094937706

Option 4 ID : 4410094937707

Q . 1 4 A uniform magnetic field of magnitude 0.36 T passes through a closed spherical surface. What is the total magnetic flux through the surface?

- A n s
- ☒ 1. 0.18 Weber
 - ☒ 2. 0.36 Weber
 - ☒ 3. 0 Weber
 - ☒ 4. 0.9 Weber

Question ID : 4410091252640

Option 1 ID : 4410094943648

Option 2 ID : 4410094943647

Option 3 ID : 4410094943646

Option 4 ID : 4410094943649



Q

Two particles, each with a mass of 2 kg, are located at points (2, 0) and (0, 2) in the XY-plane. What is the distance of their common centre of mass from the origin?

1

5

A

ns

✗

1. 1 m

✓

2. $\sqrt{2}$ m

✗

3. 2 m

✗

4. $2\sqrt{2}$ m

Question ID :	4410091252698
Option 1 ID :	4410094943892
Option 2 ID :	4410094943893
Option 3 ID :	4410094943894
Option 4 ID :	4410094943895

Q

Which of the following statements is correct about the magnetic intensity of the Earth?

1

6

A

ns

✗

1. The magnetic intensity is independent of the location on Earth.

✗

2. The magnetic intensity is zero at poles.

✓

3. The magnetic intensity varies with latitude.

✗

4. The magnetic intensity is maximum at the equator.

Question ID :	4410091237236
Option 1 ID :	4410094882492
Option 2 ID :	4410094882493
Option 3 ID :	4410094882494
Option 4 ID :	4410094882495

Q

Three particles with masses 1 kg, 1 kg and 2 kg are placed at coordinates (0, 0, 0), (0, 2, 0), and (0, 4, 0), respectively. What is the y-coordinate of their centre of mass?

1

7

A

ns

✗

1. 2 m

✗

2. 3 m

✗

3. 1.5 m

✓

4. 2.5 m

Question ID :	4410091252703
Option 1 ID :	4410094943913
Option 2 ID :	4410094943915
Option 3 ID :	4410094943912
Option 4 ID :	4410094943914

Q

In the context of the photoelectric effect, if the intensity of incident light is increased while keeping its frequency above the threshold, which of the following changes is observed?

18

Answers

✗

1. The maximum kinetic energy of the emitted electrons increases.

✓

2. More electrons are emitted from the metal surface per second.

✗

3. The threshold frequency of the material is reduced.

✗

4. The work function of the metal decreases.

Question ID :	4410091252678
Option 1 ID :	4410094943798
Option 2 ID :	4410094943799
Option 3 ID :	4410094943801
Option 4 ID :	4410094943800

Q

Which of the following statements about the photoelectric effect is correct?

19

Answers

✗

1. Electrons are emitted only if light is monochromatic.

✗

2. Electrons are emitted regardless of light frequency.

✓

3. Electrons are emitted only if light frequency exceeds a threshold.

✗

4. Electrons are emitted only if light intensity exceeds a threshold.

Question ID :	4410091236738
Option 1 ID :	4410094880511
Option 2 ID :	4410094880510
Option 3 ID :	4410094880509
Option 4 ID :	4410094880508

Q

In the expression for the torque on a current-carrying loop, $\tau = IBAsin\theta$, what does the angle θ represent?

20

Answers

✓

1. Angle between the normal to the plane of the loop and the magnetic field

✗

2. Angle between the direction of current and the magnetic field

✗

3. Angle between the adjacent sides of the loop

✗

4. Angle between the magnetic moment of the loop and the magnetic field

Question ID :	4410091236693
Option 1 ID :	4410094880330
Option 2 ID :	4410094880329
Option 3 ID :	4410094880332
Option 4 ID :	4410094880331

Section : Discipline6

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Q The energy required to completely split the nucleus A_ZX into its constituent protons and neutrons is:

- 1
- Answers
- ☒ 1. less than the binding energy of the nucleus
 - ☒ 2. $m({}^A_ZX) c^2$, where $m({}^A_ZX)$ is the mass of the nucleus
 - ☒ 3. equal to or greater than the binding energy of the nucleus
 - ☒ 4. $[Z m({}^1_1H) + N m(n)]c^2$, where $m({}^1_1H)$ is the proton mass, $m(n)$ is neutron mass and N is the number of neutron

Question ID : 4410091256706

Option 1 ID : 4410094959711

Option 2 ID : 4410094959709

Option 3 ID : 4410094959710

Option 4 ID : 4410094959712

Q When rays parallel to principal axis of a concave mirror get reflected:

- 2
- Answers
- ☒ 1. they converge at a point on the principal axis known as the focal point
 - ☒ 2. they converge at a point not on the principal axis known as the focal point
 - ☒ 3. they converge at a point on the principal axis known as the centre of curvature
 - ☒ 4. they converge at a point not on the principal axis known as the centre of curvature

Question ID : 4410091227148

Option 1 ID : 4410094842077

Option 2 ID : 4410094842078

Option 3 ID : 4410094842075

Option 4 ID : 4410094842076

Q A convex mirror has a focal length of 25 cm. An object is placed 75 cm in front of the mirror. The position of the image is:

- 3
- Answers
- ☒ 1. 12.5 cm behind the mirror
 - ☒ 2. 25 cm behind the mirror
 - ☒ 3. 37.5 cm in front of the mirror
 - ☒ 4. 18.75 cm behind the mirror

Question ID : 4410091236805

Option 1 ID : 4410094880779

Option 2 ID : 4410094880777

Option 3 ID : 4410094880778

Option 4 ID : 4410094880776



Q

A point on the edge of a rotating circular disk travels a distance of 3 m along the circumference in 2 seconds. If the radius of the disk is 0.6 m, what is the angular displacement covered during this time?

4

Answers

1. 10 rad

2. 5 rad

3. 3.6 rad

4. 1.2 rad

Question ID :	4410091252693
Option 1 ID :	4410094943869
Option 2 ID :	4410094943866
Option 3 ID :	4410094943868
Option 4 ID :	4410094943867

Q

Which of the following conditions is NOT applicable for total internal reflection?

5

Answers

1. The angle of incidence should be equal to or greater than the critical angle.

2. Light should travel from denser to rarer medium.

3. No transmission of light takes place.

4. The angle of incidence should be less than the critical angle.

Question ID :	4410091227175
Option 1 ID :	4410094842180
Option 2 ID :	4410094842179
Option 3 ID :	4410094842181
Option 4 ID :	4410094842182

Q

A diver jumps off a springboard with his body straight and arms stretched out. When he pulls his arms and legs inward, his spin rate _____.

6

Answers

1. decreases

2. becomes zero

3. increases

4. remains the same

Question ID :	4410091240479
Option 1 ID :	4410094895334
Option 2 ID :	4410094895337
Option 3 ID :	4410094895335
Option 4 ID :	4410094895336



Q The number of nuclei $N(t)$ remaining in a radioactive sample at time t is given in terms of the initial number of nuclei N_0 and the decay constant λ by:

- Answers
- ✓ 1. $N(t) = N_0 e^{-\lambda t}$
 - ✗ 2. $N(t) = N_0 (1 - \lambda t)$
 - ✗ 3. $N(t) = N_0 (1 + \lambda t)$
 - ✗ 4. $N(t) = N_0 e^{\lambda t}$

Question ID : 4410091272097

Option 1 ID : 4410095020388

Option 2 ID : 4410095020390

Option 3 ID : 4410095020391

Option 4 ID : 4410095020389

Q Why does the photocurrent in a photoelectric experiment reach saturation?

- Answers
- ✗ 1. Stopping potential is reached.
 - ✓ 2. All electrons emitted are collected at the anode.
 - ✗ 3. Electrons lose energy in transit.
 - ✗ 4. Light intensity becomes maximum.

Question ID : 4410091237249

Option 1 ID : 4410094882543

Option 2 ID : 4410094882540

Option 3 ID : 4410094882542

Option 4 ID : 4410094882541

Q A solid block, assumed to be a rigid body, moves along a frictionless horizontal surface. Considering the block as rigid, which of the following statements best explains its translational motion?

- Answers
- ✗ 1. The block remains at rest and does not translate at all.
 - ✓ 2. Each particle of the block moves with the same velocity at a given instant, and the motion can be represented by the motion of its centre of mass.
 - ✗ 3. The translational motion of the block depends only on external torque and not on external force.
 - ✗ 4. Each particle of the block moves with different velocities but the same acceleration.

Question ID : 4410091263180

Option 1 ID : 4410094985653

Option 2 ID : 4410094985652

Option 3 ID : 4410094985654

Option 4 ID : 4410094985651



Q

According to the De-Broglie concept of matter waves, which of the following entities can exhibit wave-like behaviour?

10

A

✓ 1. All particles that are moving

✗ 2. Only particles of light such as photons

✗ 3. Only electrons in motion

✗ 4. Only electrons that are at rest

ns

Question ID :

4410091252689

Option 1 ID :

4410094943844

Option 2 ID :

4410094943842

Option 3 ID :

4410094943843

Option 4 ID :

4410094943845

Q

According to Bohr's theory, the frequency of the emitted photon is determined by:

11

A

✓ 1. the difference of total energies of initial and final orbits divided by Planck's constant

✗ 2. the difference of angular momenta of initial and final orbits

✗ 3. the sum of energies of initial and final orbits divided by Planck's constant

✗ 4. the difference of kinetic energies of initial and final orbits

ns

Question ID :

4410091236729

Option 1 ID :

4410094880474

Option 2 ID :

4410094880472

Option 3 ID :

4410094880475

Option 4 ID :

4410094880473

Q

The ratio of De-Broglie wavelengths of two particles of equal mass having kinetic energies K and 4K is _____.

12

A

✗ 1. 1 : 4

✓ 2. 2 : 1

✗ 3. 1 : 2

✗ 4. 4 : 1

ns

Question ID :

4410091236750

Option 1 ID :

4410094880556

Option 2 ID :

4410094880559

Option 3 ID :

4410094880558

Option 4 ID :

4410094880557

Q

If two equal masses are placed at two points equidistant from the origin, then the centre of mass lies:

1

3

A

ns

✗ 1. at one of the masses

✗ 2. midway but shifted towards the heavier mass

✗ 3. at infinity

✓ 4. at the origin

Question ID :

4410091256342

Option 1 ID :

4410094966201

Option 2 ID :

4410094966202

Option 3 ID :

4410094966203

Option 4 ID :

4410094966200

Q

In a hydrogen atom, the radius of the first Bohr orbit is approximately 0.5 Å. Based on Bohr's model, what would be the radius of the third orbit?

1

4

A

ns

✗ 1. 1.5 Å

✓ 2. 4.5 Å

✗ 3. 1.0 Å

✗ 4. 2.5 Å

Question ID :

4410091252658

Option 1 ID :

4410094943719

Option 2 ID :

4410094943721

Option 3 ID :

4410094943718

Option 4 ID :

4410094943720

Q

If the torque acting on a body is zero, then according to the equation of rotational motion, the:

1

5

A

ns

✓ 1. angular momentum is conserved

✗ 2. angular acceleration is infinite

✗ 3. angular velocity is zero

✗ 4. moment of inertia decreases

Question ID :

4410091236758

Option 1 ID :

4410094880588

Option 2 ID :

4410094880590

Option 3 ID :

4410094880589

Option 4 ID :

4410094880591

Q Which of the following statements is true in case of stopping potential for a given photosensitive material?

16

Answers

✗

1. The stopping potential increases exponentially with the frequency of the incident radiation.

✗

2. The stopping potential increases linearly with the intensity of the incident radiation.

✓

3. The stopping potential increases linearly with the frequency of the incident radiation.

✗

4. The stopping potential is independent of the frequency of the incident radiation.

Question ID :	4410091216580
Option 1 ID :	4410094799734
Option 2 ID :	4410094799733
Option 3 ID :	4410094799732
Option 4 ID :	4410094799735

Q Which of the following is a common practical use of Polaroid filters?

17

Answers

✓

1. Minimising reflected glare in sunglasses

✗

2. Producing laser light

✗

3. Amplifying the brightness of light

✗

4. Determining the wavelength of light

Question ID :	4410091254092
Option 1 ID :	4410094949435
Option 2 ID :	4410094949437
Option 3 ID :	4410094949436
Option 4 ID :	4410094949434

Q If the angular acceleration of a rotating body is zero, then the:

18

Answers

✗

1. angular velocity is zero

✗

2. torque is infinite

✓

3. angular velocity is constant

✗

4. moment of inertia is zero

Question ID :	4410091236764
Option 1 ID :	4410094880612
Option 2 ID :	4410094880614
Option 3 ID :	4410094880613
Option 4 ID :	4410094880615



Q

The reddish appearance of the Sun just before sunset is mainly due to:

1

9

A

ns

✗

1. reflection of light from dust

✗

2. refraction of light by the atmosphere

✗

3. dispersion of light

✓

4. scattering of shorter wavelengths, leaving red light to reach the eye

Question ID :	4410091263203
Option 1 ID :	4410094985744
Option 2 ID :	4410094985746
Option 3 ID :	4410094985743
Option 4 ID :	4410094985745

Q

If the angle of prism (A) = 60° and the angle of minimum deviation (D_m) = 70°, then the refractive index of the prism is approximately _____.
(Given that sin(65°) ≈ 0.906)

2

0

A

ns

✗

1. 1.6

✗

2. 1.5

✓

3. 1.8

✗

4. 1.2

Question ID :	4410091236814
Option 1 ID :	4410094880814
Option 2 ID :	4410094880813
Option 3 ID :	4410094880815
Option 4 ID :	4410094880812

Section : Discipline7

Q

The speed of a travelling wave on a string depends mainly on which of the following factors?

1

A

ns

✗

1. Frequency of the source producing the wave

✓

2. Properties of the medium such as tension and mass distribution

✗

3. Length of the string

✗

4. Amplitude of vibration

Question ID :	4410091263270
Option 1 ID :	4410094986007
Option 2 ID :	4410094986009
Option 3 ID :	4410094986008
Option 4 ID :	4410094986010



Q

Monochromatic light produces a diffraction pattern through a slit of width 0.45 mm. If the first minimum is observed at an angle of 0.001 rad, what is the wavelength of the light?

2

A

n

s

✗

1. 225 nm

✗

2. 900 nm

✗

3. 675 nm

✓

4. 450 nm

Question ID :	4410091254091
Option 1 ID :	4410094949432
Option 2 ID :	4410094949431
Option 3 ID :	4410094949433
Option 4 ID :	4410094949430

Q

A longitudinal wave propagates in a medium along the Z-axis. The particles of the medium vibrate:

3

A

n

s

✗

1. along the X-axis

✗

2. along the Y-axis

✗

3. in the X-Y plane

✓

4. along the Z-axis

Question ID :	4410091237679
Option 1 ID :	4410094884249
Option 2 ID :	4410094884250
Option 3 ID :	4410094884251
Option 4 ID :	4410094884248

Q

Which conservation law led to the postulation of the neutrino in beta decay?

4

A

n

s

✗

1. Conservation of momentum only

✓

2. Conservation of angular momentum and energy

✗

3. Conservation of charge

✗

4. Conservation of mass

Question ID :	4410091236786
Option 1 ID :	4410094880703
Option 2 ID :	4410094880701
Option 3 ID :	4410094880700
Option 4 ID :	4410094880702



Q

In simple harmonic motion, the ratio of maximum potential energy to total energy is ____.

.

5

A

Answers

✗ 1. 0.5

✓ 2. 1

✗ 3. 0

✗ 4. infinite

Question ID :	4410091236834
Option 1 ID :	4410094880894
Option 2 ID :	4410094880892
Option 3 ID :	4410094880893
Option 4 ID :	4410094880895

Q

Which of the following devices uses total internal reflection?

.

6

A

Answers

✗ 1. Microscope

✗ 2. Magnifying glass

✗ 3. Telescope

✓ 4. Endoscope

Question ID :	4410091236819
Option 1 ID :	4410094880833
Option 2 ID :	4410094880832
Option 3 ID :	4410094880835
Option 4 ID :	4410094880834

Q

In a displacement-time graph, representing simple harmonic motion, how long does it take for the object to move from its maximum displacement to the mean (zero) position?

.

7

A

Answers

✗ 1. Half of the time period

✓ 2. One-fourth of the time period

✗ 3. One full time period

✗ 4. One-eighth of the time period

Question ID :	4410091254102
Option 1 ID :	4410094949475
Option 2 ID :	4410094949476
Option 3 ID :	4410094949474
Option 4 ID :	4410094949477



Q Without Laplace's correction, the speed of sound in a liquid is underestimated because:

8

Ans ☒ 1. surface tension is neglected

☒ 2. liquid expands adiabatically in reality

☒ 3. liquid compresses isothermally in reality

☒ 4. liquid compresses adiabatically in reality

Question ID : 4410091236883

Option 1 ID : 4410094881091

Option 2 ID : 4410094881090

Option 3 ID : 4410094881088

Option 4 ID : 4410094881089

Q The displacement (x) of a particle executing simple harmonic motion is given by

$x(t) = a\sin\left(\frac{\pi}{4}t\right) + b\cos\left(\frac{\pi}{4}t\right)$ (in m), where $a = 3$ m and $b = 5$ m. The amplitude (in m) and phase constant (in rad) is given by _____, respectively.

Ans ☒ 1. $\sqrt{34}$ and $\tan^{-1}\left(\frac{5}{3}\right)$

☒ 2. 5 and $\tan^{-1}\left(\frac{5}{4}\right)$

☒ 3. 4 and $\tan^{-1}\left(\frac{4}{5}\right)$

☒ 4. $\sqrt{34}$ and $\tan^{-1}\left(\frac{3}{5}\right)$

Question ID : 4410091237582

Option 1 ID : 4410094883860

Option 2 ID : 4410094883863

Option 3 ID : 4410094883862

Option 4 ID : 4410094883861

Q Under which condition does a simple pendulum experience resonance?

10

Ans ☒ 1. When the opposing (damping) force is strongest

☒ 2. When the frequency of external force matches the pendulum's natural frequency

☒ 3. When the length of the pendulum is increased

☒ 4. When the swinging motion has the smallest amplitude

Question ID : 4410091254103

Option 1 ID : 4410094949478

Option 2 ID : 4410094949481

Option 3 ID : 4410094949480

Option 4 ID : 4410094949479



Q

How is the maximum kinetic energy ($K_{\max}$) of a particle executing simple harmonic motion dependent on the amplitude a ?

1

1

A

✗

1. $K_{\max} \propto a^3$

✗

2. $K_{\max} \propto a^4$

✗

3. $K_{\max} \propto a$

✓

4. $K_{\max} \propto a^2$

Question ID :

4410091237607

Option 1 ID :

4410094883962

Option 2 ID :

4410094883963

Option 3 ID :

4410094883960

Option 4 ID :

4410094883961

Q

Two tuning forks emit sound at 250 Hz and 253 Hz, respectively. When sounded together, how many beats will be heard in 2 seconds?

1

2

A

✗

1. 2

✓

2. 6

✗

3. 3

✗

4. 12

Question ID :

4410091254107

Option 1 ID :

4410094949495

Option 2 ID :

4410094949496

Option 3 ID :

4410094949494

Option 4 ID :

4410094949497

Q

If the phase difference between two interfering waves is an odd multiple of π , then the interference observed is:

1

3

A

✗

1. stationary

✗

2. constructive

✓

3. destructive

✗

4. resonant

Question ID :

4410091263191

Option 1 ID :

4410094985697

Option 2 ID :

4410094985695

Option 3 ID :

4410094985696

Option 4 ID :

4410094985698

Q

A sound-emitting object remains at rest, producing waves at a frequency of 360 Hz. If a listener moves away from the source at 60 m/s, and the speed of sound in air is 300 m/s, then what frequency is perceived by the moving listener?

1

4

A

n

s



1. 600 Hz



2. 500 Hz



3. 288 Hz



4. 720 Hz

Question ID :	4410091254098
Option 1 ID :	4410094949461
Option 2 ID :	4410094949459
Option 3 ID :	4410094949458
Option 4 ID :	4410094949460

Q

For a particle in a transverse progressive wave, the displacement is:

1

5

A

n

s



1. along the wavefront



2. zero



3. perpendicular to the direction of wave propagation



4. parallel to the direction of wave propagation

Question ID :	4410091236899
Option 1 ID :	4410094881154
Option 2 ID :	4410094881155
Option 3 ID :	4410094881153
Option 4 ID :	4410094881152

Q

Accommodation of distinct vision by the human eye is achieved by:

1

6

A

n

s



1. changing the wavelength that eye sees



2. increasing the intensity of the light



3. changing the focal length of the eye's lens



4. not closing the eyelids for a long duration

Question ID :	4410091227139
Option 1 ID :	4410094842039
Option 2 ID :	4410094842042
Option 3 ID :	4410094842040
Option 4 ID :	4410094842041



Q Which of the following increases the resolving power of a compound microscope?

- 1
- 7
- A n s
- ✓ 1. Using light of shorter wavelength
- ✗ 2. Reducing the numerical aperture
- ✗ 3. Increasing the wavelength of the light used
- ✗ 4. Increasing the focal length of the objective

Question ID : 4410091236794

Option 1 ID : 4410094880733

Option 2 ID : 4410094880735

Option 3 ID : 4410094880732

Option 4 ID : 4410094880734

Q A thin prism of refracting angle (A) 10° is made up of a material whose refractive index is 1.5. What is the angular dispersion (δ_m) produced by the prism?

- A n s
- ✗ 1. 31.0°
- ✗ 2. 10.39°
- ✗ 3. 15.2°
- ✓ 4. 0.6°

Question ID : 4410091224557

Option 1 ID : 4410094831703

Option 2 ID : 4410094831706

Option 3 ID : 4410094831705

Option 4 ID : 4410094831704

Q The half-life of a given radioactive sample is 0.693 days. The time required for 60% of the nuclei to decay is _____ days.

- 1
- 9
- A n s
- ✓ 1. $\ln\left(\frac{1}{0.4}\right)$
- ✗ 2. $\ln(0.6)$
- ✗ 3. $\ln(4)$
- ✗ 4. $\ln\left(\frac{1}{0.6}\right)$

Question ID : 4410091256733

Option 1 ID : 4410094959815

Option 2 ID : 4410094959816

Option 3 ID : 4410094959813

Option 4 ID : 4410094959814



Q If the velocity of a sound wave passing through the oxygen and hydrogen medium at the standard temperature and pressure (STP) is v_O and v_H , respectively, then which of the following is true?

20

Ans ☒ 1. $v_O = 4v_H$

☒ 2. $v_H = 4v_O$

☒ 3. $v_H = v_O$

☒ 4. $v_O = 2v_H$

Question ID : 4410091237632

Option 1 ID : 4410094884182

Option 2 ID : 4410094884181

Option 3 ID : 4410094884180

Option 4 ID : 4410094884183

Section : Discipline8

Q Avogadro's number is defined as the number of:

1

Ans ☒ 1. atoms in 1 mole of a substance

☒ 2. molecules in 1 gram of a substance

☒ 3. molecules in 1 litre of gas at STP

☒ 4. electrons in 1 gram of a substance

Question ID : 4410091236962

Option 1 ID : 4410094881405

Option 2 ID : 4410094881404

Option 3 ID : 4410094881407

Option 4 ID : 4410094881406

Q A fluid flows steadily between two parallel plates spaced 0.01 m apart, creating a velocity gradient of 50 s^{-1} . If the shear stress developed in the fluid is 10 Pa, what is the coefficient of viscosity of the fluid?

2

Ans ☒ 1. 0.05 Pa.s

☒ 2. 0.25 Pa.s

☒ 3. 0.20 Pa.s

☒ 4. 0.15 Pa.s

Question ID : 4410091257124

Option 1 ID : 4410094961355

Option 2 ID : 4410094961357

Option 3 ID : 4410094961356

Option 4 ID : 4410094961358



Q In a heat engine, if no heat is rejected to the sink ($Q_C = 0$), the efficiency will be _____.

- 3
- Answers
- ☒ 1. -10%
 - ☒ 2. 50%
 - ☒ 3. 100%
 - ☒ 4. 0%

Question ID : 4410091236983

Option 1 ID : 4410094881491

Option 2 ID : 4410094881489

Option 3 ID : 4410094881490

Option 4 ID : 4410094881488

Q What is the relation between molar specific heat capacity at constant volume (C_V) and molar specific heat capacity at constant pressure (C_P) in case of an ideal gas? (R = universal gas constant)

- 4
- Answers
- ☒ 1. $C_P - C_V = R$
 - ☒ 2. $\frac{C_P}{C_V} = R$
 - ☒ 3. $C_P C_V = R$
 - ☒ 4. $C_P + C_V = R$

Question ID : 4410091232879

Option 1 ID : 4410094865196

Option 2 ID : 4410094865199

Option 3 ID : 4410094865197

Option 4 ID : 4410094865198

Q What does the latent heat of fusion represent from the following?

- 5
- Answers
- ☒ 1. The heat energy needed to increase the temperature of a substance
 - ☒ 2. The energy required to turn a liquid into vapour
 - ☒ 3. The heat energy required to convert a solid into a liquid at constant temperature
 - ☒ 4. The energy released when a gas turns into liquid

Question ID : 4410091257104

Option 1 ID : 4410094961275

Option 2 ID : 4410094961277

Option 3 ID : 4410094961276

Option 4 ID : 4410094961278



Q Soap bubbles are spherical in shape because:

- 6
- Answers
- ☐ 1. pressure inside is uniform
 - ☐ 2. gravity acts equally in all directions
 - ☒ 3. surface tension tries to minimise surface area
 - ☐ 4. atmospheric pressure is same everywhere

Question ID : 4410091236946

Option 1 ID : 4410094881340

Option 2 ID : 4410094881342

Option 3 ID : 4410094881341

Option 4 ID : 4410094881343

Q Each side of a cube is measured to be 7.203 m. What is the total surface area (in m^2) of the cube to appropriate significant figures?

- 7
- Answers
- ☐ 1. 311
 - ☒ 2. 311.3
 - ☐ 3. 311.29
 - ☐ 4. 310

Question ID : 4410091237380

Option 1 ID : 4410094883056

Option 2 ID : 4410094883058

Option 3 ID : 4410094883059

Option 4 ID : 4410094883057

Q The term 'gauge pressure' refers to:

- 8
- Answers
- ☐ 1. pressure measured with respect to vacuum
 - ☐ 2. pressure measured with respect to zero depth
 - ☒ 3. pressure measured with respect to atmospheric pressure
 - ☐ 4. pressure independent of fluid density

Question ID : 4410091269700

Option 1 ID : 4410095011152

Option 2 ID : 4410095011154

Option 3 ID : 4410095011153

Option 4 ID : 4410095011155



Q	A liquid changes its phase from liquid to a gas at constant temperature. Which of the following statements best describes the role of latent heat of vaporisation for this process?
10	
Answers	1. To increase the kinetic energy of the molecules 2. To overcome the intermolecular forces of attraction 3. To increase the density of the substances 4. To increase the temperature of the substance

Question ID :	4410091229717
Option 1 ID :	4410094852345
Option 2 ID :	4410094852347
Option 3 ID :	4410094852346
Option 4 ID :	4410094852344

Q	Which of the following factors is ignored in the ideal Bernoulli equation when applied to blood flow?
10	
Answers	1. Gravitational potential energy 2. Pressure variations 3. Kinetic energy of blood 4. Viscosity of blood

Question ID :	4410091236924
Option 1 ID :	4410094881255
Option 2 ID :	4410094881253
Option 3 ID :	4410094881254
Option 4 ID :	4410094881252

Q	Which of the following physical phenomena is a direct result of surface tension?
11	
Answers	1. The boiling of water at 100°C 2. The spherical shape of a small liquid drop 3. The sinking of a heavy stone in water 4. The formation of an ice on a lake

Question ID :	4410091229735
Option 1 ID :	4410094852417
Option 2 ID :	4410094852419
Option 3 ID :	4410094852418
Option 4 ID :	4410094852416



Q	The bulk modulus of the solid is defined as the ratio of _____ stress and _____ strain.
.	
1	
2	
A	☒ 1. hydraulic; shear
n	
s	☒ 2. hydraulic; volume
	☒ 3. pressure; shear
	☒ 4. shear; hydraulic

Question ID :	4410091300722
Option 1 ID :	4410095135217
Option 2 ID :	4410095135218
Option 3 ID :	4410095135219
Option 4 ID :	4410095135216

Q	The Bernoulli principle expresses which fundamental physical law in fluid motion?
.	
1	
3	
A	☒ 1. Law of conservation of energy
n	
s	☒ 2. Law of conservation of angular momentum
	☒ 3. Law of conservation of mass
	☒ 4. Law of conservation of momentum

Question ID :	4410091254108
Option 1 ID :	4410094961176
Option 2 ID :	4410094961178
Option 3 ID :	4410094961177
Option 4 ID :	4410094961175

Q	The upward force acting on an aerofoil moving through air due to the pressure difference between its upper and lower surfaces is known as:
.	
1	
4	
A	☒ 1. Bernoulli force
n	
s	☒ 2. Dynamic lift
	☒ 3. Thrust
	☒ 4. Viscous force

Question ID :	4410091269692
Option 1 ID :	4410095011112
Option 2 ID :	4410095011111
Option 3 ID :	4410095011110
Option 4 ID :	4410095011113



Q

The equation of state of a perfect gas is expressed as $PV = nRT$, where R represents the _____.

1

5

A

ns

✗ 1. ideal gas pressure

✓ 2. universal gas constant

✗ 3. internal energy

✗ 4. specific gas constant

Question ID :	4410091236968
Option 1 ID :	4410094881431
Option 2 ID :	4410094881428
Option 3 ID :	4410094881430
Option 4 ID :	4410094881429

Q

Which of the following materials exhibits high plasticity?

1

6

A

ns

✗ 1. Steel

✗ 2. Rubber

✗ 3. Glass

✓ 4. Lead

Question ID :	4410091236931
Option 1 ID :	4410094881280
Option 2 ID :	4410094881281
Option 3 ID :	4410094881283
Option 4 ID :	4410094881282

Q

Which of the following statements is true in case of mean free path of a molecule?

1

7

A

ns

✗ 1. It is not dependent on the number density and size of the molecule.

✗ 2. It is linearly proportional to the number density but inversely proportional to the size of the molecule.

✓ 3. It is inversely proportional to the number density and size of the molecule.

✗ 4. It is inversely proportional to the number density but linearly proportional to the size of the molecule.

Question ID :	4410091232793
Option 1 ID :	4410094864851
Option 2 ID :	4410094864849
Option 3 ID :	4410094864848
Option 4 ID :	4410094864850

Q

The dimensional formula of force is:

1

8

A

n

s

✗ 1. $[M^2LT^{-1}]$

✗ 2. $[ML^2T^{-2}]$

✓ 3. $[MLT^{-2}]$

✗ 4. $[M^0L^1T^{-1}]$

Question ID :

4410091260285

Option 1 ID :

4410094974002

Option 2 ID :

4410094974001

Option 3 ID :

4410094974000

Option 4 ID :

4410094974003

Q

Water at 100°C absorbs 2260 kJ of heat per kg to become steam at 100°C. This quantity is called _____.

1

9

A

n

s

✓ 1. latent heat of vaporisation

✗ 2. latent heat of fusion

✗ 3. specific heat

✗ 4. sensible heat

Question ID :

4410091236938

Option 1 ID :

4410094881310

Option 2 ID :

4410094881309

Option 3 ID :

4410094881308

Option 4 ID :

4410094881311

Q

For an ideal gas undergoing an isobaric process, the slope of the P-V curve is _____.

2

0

A

n

s

✗ 1. positive

✓ 2. zero

✗ 3. negative

✗ 4. infinite

Question ID :

4410091242864

Option 1 ID :

4410094904797

Option 2 ID :

4410094904796

Option 3 ID :

4410094904798

Option 4 ID :

4410094904795



Q A 2 kg object, moving at 5 m/s, collides and sticks to a 1 kg object, moving at 2 m/s, in the same direction.
How much kinetic energy is lost in the collision?

- 1
- A n s
- ☒ 1. 27 J
- ☒ 2. 3 J
- ☒ 3. 24 J
- ☒ 4. 12 J

Question ID : 4410091257175

Option 1 ID : 4410094971375

Option 2 ID : 4410094971374

Option 3 ID : 4410094971377

Option 4 ID : 4410094971376

Q If silver and gold bars are immersed in a water bath at thermal equilibrium, thermodynamic variable
of silver and gold is _____.

- 2
- A n s
- ☒ 1. temperature; equal
- ☒ 2. hydraulic pressure; not equal
- ☒ 3. temperature; not equal
- ☒ 4. bulk modulus; equal

Question ID : 4410091301662

Option 1 ID : 4410095138861

Option 2 ID : 4410095138859

Option 3 ID : 4410095138860

Option 4 ID : 4410095138858

Q When heat is supplied to a system and no work is done ($W = 0$), the heat added:

- 3
- A n s
- ☒ 1. is lost
- ☒ 2. remains constant
- ☒ 3. changes only the work done
- ☒ 4. changes only the internal energy

Question ID : 4410091236975

Option 1 ID : 4410094881458

Option 2 ID : 4410094881459

Option 3 ID : 4410094881457

Option 4 ID : 4410094881456



Q

Two objects with masses 2 kg and 6 kg move in the same direction along a straight line with speeds of 6 m/s and 3 m/s, respectively. If they collide and stick together, what is their common velocity after the perfectly inelastic collision?

A

✗

1. 4.05 m/s

✗

2. 3.5 m/s

✗

3. 4.25 m/s

✓

4. 3.75 m/s

Question ID :

4410091257170

Option 1 ID :

4410094961537

Option 2 ID :

4410094961536

Option 3 ID :

4410094961538

Option 4 ID :

4410094961535

Q

The relative error is given by _____.

A

✗

1. Measured value × Absolute error

✗

2. Square of absolute error

✓

3. Absolute error / Measured value

✗

4. True value – Measured value

Question ID :

4410091236996

Option 1 ID :

4410094881541

Option 2 ID :

4410094881543

Option 3 ID :

4410094881540

Option 4 ID :

4410094881542

Q

Which of the following statements is true about conservative forces?

A

✗

1. Examples include friction and drag.

✓

2. Potential energy can be defined for it.

✗

3. Work done is path dependent.

✗

4. Work done in a closed loop is not zero.

Question ID :

4410091242895

Option 1 ID :

4410094904921

Option 2 ID :

4410094904919

Option 3 ID :

4410094904918

Option 4 ID :

4410094904920

Q

A body of mass m moving with velocity u collides inelastically with a stationary body of the same mass.

.

After collision, the velocity of the system is _____.

7

A

n

s

✗

1. $2u$

✓

2. $u/2$

✗

3. u

✗

4. 0

Question ID :

4410091242888

Option 1 ID :

4410094904892

Option 2 ID :

4410094904891

Option 3 ID :

4410094904893

Option 4 ID :

4410094904890

Q

Which of the following is an example of a reversible process?

.

8

A

n

s

✗

1. Frictional heating of a moving block

✓

2. Infinitely slow compression of a gas by a piston

✗

3. Expansion of gas into vacuum

✗

4. Melting of ice in water

Question ID :

4410091236988

Option 1 ID :

4410094881511

Option 2 ID :

4410094881509

Option 3 ID :

4410094881508

Option 4 ID :

4410094881510

Q

A small electric appliance works with a voltage of 200 V and draws a current of 0.4 A . How much electric power does the appliance consume?

.

9

A

n

s

✓

1. 80 W

✗

2. 200 W

✗

3. 20 W

✗

4. 50 W

Question ID :

4410091259637

Option 1 ID :

4410094971433

Option 2 ID :

4410094971432

Option 3 ID :

4410094971431

Option 4 ID :

4410094971430

Q If a machine does 200 J of work in 10 seconds, the power developed is _____.

10

A ☒ 1. 200 W

Answers

☒ 2. 2 W

☒ 3. 10 W

☒ 4. 20 W

Question ID : 4410091242899

Option 1 ID : 4410094904937

Option 2 ID : 4410094904934

Option 3 ID : 4410094904935

Option 4 ID : 4410094904936

Q A 2 kg object starts from rest and moves with a constant acceleration of 3 m/s^2 over a distance of 4 m. What is the amount of work done on the object which is equal to the final kinetic energy gained?

11

A ☒ 1. 12 J

Answers

☒ 2. 24 J

☒ 3. 18 J

☒ 4. 30 J

Question ID : 4410091259631

Option 1 ID : 4410094971406

Option 2 ID : 4410094971408

Option 3 ID : 4410094971407

Option 4 ID : 4410094971409

Q During a two-dimensional inelastic collision, which of the following is true?

12

A ☒ 1. Momentum is conserved along each direction.

Answers

☒ 2. Kinetic energy is fully conserved.

☒ 3. Kinetic energy increases.

☒ 4. Both momentum and energy are not conserved.

Question ID : 4410091237004

Option 1 ID : 4410094881572

Option 2 ID : 4410094881573

Option 3 ID : 4410094881574

Option 4 ID : 4410094881575



Q A thermally insulated system is subjected to an adiabatic compression, during which 100 J of the work is done on the system. What is the resulting change in internal energy?

- 1
3
- A n s
- ☒ 1. 0 J
- ☒ 2. + 50 J
- ☒ 3. - 100 J
- ☒ 4. + 100 J

Question ID : 4410091257140

Option 1 ID : 4410094961416

Option 2 ID : 4410094961418

Option 3 ID : 4410094961415

Option 4 ID : 4410094961417

Q Which of the following statements is correct about work done?

- 1
4
- A n s
- ☒ 1. Work is scalar but can be positive, negative or zero.
- ☒ 2. Work is always positive.
- ☒ 3. Work depends only on force, not displacement.
- ☒ 4. Work is a vector quantity.

Question ID : 4410091242905

Option 1 ID : 4410094904959

Option 2 ID : 4410094904960

Option 3 ID : 4410094904961

Option 4 ID : 4410094904958

Q A certain polyatomic gas molecule has 3 translational and 2 rotational degrees of freedom. Based on the equipartition of energy principle, what is its molar specific heat at constant volume (C_V)?

- 1
5
- A n s
- ☒ 1. $\frac{3}{2}R$
- ☒ 2. $2R$
- ☒ 3. $\frac{5}{2}R$
- ☒ 4. $3R$

Question ID : 4410091257135

Option 1 ID : 4410094961397

Option 2 ID : 4410094961396

Option 3 ID : 4410094961398

Option 4 ID : 4410094961395



Q When a force of 1 kg wt moves a body through a distance of 1 m in the direction of the applied force, the work done (in joule) by the force is given by:

1

6

A ☒ 1. 0

n ☒ 2. 98

s ☒ 3. 9.8

☒ 4. 1

Question ID : 4410091232206

Option 1 ID : 4410094862414

Option 2 ID : 4410094862413

Option 3 ID : 4410094862412

Option 4 ID : 4410094862415

Q The work-energy theorem is valid for which of the following?

1

7

A ☒ 1. Both conservative and non-conservative forces

n ☒ 2. Only conservative forces

s ☒ 3. Only constant forces

☒ 4. Only frictionless motion

Question ID : 4410091237020

Option 1 ID : 4410094881638

Option 2 ID : 4410094881636

Option 3 ID : 4410094881637

Option 4 ID : 4410094881639

Q A heat engine with efficiency 0.4 operates between a cold reservoir and a hot reservoir. It takes 400 J of heat from the hot reservoir. How much heat (in J) does it deliver to the cold reservoir?

1

8

A ☒ 1. 240

n ☒ 2. 480

s ☒ 3. 360

☒ 4. 120

Question ID : 4410091232900

Option 1 ID : 4410094865402

Option 2 ID : 4410094865405

Option 3 ID : 4410094865404

Option 4 ID : 4410094865403



Q

The lengths of a rectangular block are measured as 7.40 cm, 3.0 cm and 1.250 cm. How many significant figures are there in each of these measurements, respectively?

1

9

A

ns

✗

1. 3, 1, 4

✓

2. 3, 2, 4

✗

3. 2, 2, 3

✗

4. 2, 1, 3

Question ID :	4410091257159
Option 1 ID :	4410094961493
Option 2 ID :	4410094961494
Option 3 ID :	4410094961492
Option 4 ID :	4410094961491

Q

Mechanical energy is NOT conserved in the presence of ____.

2

0

A

ns

✗

1. elastic spring force

✗

2. electrostatic force

✓

3. friction

✗

4. gravity

Question ID :	4410091237011
Option 1 ID :	4410094881601
Option 2 ID :	4410094881603
Option 3 ID :	4410094881602
Option 4 ID :	4410094881600

Section : Teaching Methodology

Q

Anecdotal records focus on:

1

A

ns

✗

1. learning milestones

✓

2. behavioural incidents

✗

3. objective scores

✗

4. attendance

Question ID :	4410091138611
Option 1 ID :	4410094489479
Option 2 ID :	4410094489481
Option 3 ID :	4410094489480
Option 4 ID :	4410094489478

Q	Which of the following best explains how gender is understood in social sciences?										
.											
2											
A	☒ 1. Gender is fixed and universal across time and society.										
n											
s											
	☒ 2. Gender is a medical concept defined by physical characteristics.										
	☒ 3. Gender norms vary and cause discrimination.										
	☒ 4. Gender is purely determined by biological differences between males and females.										
<table><tr><td>Question ID :</td><td>4410091135419</td></tr><tr><td>Option 1 ID :</td><td>4410094476952</td></tr><tr><td>Option 2 ID :</td><td>4410094476950</td></tr><tr><td>Option 3 ID :</td><td>4410094476951</td></tr><tr><td>Option 4 ID :</td><td>4410094476949</td></tr></table>		Question ID :	4410091135419	Option 1 ID :	4410094476952	Option 2 ID :	4410094476950	Option 3 ID :	4410094476951	Option 4 ID :	4410094476949
Question ID :	4410091135419										
Option 1 ID :	4410094476952										
Option 2 ID :	4410094476950										
Option 3 ID :	4410094476951										
Option 4 ID :	4410094476949										
Q	Which of the following knowledge processes is most closely associated with the discipline of social sciences?										
.											
3											
A	☒ 1. Problem-solving, logical reasoning, and deductive thinking										
n											
s											
	☒ 2. Narrating, appreciating, and creating										
	☒ 3. Experimentation, intuition, and empiricism										
	☒ 4. Observation, social inquiry, and historical discovery										
<table><tr><td>Question ID :</td><td>4410091135322</td></tr><tr><td>Option 1 ID :</td><td>4410094476558</td></tr><tr><td>Option 2 ID :</td><td>4410094476560</td></tr><tr><td>Option 3 ID :</td><td>4410094476557</td></tr><tr><td>Option 4 ID :</td><td>4410094476559</td></tr></table>		Question ID :	4410091135322	Option 1 ID :	4410094476558	Option 2 ID :	4410094476560	Option 3 ID :	4410094476557	Option 4 ID :	4410094476559
Question ID :	4410091135322										
Option 1 ID :	4410094476558										
Option 2 ID :	4410094476560										
Option 3 ID :	4410094476557										
Option 4 ID :	4410094476559										
Q	Which of the following best distinguishes role-play from simulation in educational contexts?										
.											
4											
A	☒ 1. Both involve acting, but simulation excludes real-world contexts.										
n											
s											
	☒ 2. Simulation is rule-based, role-play allows emotional expression.										
	☒ 3. Role-play is scripted; simulation is improvised.										
	☒ 4. Role-play includes cognitive tasks; simulation does not.										
<table><tr><td>Question ID :</td><td>4410091135755</td></tr><tr><td>Option 1 ID :</td><td>4410094478287</td></tr><tr><td>Option 2 ID :</td><td>4410094478286</td></tr><tr><td>Option 3 ID :</td><td>4410094478285</td></tr><tr><td>Option 4 ID :</td><td>4410094478288</td></tr></table>		Question ID :	4410091135755	Option 1 ID :	4410094478287	Option 2 ID :	4410094478286	Option 3 ID :	4410094478285	Option 4 ID :	4410094478288
Question ID :	4410091135755										
Option 1 ID :	4410094478287										
Option 2 ID :	4410094478286										
Option 3 ID :	4410094478285										
Option 4 ID :	4410094478288										



Q

Continuous and Comprehensive Evaluation supports which of the following?

5

Answers

✗

1. Weekly ranking

✗

2. Annual testing

✗

3. Academic labelling

✓

4. Holistic growth

Question ID :

4410091138583

Option 1 ID :

4410094489367

Option 2 ID :

4410094489366

Option 3 ID :

4410094489369

Option 4 ID :

4410094489368

Q

According to Piaget, the ability to perform reversible mental operations is first seen during the _____.

6

Answers

✗

1. formal operational stage

✗

2. preoperational stage

✗

3. sensorimotor stage

✓

4. concrete operational stage

Question ID :

4410091135711

Option 1 ID :

4410094478120

Option 2 ID :

4410094478118

Option 3 ID :

4410094478117

Option 4 ID :

4410094478119

Q

According to whose approach do students learn better if the content is provided in smaller units?

7

Answers

✗

1. Albert Bandura

✗

2. Sigmund Freud

✓

3. BF Skinner

✗

4. Lev Vygotsky

Question ID :

4410091141065

Option 1 ID :

4410094499224

Option 2 ID :

4410094499221

Option 3 ID :

4410094499222

Option 4 ID :

4410094499223



Q	Which of the following are diagnostic assessments used for?											
.												
8												
A	✔ 1. Identifying difficulties											
n												
s												
	✘ 2. Selecting toppers											
	✘ 3. Scoring rubrics											
	✘ 4. Final grades											
		<table><tr><td>Question ID :</td><td>4410091138594</td></tr><tr><td>Option 1 ID :</td><td>4410094489411</td></tr><tr><td>Option 2 ID :</td><td>4410094489413</td></tr><tr><td>Option 3 ID :</td><td>4410094489412</td></tr><tr><td>Option 4 ID :</td><td>4410094489410</td></tr></table>	Question ID :	4410091138594	Option 1 ID :	4410094489411	Option 2 ID :	4410094489413	Option 3 ID :	4410094489412	Option 4 ID :	4410094489410
Question ID :	4410091138594											
Option 1 ID :	4410094489411											
Option 2 ID :	4410094489413											
Option 3 ID :	4410094489412											
Option 4 ID :	4410094489410											

Q	Which of the following is NOT a characteristic of content analysis?											
.												
9												
A	✔ 1. Subjectivity											
n												
s												
	✘ 2. Generality											
	✘ 3. Systematic											
	✘ 4. Objectivity											
		<table><tr><td>Question ID :</td><td>4410091141079</td></tr><tr><td>Option 1 ID :</td><td>4410094499278</td></tr><tr><td>Option 2 ID :</td><td>4410094499280</td></tr><tr><td>Option 3 ID :</td><td>4410094499279</td></tr><tr><td>Option 4 ID :</td><td>4410094499277</td></tr></table>	Question ID :	4410091141079	Option 1 ID :	4410094499278	Option 2 ID :	4410094499280	Option 3 ID :	4410094499279	Option 4 ID :	4410094499277
Question ID :	4410091141079											
Option 1 ID :	4410094499278											
Option 2 ID :	4410094499280											
Option 3 ID :	4410094499279											
Option 4 ID :	4410094499277											

Q	Constructing knowledge through dialogue is emphasised in which of the following?											
.												
10												
A	✘ 1. Fixed curriculum delivery											
n												
s												
	✘ 2. Behaviourist models											
	✘ 3. Cognitive load theory											
	✔ 4. Socratic teaching											
		<table><tr><td>Question ID :</td><td>4410091136958</td></tr><tr><td>Option 1 ID :</td><td>4410094483041</td></tr><tr><td>Option 2 ID :</td><td>4410094483038</td></tr><tr><td>Option 3 ID :</td><td>4410094483040</td></tr><tr><td>Option 4 ID :</td><td>4410094483039</td></tr></table>	Question ID :	4410091136958	Option 1 ID :	4410094483041	Option 2 ID :	4410094483038	Option 3 ID :	4410094483040	Option 4 ID :	4410094483039
Question ID :	4410091136958											
Option 1 ID :	4410094483041											
Option 2 ID :	4410094483038											
Option 3 ID :	4410094483040											
Option 4 ID :	4410094483039											



Q

Which of the following best describes fluid intelligence?

1

1

A

ns

✗

1. Ability to recall factual knowledge

✓

2. Capacity to reason and solve novel problems

✗

3. Memory for autobiographical events

✗

4. Accumulated cultural knowledge

Question ID :

4410091142220

Option 1 ID :

4410094503836

Option 2 ID :

4410094503837

Option 3 ID :

4410094503838

Option 4 ID :

4410094503839

Q

The grants and allocations to a school are which type of resource?

1

2

A

ns

✓

1. Financial resource

✗

2. Physical resource

✗

3. Human resource

✗

4. Material resource

Question ID :

4410091141142

Option 1 ID :

4410094499513

Option 2 ID :

4410094499514

Option 3 ID :

4410094499512

Option 4 ID :

4410094499515

Q

What is the ability of multilingual people to select words from either of their languages during the course of uttering a sentence called?

1

3

A

ns

✓

1. Code switching

✗

2. Translation

✗

3. Bilingualism

✗

4. Code-mixing

Question ID :

4410091139073

Option 1 ID :

4410094491259

Option 2 ID :

4410094491261

Option 3 ID :

4410094491262

Option 4 ID :

4410094491260



Q

Which of the following is the most appropriate purpose of dramatisation in the classroom?

1

4

A

ns

1. Memorisation of historical facts

2. Entertainment for children

3. Passive observation of concepts

4. Enhancing deep engagement with content

Question ID :

4410091135758

Option 1 ID :

4410094478297

Option 2 ID :

4410094478298

Option 3 ID :

4410094478300

Option 4 ID :

4410094478299

Q

Which Act recognises multiple categories of disability relevant to CWSN?

1

5

A

ns

1. PWD Act, 1995

2. RTE, 2009

3. Inclusive Education Act, 2010

4. RPWD Act, 2016

Question ID :

4410091141996

Option 1 ID :

4410094502955

Option 2 ID :

4410094502953

Option 3 ID :

4410094502952

Option 4 ID :

4410094502954

Q

The subject-centred approach is primarily concerned with which of the following?

1

6

A

ns

1. Skill acquisition

2. Social development

3. Life experiences

4. Discipline mastery

Question ID :

4410091138489

Option 1 ID :

4410094489002

Option 2 ID :

4410094489004

Option 3 ID :

4410094489005

Option 4 ID :

4410094489003

Q

What is the simplest kind of learning called?

17

A

ns

✗

1. Verbal learning

✗

2. Observational learning

✗

3. Skill learning

✓

4. Conditioning

Question ID :

4410091039210

Option 1 ID :

4410094106969

Option 2 ID :

4410094106966

Option 3 ID :

4410094106967

Option 4 ID :

4410094106968

Q

Which theory states that learning is influenced by internal motivation and self-actualisation?

18

A

ns

✓

1. Humanism

✗

2. Cognitivism

✗

3. Behaviourism

✗

4. Social learning

Question ID :

4410091136854

Option 1 ID :

4410094482624

Option 2 ID :

4410094482623

Option 3 ID :

4410094482622

Option 4 ID :

4410094482625

Q

The National Trust Act, 1999, focuses on the care and welfare of persons with which types of disabilities?

19

A

ns

✗

1. Orthopedic disabilities only

✓

2. Autism, cerebral palsy, mental retardation, and multiple disabilities

✗

3. Learning disabilities

✗

4. Visual and hearing impairments

Question ID :

4410091041100

Option 1 ID :

4410094113484

Option 2 ID :

4410094113483

Option 3 ID :

4410094113485

Option 4 ID :

4410094113482



Q

What does the term gender socialisation refer to?

20

A

✗

1. The biological development of a person's identity

✗

2. The process of teaching children scientific facts about gender

✓

3. The learning of gender norms, behaviours and identities from society

✗

4. The separation of boys and girls in physical education

Question ID :

4410091039375

Option 1 ID :

4410094107623

Option 2 ID :

4410094107624

Option 3 ID :

4410094107622

Option 4 ID :

4410094107625