

Scientific Assistant in India Meteorological Department Examination 2022

Roll Number	
Candidate Name	
Venue Name	
Exam Date	14/12/2022
Exam Time	9:00 AM - 11:00 AM
Subject	IMD Scientific Assistant Physics

Section : General Intelligence and Reasoning

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Q.1 Select the correct combination of mathematical signs to replace the * signs and balance the given equation.
 $75 * 25 * 14 * 4 * 16 = 43$

- Ans
- ☒ 1. -, +, +, ×
 - ☒ 2. +, -, +, ×
 - ☒ 3. ÷, +, ×, -
 - ☒ 4. +, -, ×, +

Question ID : 26433076707

Status : Answered

Chosen Option : 3

Q.2 Select the option that represents the letters that, when sequentially placed from left to right in the blanks below, will complete the letter series.
 U Z F X _ U Z _ _ H U _ _ X H U _ F _ _

- Ans
- ☒ 1. H F X Z F Z X H
 - ☒ 2. X U H F Z H X U
 - ☒ 3. U F H Z X F Z U
 - ☒ 4. H X F Z H X U F

Question ID : 26433068995

Status : Answered

Chosen Option : 1

Q.3 Select the combination of letters, which when sequentially placed in the blanks of the given series, will complete the series.
 Z _ X _ V U _ S R Q P _ N _ L

- Ans
- ☒ 1. YWTOM
 - ☒ 2. YTWOM
 - ☒ 3. YWTMO
 - ☒ 4. YWOTM

Question ID : 26433067493

Status : Answered

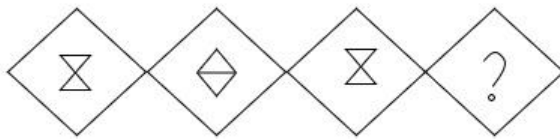
Chosen Option : 1

Q.4 Six people named A, B, C, D, E and F - are sitting around a circle, facing the centre. B is sitting immediately next to both E and C. A is sitting between D and C. F is sitting second to the right of B. A is second to the left of B. Which of the following person is sitting between D and E?

- Ans
- ☒ 1. A
 - ☒ 2. B
 - ☒ 3. F
 - ☒ 4. C

Question ID : 264330103788
Status : Answered
Chosen Option : 3

Q.5 Select the option that will replace the question mark (?) in the given figure to complete the pattern.



- Ans
- ☒ 1.
 - ☒ 2.
 - ☒ 3.
 - ☒ 4.

Question ID : 26433055734
Status : Answered
Chosen Option : 1

Q.6 'A ∞ B' means 'A is the sister of B'.
'A * B' means 'A is the mother of B'.
'A @ B' means 'B is the father of A'.
'A # B' means 'B is the wife of A'.
If E # F * J ∞ K * M # N, then how is M related to J?

- Ans
- ☒ 1. Sister's son
 - ☒ 2. Child
 - ☒ 3. Son's son
 - ☒ 4. Sister

Question ID : 26433068463
Status : Answered
Chosen Option : 1

Q.7 In a certain code language, if BREAK is coded as 37 and MATTER is coded as 77, then how will FLAVOUR be coded?

- Ans
- ☒ 1. 94
 - ☒ 2. 97
 - ☒ 3. 95
 - ☒ 4. 96

Question ID : 26433076689
Status : Answered
Chosen Option : 3

Q.8 Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements.

Statements:

- 1) Some glues are pens.
- 2) Some pens are erasers.

Conclusions:

- I. Some glues are erasers.
- II. No glue is an eraser.

Ans ☒ 1. Neither conclusion I nor II follows

☒ 2. Only conclusion II follows

☒ 3. Both conclusions I and II follow

☒ 4. Only conclusion I follows

Question ID : 26433092430

Status : Answered

Chosen Option : 2

Q.9 'A + B' means 'A is brother of B'

'A - B' means 'A is mother of B'

'A × B' means 'A is husband of B'

'A ÷ B' means 'A is sister of B'

If $J - O - P \times U \div G + N$, then which of the following statements is NOT correct?

Ans ☒ 1. J is the mother of the mother of P.

☒ 2. U is the wife of the son of O.

☒ 3. P is the brother of N.

☒ 4. G is the brother of the wife of P.

Question ID : 26433092592

Status : Answered

Chosen Option : 3

Q.10 Eight people are sitting in two parallel rows containing four people each in such a way that there is equal distance between adjacent persons.

In row 1 - A, B, C and D are seated and all of them are facing the south.

In row 2 - P, Q, R and S are seated and all of them are facing the north.

Thus, each person faces another person from the other row.

P sits third to the left of Q. The one facing A is an immediate neighbour of Q. The one

facing P is an immediate neighbour of D. B sits to the immediate right of the person

facing R. Who among the following faces C ?

Ans ☒ 1. Q

☒ 2. R

☒ 3. P

☒ 4. S

Question ID : 264330106284

Status : Answered

Chosen Option : 1

Q.11 Seven people Z, C, M, V, N, X, and B are sitting in a straight row, facing north. Only three people sit to the right of V. Z sits at the extreme left. Only two people sit between V and M. C and B are immediate neighbours of V. X is the immediate neighbour of Z. Who sits at the extreme right of the row?

Ans ☒ 1. N

☒ 2. X

☒ 3. M

☒ 4. Z

Question ID : 26433095008

Status : Answered

Chosen Option : 3

Q.12 Three Statements are given followed by Three conclusions numbered I, II and III. Assuming the statements to be true, even if they seem to be at variance with commonly known facts, decide which of the conclusions logically follow(s) from the statements.

Statements:

Some crows are pens.

Some pens are pencils.

All pencils are papers.

Conclusions:

I. All crows are pens.

II. All pens are pencils.

III. Some papers are pencils.

Ans ☒ 1. Only conclusion I follows.

☒ 2. Only conclusion III follows.

☒ 3. Only conclusion II follows.

☒ 4. All conclusions follow.

Question ID : 26433074645

Status : Answered

Chosen Option : 2

Q.13 Select the letter-cluster pair that best represents a similar relationship to the one expressed in the pair of letter-clusters given below.

PANT : QBOU

Ans ☒ 1. BOAT : CNBS

☒ 2. GROW : WGRO

☒ 3. COAL : DPBM

☒ 4. DEAR : CDBS

Question ID : 264330103845

Status : Answered

Chosen Option : 3

Q.14 Select the option figure that will replace the question mark (?) in the given figure to complete the pattern.

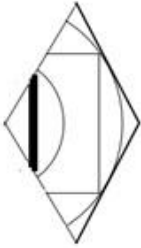


Ans

✗ 1.



✓ 2.



✗ 3.



✗ 4.



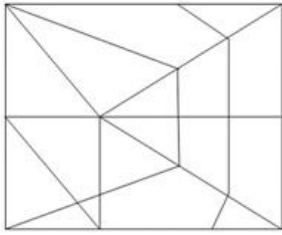
Question ID : 26433068860

Status : Answered

Chosen Option : 2

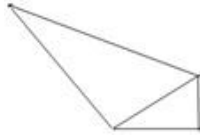
Q.15 Which of the figures given in the options is embedded in the following figure?

(Rotation is not allowed.)

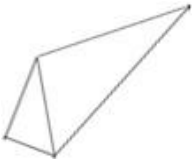


Ans

✓ 1.



✗ 2.



✗ 3.



✗ 4.



Question ID : 26433069077

Status : Answered

Chosen Option : 1

Q.16 Which of the following options will replace the question mark (?) in the given series?

95, 91, 89, 85, ?, 79, 77

Ans

✗ 1. 84

✓ 2. 83

✗ 3. 86

✗ 4. 87

Question ID : 26433089435

Status : Answered

Chosen Option : 2

Q.17 In a certain code language, 'DIARY' is coded as '78' and 'READ' is coded as '80'. How will 'WRITE' be coded in that language?

- Ans
- ☒ 1. 40
 - ☒ 2. 50
 - ☒ 3. 70
 - ☒ 4. 60

Question ID : 26433067794

Status : Not Attempted and Marked For Review

Chosen Option : --

Q.18 Which option represents the correct order of the given words as they would appear in an English dictionary?

1. Bearing
2. Believe
3. Bedroom
4. Because
5. Beating

- Ans
- ☒ 1. 5, 1, 4, 2, 3
 - ☒ 2. 1, 5, 4, 3, 2
 - ☒ 3. 1, 4, 5, 2, 3
 - ☒ 4. 4, 1, 5, 3, 2

Question ID : 26433095984

Status : Answered

Chosen Option : 2

Q.19 Select the option that is related to the third word in the same way as the second word is related to the first word.

(The words must be considered as meaningful English words and must not be related to each other based on the number of letters/ number of consonants / vowels in the word)

Immaculate : Spotless :: Bawl : ?

- Ans
- ☒ 1. Guffaw
 - ☒ 2. Cackle
 - ☒ 3. Titter
 - ☒ 4. Yelp

Question ID : 26433068062

Status : Not Answered

Chosen Option : --

Q.20 Select the correct combination of mathematical signs to replace the * signs and to balance the given equation.

$17 * 11 * 108 * 11 * 90$

- Ans
- ☒ 1. $\times, =, +, -$
 - ☒ 2. $\times, +, -, =$
 - ☒ 3. $-, =, +, \times$
 - ☒ 4. $\times, =, -, +$

Question ID : 26433079173

Status : Answered

Chosen Option : 4

Q.21 Which of the following numbers will replace the question mark (?) in the given series?
1, 5, 4, 10, 9, 15, 16, 20, ?

- Ans ☒ 1. 25
☐ 2. 28
☐ 3. 26
☐ 4. 24

Question ID : 26433085709
Status : Answered
Chosen Option : 1

Q.22 Three of the following letter-clusters are alike in some manner and hence form a group. Which letter-cluster does NOT belong to that group?

- Ans ☐ 1. XCYB
☐ 2. FUGT
☐ 3. QJRI
☒ 4. EWEU

Question ID : 26433086971
Status : Answered
Chosen Option : 4

Q.23 Select the figure from among the given options that can replace the question mark (?) in the following series.

☆	□	Z	☆	
□ S F F M ☆ ☆ □ A A F Z ?				
M A F □				

Ans

- ☐ 1.

V
☆ Z □
A
- ☐ 2.

A
Z □ ☆
F
- ☐ 3.

V
Z A □
F
- ☒ 4.

V
Z ☆ □
A

Question ID : 26433086243
Status : Answered
Chosen Option : 4

Q.24 Study the given pattern carefully and select the number that can replace the question mark (?) in it.

First row - 28, 12, 220

Second row - 23, 43, 363

Third row - 34, 72, ?

(NOTE : Operations should be performed on the whole numbers, without breaking down the numbers into its constituent digits. Eg. 13 – Operations on 13 such as adding /subtracting /multiplying etc. to 13 can be performed. Breaking down 13 into 1 and 3 and then performing mathematical operations on 1 and 3 is not allowed)

Ans ☒ 1. 567

☒ 2. 555

☒ 3. 546

☒ 4. 583

Question ID : 26433087332

Status : Answered

Chosen Option : 1

Q.25 There are seven friends J, K, L, M, N, O and P. Each are of different heights. N is shorter than only four other friends. O is shorter than N but taller than P. M is taller than J but shorter than L. K is taller than N but shorter than J. Who is the shortest among all the friends?

Ans ☒ 1. N

☒ 2. K

☒ 3. P

☒ 4. O

Question ID : 26433068878

Status : Answered

Chosen Option : 3

Section : Quantitative Aptitude

Q.1 If $(a^3 - b^3) = 414$ and $a - b = 3$, what is the value of ab ?

Ans ☒ 1. 41

☒ 2. 47

☒ 3. 46

☒ 4. 43

Question ID : 264330106883

Status : Answered

Chosen Option : 4

Q.2 If $\triangle ABC \sim \triangle DEF$, $\angle A = 47^\circ$, and $\angle E = 63^\circ$, then $\angle C$ is _____°.

Ans ☒ 1. 57

☒ 2. 70

☒ 3. 75

☒ 4. 67

Question ID : 264330106932

Status : Answered

Chosen Option : 2

Q.3 An iron box has dimensions 20 cm × 12 cm × 6 cm. It is to be painted from outside. If the rate of painting is Rs.6 per cm², find the cost of painting the box.

- Ans
- ☒ 1. Rs.4,976
 - ☒ 2. Rs.4,142
 - ☒ 3. Rs.5,184
 - ☒ 4. Rs.4,356

Question ID : 26433075999
Status : Not Answered
Chosen Option : --

Q.4 How many natural numbers are there which are less than 105 and common multiples of 3 and 5?

- Ans
- ☒ 1. 8
 - ☒ 2. 6
 - ☒ 3. 5
 - ☒ 4. 7

Question ID : 26433080265
Status : Answered
Chosen Option : 2

Q.5 Shilpi visits a mall after every 45 days, Divya visits the same mall after every 30 days and Surabhi visits the same mall after every 90 days. One day, they met in the mall. After how many days will they meet again in the mall?

- Ans
- ☒ 1. 75
 - ☒ 2. 180
 - ☒ 3. 60
 - ☒ 4. 90

Question ID : 26433080264
Status : Answered
Chosen Option : 2

Q.6 6 men and 3 boys working together can do five times as much work as a man and a boy can do together. Working capacities of a man and a boy are in the ratio:

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

Question ID : 26433082792
Status : Answered
Chosen Option : 2

Q.7 A machine depreciates in value in the first year at the rate of 20% of its previous value. However, every second year there is some maintenance work, so in that year the depreciation is only 10% of its previous value. If at the end of the fourth year, the value of the machine stands at ₹2,92,410, then what was the value (in ₹, rounded off to the nearest tens) at the start of the year?

- Ans
- ☒ 1. 6,02,560
 - ☒ 2. 6,57,680
 - ☒ 3. 5,64,060
 - ☒ 4. 5,89,450

Question ID : 26433061887

Status : Not Answered

Chosen Option : --

Q.8 Two boats A and B are 108 km apart and move towards each other. Their speeds in still water are 12 km/h and 15 km/h respectively. If A moves downstream and B moves upstream, then after how much time will they meet?

- Ans
- ☒ 1. 5 h
 - ☒ 2. 3 h
 - ☒ 3. 2 h
 - ☒ 4. 4 h

Question ID : 26433082409

Status : Answered

Chosen Option : 4

Q.9 Express the number $0.78\overline{12}$ as a vulgar fraction.

- Ans
- ☒ 1. $\frac{1291}{1650}$
 - ☒ 2. $\frac{1291}{1680}$
 - ☒ 3. $\frac{1289}{1650}$
 - ☒ 4. $\frac{1289}{1680}$

Question ID : 26433081470

Status : Not Answered

Chosen Option : --

Q.10 There are 150 students in a college. If the ratio of the number of boys to that of girls is 2 : 3, then what is the mean proportional between the number of boys and girls in the school?

- Ans
- ☒ 1. $29\sqrt{6}$
 - ☒ 2. $31\sqrt{6}$
 - ☒ 3. $28\sqrt{6}$
 - ☒ 4. $30\sqrt{6}$

Question ID : 26433058673

Status : Answered

Chosen Option : 4

Q.11 If $8a^3 + 27b^3 + 64c^3 = 72abc$, then the relation among a, b and c is:

- Ans ☒ 1. $2a - 3b + 4c = 0$
☒ 2. $2a + 3b = 4c$
☒ 3. $2a + 3b = -4c$
☒ 4. $2a + b + 4c = 0$

Question ID : 26433083018

Status : Answered

Chosen Option : 1

Q.12 The annual expenditures of an electronic shop (in lakh ₹) for the last 5 years are as given.

Year	Item of Expenditure				
	Salary	Fuel and Transport	Bonus	Interest on Loans	Taxes
2017	288	95	3.00	22.0	83
2018	342	108	2.52	32.5	108
2019	324	101	3.84	41.6	74
2020	336	133	3.68	36.4	88
2021	420	151	3.96	50.8	98

What is the average amount of interest per year that the company had to pay during the period 2017-2021?

- Ans ☒ 1. ₹36.66 lakhs
☒ 2. ₹28.36 lakhs
☒ 3. ₹29.12 lakhs
☒ 4. ₹38.68 lakhs

Question ID : 26433075170

Status : Not Answered

Chosen Option : --

Q.13 The batting average for 35 innings of a cricket player is 42 runs. His highest score in an innings exceeds his lowest score by 162 runs. If these two innings are excluded, the average score of the remaining 33 innings is 38 runs. Find his highest score in these innings.

- Ans ☒ 1. 184
☒ 2. 179
☒ 3. 176
☒ 4. 189

Question ID : 26433063770

Status : Not Answered

Chosen Option : --

Q.14 If the price of petrol is increased by 40%, by what percentage (rounded off to 1 decimal place) should its consumption be decreased so that the expenditure on petrol remains the same?

- Ans ☒ 1. 28.6%
☒ 2. 25.7%
☒ 3. 35.5%
☒ 4. 40.5%

Question ID : 26433095011

Status : Answered

Chosen Option : 1

- Q.15** The following data gives the number of patients visiting a dental clinic for the issues related to their oral health during the months September, October, November and December in 2018. Study the data carefully and answer the question that follows.

Month (2018)	Filling	Root canal	Tooth extraction	Implants
September	280	580	470	160
October	360	670	690	570
November	440	980	950	410
December	520	890	940	730

If a graph between the months and their corresponding number of patients, is plotted for each of the dental issues, which issue will show a single straight-line graph?

- Ans**
- ☒ 1. Implants
 - ☒ 2. Root canal
 - ☒ 3. Filling
 - ☒ 4. Tooth extraction

Question ID : **26433063248**
 Status : **Not Answered**
 Chosen Option : --

- Q.16** A wholesaler bought 100 laptops at ₹35,000 per laptop and spent ₹35,000 as transportation and labour charges. He marked ₹37,400 on each laptop and allowed 5% discount to customers. Find his profit percentage. (Rounded off to two places of decimal)

- Ans**
- ☒ 1. 0.68%
 - ☒ 2. 1.22%
 - ☒ 3. 1.56%
 - ☒ 4. 0.51%

Question ID : **26433079933**
 Status : **Not Answered**
 Chosen Option : --

- Q.17** If $\triangle BMA \cong \triangle WSL$, $\triangle SLW \cong \triangle UKH$ and $\angle K = 2\angle S = \angle B$, then find $\angle M + \angle W + \angle U$ in terms of degrees.

- Ans**
- ☒ 1. 180°
 - ☒ 2. 144°
 - ☒ 3. 216°
 - ☒ 4. 288°

Question ID : **26433082694**
 Status : **Answered**
 Chosen Option : 1

- Q.18** The average temperature of Monday and Wednesday was 21°C . If the temperature on Wednesday was $\frac{2}{5}$ of that of Monday, then find the temperature on Wednesday.

- Ans**
- ☒ 1. 12°C
 - ☒ 2. 30°C
 - ☒ 3. 18°C
 - ☒ 4. 15°C

Question ID : **26433090319**
 Status : **Answered**
 Chosen Option : 1

Q.19 K purchased a watch for ₹ 2,000 and sold it to L at 40% profit. L sold it to M at 10% loss and M sold it to N at 60% profit. Find the ratio of the nominal profits made by K and M.

- Ans ☒ 1. 100 : 189
☒ 2. 112 : 183
☒ 3. 105 : 113
☒ 4. 111 : 112

Question ID : 264330106893
 Status : Answered
 Chosen Option : 1

Q.20 The surface area of a sphere is 2464 cm^2 . Its radius is:

(Take $\pi = \frac{22}{7}$.)

- Ans ☒ 1. 12 cm
☒ 2. 14 cm
☒ 3. 16 cm
☒ 4. 18 cm

Question ID : 26433075991
 Status : Answered
 Chosen Option : 2

Q.21 Speed of a boat in still water is 23km/hr. The speed of stream is 3km/hr. In how much time will the boat cover a distance of 390 km in downstream and 260 km in upstream?

- Ans ☒ 1. 36 hours
☒ 2. 28 hours
☒ 3. 24 hours
☒ 4. 32 hours

Question ID : 26433081726
 Status : Not Answered
 Chosen Option : --

Q.22 A can finish a work in 10 days, B can finish it in 12 days and C can finish half of the work in 9 days. The work will be finished in _____ days if they all work together.

- Ans ☒ 1. 3.6
☒ 2. 4.6
☒ 3. 4.2
☒ 4. 5

Question ID : 26433085466
 Status : Answered
 Chosen Option : 1

Q.23 A car takes 3 hours to cover a distance if it travels at a speed of 50 km/h. What should be its speed to cover the same distance in 2 hours?

- Ans ☒ 1. 75 km/h
☒ 2. 80 km/h
☒ 3. 85 km/h
☒ 4. 90 km/h

Question ID : 264330103739
 Status : Answered
 Chosen Option : 1

Q.24 Surabhi bought a heater for ₹2,550 and decided to pay it in two equal instalments at 4% yearly compound interest rate. What is the amount of her instalment?

- Ans ☒ 1. ₹1,352
☒ 2. ₹1,325
☒ 3. ₹1,305
☒ 4. ₹1,350

Question ID : 26433061683
 Status : Not Answered
 Chosen Option : --

Q.25 If $x : y = 14 : 15$ and $y : z = 9 : 14$, then $x : z = ?$

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

Question ID : 264330106907
 Status : Answered
 Chosen Option : 4

Section : English Language & Comprehension

Q.1 Select the most appropriate option that can substitute the underlined segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.
 The club announced that whoever wished to participate in the program should register quickly.

- Ans ☒ 1. whomsoever
☒ 2. which
☒ 3. No substitution required
☒ 4. whichever

Question ID : 264330102460
 Status : Answered
 Chosen Option : 3

Q.2 The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

She has / a habit of / spending against / her means.

- Ans ☒ 1. her means
☒ 2. She has
☒ 3. spending against
☒ 4. a habit of

Question ID : 26433093783
 Status : Answered
 Chosen Option : 3

Q.3 Select the most appropriate homonym to fill in the blank.
You need to _____ the window down to fit the frame.

- Ans ☒ 1. slice
☒ 2. tie
☒ 3. file
☒ 4. chop

Question ID : 26433055492
Status : Answered
Chosen Option : 2

Q.4 Select the most appropriate meaning of the given idiom.

Down in the mouth

- Ans ☒ 1. Angry
☒ 2. Exaggerating
☒ 3. Unhappy
☒ 4. Discourteous

Question ID : 26433088223
Status : Answered
Chosen Option : 3

Q.5 Select the most appropriate option to fill in the blank.

My lecture is over now. Please _____ free to ask about any doubts you have.

- Ans ☒ 1. think
☒ 2. be
☒ 3. feel
☒ 4. speak

Question ID : 26433058361
Status : Answered
Chosen Option : 3

Q.6 Select the most appropriate word for the underlined word in the given sentence.

Falgun jumped on the pond.

- Ans ☒ 1. onto
☒ 2. at
☒ 3. into
☒ 4. in

Question ID : 26433088314
Status : Answered
Chosen Option : 3

Q.7 Select the option that expresses the given sentence in passive voice.

He invited me to his place yesterday.

- Ans
- ☒ 1. I invited to his place yesterday.
 - ☒ 2. I was invited.
 - ☒ 3. To his place I was invited yesterday.
 - ☒ 4. I was invited by him to his place yesterday.

Question ID : 26433093193

Status : Answered

Chosen Option : 4

Q.8 Select the option that can be used as a one-word substitute for the given group of words.

A person who is skilled at producing beautiful handwriting

- Ans
- ☒ 1. Geographer
 - ☒ 2. Seismographer
 - ☒ 3. Calligrapher
 - ☒ 4. Photographer

Question ID : 26433073974

Status : Answered

Chosen Option : 3

Q.9 Select the most appropriate homonym to fill in the blank.
Some trees shed off their _____ annually.

- Ans
- ☒ 1. fruits
 - ☒ 2. bark
 - ☒ 3. root
 - ☒ 4. branch

Question ID : 26433055488

Status : Answered

Chosen Option : 4

Q.10 Select the option that will improve the underlined part of the given sentence.

I want you beside my side for as long as we both shall live.

- Ans
- ☒ 1. around
 - ☒ 2. aside
 - ☒ 3. by
 - ☒ 4. in

Question ID : 26433059039

Status : Answered

Chosen Option : 3

Q.11 Select the option that can be used as a one-word substitute for the given group of words.

A person who can use both his/her hands easily

- Ans ☒ 1. Writer
☒ 2. Ambidextrous
☒ 3. Right handed
☒ 4. Left handed

Question ID : 26433072807
Status : Answered
Chosen Option : 2

Q.12 Select the option that expresses the given sentence in passive voice.

We refused them admission.

- Ans ☒ 1. We have refused to admit them.
☒ 2. Admission was refused to us by them.
☒ 3. Admission was being refused to them.
☒ 4. Admission was refused to them by us.

Question ID : 26433093466
Status : Answered
Chosen Option : 4

Q.13 Select the most appropriate synonym of the given word.

Basement

- Ans ☒ 1. Cellar
☒ 2. Trophy
☒ 3. Casket
☒ 4. Harvest

Question ID : 26433073467
Status : Answered
Chosen Option : 1

Q.14 Select the most appropriate ANTONYM of the underlined word in the given sentence.

Accuracy and fluency play a vital role in effective formal communication.

- Ans ☒ 1. Major
☒ 2. Significant
☒ 3. Key
☒ 4. Limited

Question ID : 26433094180
Status : Answered
Chosen Option : 4

Q.15 Select the most appropriate meaning of the given idiom.

Throw caution to the wind

- Ans
- ☐ 1. Freeze due to shock
 - ☐ 2. Discourage the strong
 - ☒ 3. Take a risk
 - ☐ 4. Turn to your weakness

Question ID : 26433088772

Status : Answered

Chosen Option : 2

Q.16 Select the option that can be used as a one-word substitute for the given group of words.

Writing which cannot be read

- Ans
- ☐ 1. Illusive
 - ☒ 2. Illegible
 - ☐ 3. Irrelevant
 - ☐ 4. Irresponsible

Question ID : 26433073351

Status : Answered

Chosen Option : 2

Q.17 Select the option that can be used as a one-word substitute for the given group of words.

The imaginary line where the earth and sky seem to meet

- Ans
- ☐ 1. Zenith
 - ☐ 2. Nadir
 - ☐ 3. Coast
 - ☒ 4. Horizon

Question ID : 26433072338

Status : Answered

Chosen Option : 4

Q.18 Select the INCORRECTLY spelt word.

- Ans
- ☐ 1. Helpful
 - ☐ 2. Outcome
 - ☐ 3. Specific
 - ☒ 4. Seperate

Question ID : 26433074386

Status : Answered

Chosen Option : 4

Q.19 Identify the INCORRECTLY spelt word from the underlined words in the given sentence.

If you are resiliant you tend to respond to stressful situations in a calm, secure, steady and rational way.

- Ans
- ☒ 1. situations
 - ☒ 2. rational
 - ☒ 3. resilient
 - ☒ 4. respond

Question ID : 26433088149

Status : Answered

Chosen Option : 3

Q.20 Select the most appropriate synonym of the given word.

Sublime

- Ans
- ☒ 1. Astonish
 - ☒ 2. Merging
 - ☒ 3. Exhilarate
 - ☒ 4. Expanding

Question ID : 26433089716

Status : Answered

Chosen Option : 2

Comprehension:

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

She had the sense that her life was happening (1) _____ very far away, happening without her, and she didn't know if she (2) _____ ever find out where it was and become part of it. She had that feeling in school (3) _____, but it wasn't accompanied by any specific images of what the real life (4) _____ look or feel like. All she knew was that when it started, she wouldn't need to (5) _____ it anymore.

SubQuestion No : 21

Q.21 Select the most appropriate option to fill in blank number 1.

- Ans
- ☒ 1. formerly
 - ☒ 2. somewhere
 - ☒ 3. nevertheless
 - ☒ 4. erstwhile

Question ID : 26433099911

Status : Answered

Chosen Option : 2

Comprehension:

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

She had the sense that her life was happening (1) _____ very far away, happening without her, and she didn't know if she (2) _____ ever find out where it was and become part of it. She had that feeling in school (3) _____, but it wasn't accompanied by any specific images of what the real life (4) _____ look or feel like. All she knew was that when it started, she wouldn't need to (5) _____ it anymore.

SubQuestion No : 22

Q.22 Select the most appropriate option to fill in blank number 2.

- Ans ☒ 1. shall
☒ 2. would
☒ 3. has to
☒ 4. may

Question ID : 26433099912

Status : Answered

Chosen Option : 2

Comprehension:

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

She had the sense that her life was happening (1) _____ very far away, happening without her, and she didn't know if she (2) _____ ever find out where it was and become part of it. She had that feeling in school (3) _____, but it wasn't accompanied by any specific images of what the real life (4) _____ look or feel like. All she knew was that when it started, she wouldn't need to (5) _____ it anymore.

SubQuestion No : 23

Q.23 Select the most appropriate option to fill in blank number 3.

- Ans ☒ 1. often
☒ 2. preferably
☒ 3. rarely
☒ 4. presently

Question ID : 26433099913

Status : Answered

Chosen Option : 3

Comprehension:

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

She had the sense that her life was happening (1) _____ very far away, happening without her, and she didn't know if she (2) _____ ever find out where it was and become part of it. She had that feeling in school (3) _____, but it wasn't accompanied by any specific images of what the real life (4) _____ look or feel like. All she knew was that when it started, she wouldn't need to (5) _____ it anymore.

SubQuestion No : 24

Q.24 Select the most appropriate option to fill in blank number 4.

- Ans ☒ 1. can
☒ 2. might
☒ 3. will
☒ 4. ought to

Question ID : 26433099914

Status : Answered

Chosen Option : 2

Comprehension:

In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

She had the sense that her life was happening (1) _____ very far away, happening without her, and she didn't know if she (2) _____ ever find out where it was and become part of it. She had that feeling in school (3) _____, but it wasn't accompanied by any specific images of what the real life (4) _____ look or feel like. All she knew was that when it started, she wouldn't need to (5) _____ it anymore.

SubQuestion No : 25

Q.25 Select the most appropriate option to fill in blank number 5.

Ans ☒ 1. imagine

☒ 2. instigate

☒ 3. favour

☒ 4. drag

Question ID : **26433099915**

Status : **Answered**

Chosen Option : **1**

Section : **General Awareness**

Q.1 Who secured his maiden Super 500 Title by winning 'Yonex-Sunrise India Open' on 16 January 2022?

Ans ☒ 1. Lakshya Sen

☒ 2. Varun Kapur

☒ 3. Chirag Shetty

☒ 4. Satwiksairaj Rankireddy

Question ID : **26433081896**

Status : **Not Answered**

Chosen Option : **--**

Q.2 In May 2021, which Indian political leader was elected to the Badminton World Federation council for the period of 2021-25?

Ans ☒ 1. Himanta Biswa Sarma

☒ 2. Arvind Kejriwal

☒ 3. Ashok Gehlot

☒ 4. Naveen Patnaik

Question ID : **26433074215**

Status : **Not Answered**

Chosen Option : **--**

Q.3 The institution of nayaka in the vijayanagara empire was studied in detail by Fernao Nuniz who is a _____.

Ans ☒ 1. the Italian Chronicler

☒ 2. the Russian Chronicler

☒ 3. the Arab Chronicler

☒ 4. the Portuguese Chronicler

Question ID : **264330106826**

Status : **Not Answered**

Chosen Option : **--**

Q.4 The importance of Directive Principles is that they contain _____ of the State towards its citizens.

- Ans ☒ 1. positive obligations
☐ 2. neo-liberal obligations
☐ 3. negative obligations
☐ 4. collectivist obligations

Question ID : 264330106853
Status : Answered
Chosen Option : 1

Q.5 In the Dravidian style of architecture, the gateways of the temples are known as _____,

- Ans ☐ 1. chhatri
☒ 2. gopuram
☐ 3. mandapa
☐ 4. toran

Question ID : 26433066571
Status : Answered
Chosen Option : 2

Q.6 Who among the following learnt the technique of meditation and the teachings of the Upanishads from Alara Kalama?

- Ans ☐ 1. Sariputra
☐ 2. Mahavira Jaina
☐ 3. Sambhutavijaya
☒ 4. Gautama Buddha

Question ID : 264330106810
Status : Answered
Chosen Option : 2

Q.7 According to census 2011, which of the following percentage depict the level of urbanisation in India?

- Ans ☒ 1. 31.16%
☐ 2. 28%
☐ 3. 33.16%
☐ 4. 26%

Question ID : 264330106799
Status : Answered
Chosen Option : 3

Q.8 Which of the following is an example of Miniratnas?

- Ans ☐ 1. Indian Oil Corporation Limited
☐ 2. Hindustan Aeronautics Limited
☐ 3. Mahanagar Telephone Nigam Limited
☒ 4. Airport Authority of India

Question ID : 26433065490
Status : Answered
Chosen Option : 3

Q.9 J.A.R. Newlands founded the Law of Octaves in the year _____.

- Ans
- ☐ 1. 1965
 - ☐ 2. 2005
 - ☐ 3. 2015
 - ☒ 4. 1865

Question ID : 264330106766
Status : Not Answered
Chosen Option : --

Q.10 The _____ was started in Bengal in 1859.

- Ans
- ☐ 1. Santhal Rebellion
 - ☐ 2. Bisoi Rebellion
 - ☒ 3. Indigo Rebellion
 - ☐ 4. Pabna Rebellion

Question ID : 264330106823
Status : Answered
Chosen Option : 1

Q.11 According to the State of Forest Report 2019, which of the following state has the highest increase in the forest cover in India?

- Ans
- ☐ 1. Jammu & Kashmir
 - ☐ 2. Kerala
 - ☐ 3. Andhra Pradesh
 - ☒ 4. Karnataka

Question ID : 26433071624
Status : Answered
Chosen Option : 3

Q.12 Under which provision of the constitution of India it is duty of citizens to safeguard public property and to abjure violence?

- Ans
- ☐ 1. Article 51A(g)
 - ☒ 2. Article 51A(i)
 - ☐ 3. Article 51A(h)
 - ☐ 4. Article 51A(j)

Question ID : 264330106857
Status : Answered
Chosen Option : 3

Q.13 The government of India has launched Startup India initiative in _____ with the objective of supporting entrepreneurs, building a robust startup ecosystem in India.

- Ans
- ☐ 1. 2018
 - ☐ 2. 2015
 - ☒ 3. 2016
 - ☐ 4. 2017

Question ID : 26433066625
Status : Not Answered
Chosen Option : --

Q.14 Which equations describe the reflection and transmission of electromagnetic waves at an interface?

- Ans ☒ 1. Fresnel's Equations
☒ 2. Maxwell Equations
☒ 3. Biot's Equations
☒ 4. Schrodinger Equations

Question ID : 264330106747
Status : Answered
Chosen Option : 4

Q.15 When was Planning Commission established and when was it replaced by NITI Aayog?

- Ans ☒ 1. 1950; 2015
☒ 2. 1951; 2012
☒ 3. 1950; 2016
☒ 4. 1951; 2014

Question ID : 264330106793
Status : Answered
Chosen Option : 1

Q.16 The Chief Minister of which Indian state has been included in the list of Time Magazine's most influential people of 2021?

- Ans ☒ 1. Delhi
☒ 2. West Bengal
☒ 3. Karnataka
☒ 4. Maharashtra

Question ID : 264330106730
Status : Answered
Chosen Option : 1

Q.17 The vision of Inclusive Growth was emphasised in which of the following Five-Year Plans in India?

- Ans ☒ 1. Eighth
☒ 2. Ninth
☒ 3. Tenth
☒ 4. Eleventh

Question ID : 26433064515
Status : Answered
Chosen Option : 3

Q.18 Who among the following has been named as ICC Women's Cricketer of the Year for 2021?

- Ans ☒ 1. Mitali Raj
☒ 2. Neha Tanwar
☒ 3. Priya Punia
☒ 4. Smriti Mandhana

Question ID : 26433090651
Status : Answered
Chosen Option : 1

Q.19 The Central Vigilance Commission (Amendment) Bill, 2021, passed in December 2021 seeks to amend the Central Vigilance Commission Act of _____.

- Ans ☒ 1. 2005
☒ 2. 2003
☒ 3. 1998
☒ 4. 2007

Question ID : 26433061835
Status : Answered
Chosen Option : 1

Q.20 The Fundamental Rights are enshrined in which Part of the Indian Constitution?

- Ans ☒ 1. Part II
☒ 2. Part III
☒ 3. Part IV A
☒ 4. Part IV

Question ID : 264330106864
Status : Answered
Chosen Option : 2

Q.21 Hola Mohalla, started by Guru Gobind Singh is primarily celebrated in which of the following states of India?

- Ans ☒ 1. Kerala
☒ 2. Uttarakhand
☒ 3. Maharashtra
☒ 4. Punjab

Question ID : 26433086645
Status : Answered
Chosen Option : 4

Q.22 Which of the following organisations primarily takes care of agricultural and rural credit?

- Ans ☒ 1. IIFCL
☒ 2. IFCI
☒ 3. NABARD
☒ 4. NEDFI

Question ID : 264330106777
Status : Answered
Chosen Option : 3

Q.23 In February 2022, the Immigration Visa Foreigners Registration Tracking (IVFRT) Scheme has been extended by the Government of India up to _____.

- Ans ☒ 1. 2024
☒ 2. 2023
☒ 3. 2025
☒ 4. 2026

Question ID : 26433054420
Status : Answered
Chosen Option : 3

Q.24 Ghoomar is traditionally performed by which community?

- Ans
- ☐ 1. Sehria
 - ☐ 2. Kalbelia
 - ☐ 3. Tadv
 - ☒ 4. Bhil

Question ID : 26433066527
Status : Answered
Chosen Option : 2

Q.25 Which sports personality was chosen for the Padma Shri award on 25 January 2022?

- Ans
- ☒ 1. Neeraj Chopra
 - ☐ 2. Sandeep Narwal
 - ☐ 3. Virat Kohli
 - ☐ 4. Mitali Raj

Question ID : 264330106742
Status : Answered
Chosen Option : 1

Section : Physics

Q.1 Solution of the differential equation $dr = a(r \sin \theta d\theta - \cos \theta dr)$ is _____.

- Ans
- ☐ 1. $r(1 - a \cos \theta) = c$
 - ☐ 2. $r(1 + a \cos \theta) = ac$
 - ☒ 3. $r(1 + a \cos \theta) = c$
 - ☐ 4. $r(1 - \cos \theta) = ac$

Question ID : 264330108318
Status : Answered
Chosen Option : 2

Q.2 With increasing quantum number, energy difference between adjacent levels in atoms _____.

- Ans
- ☐ 1. increases
 - ☒ 2. decreases
 - ☐ 3. becomes zero
 - ☐ 4. remains constant

Question ID : 264330108205
Status : Answered
Chosen Option : 1

Q.3 What is the value of $\int a^x dx$?

- Ans
- ☐ 1. $a^x + C$
 - ☐ 2. $e^x a^x + C$
 - ☐ 3. $a^x \log a + C$
 - ☒ 4. $(a^x / \log a) + C$

Question ID : 264330108419

Status : Answered

Chosen Option : 4

Q.4 What is ratio of time period of revolution of electron of He^+ ion sample in the orbit where the path length is three-times the de-Broglie wavelength to time period of revolution in ground state?

- Ans
- ☐ 1. 9 : 8
 - ☒ 2. 27 : 1
 - ☐ 3. 8 : 9
 - ☐ 4. 1 : 27

Question ID : 264330108212

Status : Answered

Chosen Option : 2

Q.5 The angle made by the vector $A = \hat{i} + \hat{j} + \sqrt{2}\hat{k}$ with z-axis is _____.

- Ans
- ☐ 1. 22.5 degree
 - ☐ 2. 30 degree
 - ☒ 3. 45 degree
 - ☐ 4. 90 degree

Question ID : 264330108341

Status : Not Answered

Chosen Option : --

Q.6 In a series RLC circuit, what is the phase difference between the current in the capacitor and the current in the resistor?

- Ans
- ☐ 1. 90 degree
 - ☐ 2. 360 degree
 - ☐ 3. 180 degree
 - ☒ 4. 0 degree

Question ID : 264330108195

Status : Not Answered

Chosen Option : --

Q.7 A steam engine absorbs 8 KJ of heat per minute from its boiler and delivers 4.8 KJ of work per minute. What is its efficiency?

- Ans**
- ☒ 1. 60 percent
 - ☐ 2. 80 percent
 - ☐ 3. 20 percent
 - ☐ 4. 40 percent

Question ID : **264330108265**
Status : **Not Answered**
Chosen Option : --

Q.8 If the length of a simple pendulum is increased, then the time period _____.

- Ans**
- ☒ 1. will increase
 - ☐ 2. can't be predict
 - ☐ 3. will decrease
 - ☐ 4. remains same

Question ID : **264330108377**
Status : **Answered**
Chosen Option : 1

Q.9 What happens to a body when it is charged by induction?

- Ans**
- ☐ 1. Body loses the whole of the charge in it
 - ☐ 2. Body becomes neutral
 - ☒ 3. Body does not lose any charge
 - ☐ 4. Body loses the part of the charge on it

Question ID : **264330108290**
Status : **Answered**
Chosen Option : 4

Q.10 A full-wave diode rectifier is applied with a voltage from a 150 V – 0 – 150 V transformer. Load and diode forward resistance is 100 Ω and 10 Ω respectively. The average output voltage of the rectifier circuit is _____.

- Ans**
- ☐ 1. 23.27 V
 - ☐ 2. 24.57 V
 - ☒ 3. 12.27 V
 - ☐ 4. 34.77 V

Question ID : **264330108217**
Status : **Not Answered**
Chosen Option : --

Q.11

What is the value of $\lim_{x \rightarrow \infty} \left(1 + \frac{1}{x}\right)^x$

- Ans
- ☒ 1. ∞
 - ☒ 2. 0
 - ☒ 3. e
 - ☒ 4. 1

Question ID : 264330108121
Status : Answered
Chosen Option : 4

Q.12 The resultant of 2 vectors having magnitude 2 and 3 is 1. What is the magnitude of their cross product?

- Ans
- ☒ 1. 6
 - ☒ 2. 3
 - ☒ 3. 0
 - ☒ 4. 1

Question ID : 264330108343
Status : Not Answered
Chosen Option : --

Q.13 In a diode, when there is saturation current, then what is the plate resistance?

- Ans
- ☒ 1. Infinite
 - ☒ 2. Zero
 - ☒ 3. Finite
 - ☒ 4. Remains constant

Question ID : 264330108414
Status : Not Answered
Chosen Option : --

Q.14 A gas X has C_p and C_v ratio as 1.4. At NTP, 11.2 Litre gas X will contain _____ number of atoms.

- Ans
- ☒ 1. 1.2×10^{23}
 - ☒ 2. 2.01×10^{23}
 - ☒ 3. 3.01×10^{23}
 - ☒ 4. 6.02×10^{23}

Question ID : 264330108007
Status : Not Answered
Chosen Option : --

Q.15

Find value of a_{21} when $a_{ij} = \frac{1}{2} |i - 3j|$.

- Ans
- ✓ 1. $1/2$
 - ✗ 2. 2
 - ✗ 3. 1
 - ✗ 4. $5/2$

Question ID : 264330108029

Status : Answered

Chosen Option : 1

Q.16

The angle which a vector $\hat{i} + \hat{j} + \sqrt{2}\hat{k}$ makes with X, Y and Z axes are _____ respectively.

- Ans
- ✗ 1. 45 degree, 45 degree, 60degree
 - ✓ 2. 60 degree, 60 degree, 45 degree
 - ✗ 3. 60 degree, 60 degree, 60 degree
 - ✗ 4. 45 degree, 45 degree, 45 degree

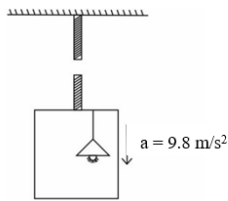
Question ID : 264330108442

Status : Answered

Chosen Option : 1

Q.17

Consider a lamp in an elevator cabin as shown in figure. The cabin falls down after the cable breaks. The forces acting on lamp are gravitational force (W) and electromagnetic force (T) tension by the rope. Considering frame of reference of the cabin, which of the following relation is correct?



- Ans
- ✗ 1. Cannot be determined
 - ✗ 2. $W - T > 0$
 - ✗ 3. $W - T < 0$
 - ✓ 4. $W - T = 0$

Question ID : 264330107949

Status : Not Answered

Chosen Option : --

Q.18

The differential equation of family of circles with fixed radius 5 units having centre on line $y = 2$ is _____.

- Ans
- ✗ 1. $(x - 2)^2 y = (y - 2)^2$
 - ✗ 2. $(x - 2)(y')^2 = 25 - (y - 2)^2$
 - ✗ 3. $(y - 2)(y')^2 = 25 - (y - 2)^2$
 - ✓ 4. $(y - 2)^2 (y')^2 = 25 - (y - 2)^2$

Question ID : 264330108327

Status : Not Answered

Chosen Option : --

Q.19 $A = \begin{vmatrix} 1 & -1 & 1 \\ 2 & 1 & -3 \\ 1 & 1 & 1 \end{vmatrix}$, $10B = \begin{vmatrix} 4 & 2 & 2 \\ -5 & 0 & \alpha \\ 1 & -2 & 3 \end{vmatrix}$, if $B = A^{-1}$, then value of α is _____.

- Ans
- ☒ 1. 0
 - ☒ 2. 10
 - ☒ 3. 1
 - ☒ 4. 5

Question ID : 264330108233
Status : Not Answered
Chosen Option : --

Q.20 What is velocity of light in a diamond if the refractive index of diamond with respect to vacuum is 2.5?

- Ans
- ☒ 1. 2.5×10^8 m/s
 - ☒ 2. 5×10^8 m/s
 - ☒ 3. 1.2×10^8 m/s
 - ☒ 4. 1.5×10^8 m/s

Question ID : 264330107985
Status : Not Answered
Chosen Option : --

Q.21 Consider a circus acrobat performing spins. Which of the following principle is used in his performance?

- Ans
- ☒ 1. Conservation of Angular momentum.
 - ☒ 2. Conservation of energy
 - ☒ 3. Conservation of mass
 - ☒ 4. Conservation of Linear momentum.

Question ID : 264330108349
Status : Not Answered
Chosen Option : --

Q.22 What is the value of $\begin{vmatrix} b^2c^2 & bc & b+c \\ c^2a^2 & ca & c+a \\ a^2b^2 & ab & a+b \end{vmatrix}$?

- Ans
- ☒ 1. 0
 - ☒ 2. $a + b + c$
 - ☒ 3. $ab + bc + ca$
 - ☒ 4. $(ab + bc + ca)/abc$

Question ID : 264330108236
Status : Answered
Chosen Option : 1

Q.23 Consider a radioactive nucleus at rest which emits an alpha particle along X – axis. Let m and M be mass numbers of the alpha particle and residual nucleus respectively. If the alpha particle is emitted with speed V, then what is the speed of the residual nucleus?

- Ans
- ☒ 1. $(M + m)V$
 - ☒ 2. $\frac{m}{M}V$
 - ☒ 3. $\frac{M}{m}V$
 - ☒ 4. $-\frac{m}{M}V$

Question ID : 264330108253
Status : Answered
Chosen Option : 3

Q.24 The unit vector $\hat{i} + \hat{j} - \hat{k}$ is _____.

- Ans
- ☒ 1. $\hat{i} + \hat{j} + \hat{k}$
 - ☒ 2. $\frac{\hat{i} + \hat{j} + \hat{k}}{2}$
 - ☒ 3. \hat{k}
 - ☒ 4. $\frac{\hat{i} + \hat{j} - \hat{k}}{\sqrt{3}}$

Question ID : 264330108439
Status : Answered
Chosen Option : 2

Q.25 What does a positively charged body imply?

- Ans
- ☒ 1. There is equal positive and negative charge in the body but the positive charge lies in the outer regions
 - ☒ 2. There is positive as well as negative charge in the body but the positive charge is more than negative charge
 - ☒ 3. There is only positive charge in the body.
 - ☒ 4. Negative charge is displaced from its position

Question ID : 264330108090
Status : Answered
Chosen Option : 4

Q.26 A Simple Harmonic Oscillator has an amplitude A and time period T. The time required by it to travel from $X = A$ to

$$X = \frac{A}{\sqrt{2}} \text{ is } \underline{\hspace{2cm}}.$$

- Ans**
- ☒ 1. $T/2$
 - ☒ 2. $T/6$
 - ☒ 3. $T/8$
 - ☒ 4. $T/4$

Question ID : **264330108280**
Status : **Answered**
Chosen Option : **2**

Q.27 According to Bohr's atomic model, the angular momentum of e^- in n^{th} orbit is equal to an integral multiple of _____.

- Ans**
- ☒ 1. $2h/\pi$
 - ☒ 2. $Nh/2\pi$
 - ☒ 3. h/π
 - ☒ 4. $h/2\pi$

Question ID : **264330108206**
Status : **Answered**
Chosen Option : **4**

Q.28 The total number of neutrons in dipositive zinc ions with mass number 70 is _____.

- Ans**
- ☒ 1. 34
 - ☒ 2. 38
 - ☒ 3. 40
 - ☒ 4. 36

Question ID : **264330108405**
Status : **Not Answered**
Chosen Option : **--**

Q.29 A 40 μF capacitor is connected to a 220 V, 50 Hz AC supply. What is the root mean square value of the current in the circuit ?

- Ans**
- ☒ 1. 2.2 A
 - ☒ 2. 2 A
 - ☒ 3. 2.76 A
 - ☒ 4. 2.5 A

Question ID : **264330108402**
Status : **Answered**
Chosen Option : **1**

Q.30 When a compact disk is illuminated by a source of white light, then coloured lines are observed. This is due to _____.

- Ans**
- ☒ 1. diffraction
 - ☒ 2. dispersion
 - ☒ 3. refraction
 - ☒ 4. interference

Question ID : **264330108388**
Status : **Answered**
Chosen Option : **4**

Q.31 The magnetic susceptibility of an ideal diamagnetic material is _____.

- Ans
- ☐ 1. 0
 - ☐ 2. 1
 - ☐ 3. infinite
 - ☒ 4. -1

Question ID : 264330108092
Status : Answered
Chosen Option : 3

Q.32 What is amplitude of motion for $x = 2\sin(2t) + 4\sin^2 t$?

- Ans
- ☐ 1. 2 m
 - ☐ 2. 4 m
 - ☐ 3. 8 m
 - ☒ 4. $(2\sqrt{2})$ m

Question ID : 264330108074
Status : Answered
Chosen Option : 1

Q.33 A particle has an equation of motion given by $x = \cos^2 \omega t - \sin^2 \omega t$. Select the correct statement regarding the same.

- Ans
- ☐ 1. It is not a Simple Harmonic Motion
 - ☐ 2. It is Simple Harmonic Motion with $T = 2\pi/\omega$
 - ☐ 3. Amplitude of motion is $(1/\sqrt{2})$ m
 - ☒ 4. It is Simple Harmonic Motion with $T = \pi/\omega$

Question ID : 264330108073
Status : Answered
Chosen Option : 4

Q.34 In an AC circuit, $R=0$ ohm, $X_L = 5$ ohm and $X_C = 3$ ohm, what is the phase difference between voltage and current?

- Ans
- ☒ 1. 90 degree
 - ☐ 2. 110 degree
 - ☐ 3. 0 degree
 - ☐ 4. 210 degree

Question ID : 264330108302
Status : Answered
Chosen Option : 2

Q.35 Which of the following describes current flow between two junctions formed by two different metals?

- Ans ☒ 1. Peltier effect
☒ 2. Seebeck effect
☒ 3. Thomson effect
☒ 4. Hall effect

Question ID : 264330108096
 Status : Answered
 Chosen Option : 2

Q.36 A spherical surface has a charge of $30\mu\text{C}$. What is the net electric flux?

- Ans ☒ 1. $30\mu/\epsilon_0 \text{ Vm}$
☒ 2. $30\mu/2\epsilon_0 \text{ Vm}$
☒ 3. $30\mu/3\epsilon_0 \text{ Vm}$
☒ 4. $30/\epsilon_0 \text{ Vm}$

Question ID : 264330108197
 Status : Answered
 Chosen Option : 2

Q.37 A ring is kept at top of an incline with incline angle (θ) and height 'h'. If it goes down rolling purely, then what will be its speed at the bottom?

- Ans ☒ 1. $\sqrt{gh} \text{ m/s}$
☒ 2. $\sqrt{gh \cos \theta} \text{ m/s}$
☒ 3. $\sqrt{2gh/\sin \theta} \text{ m/s}$
☒ 4. $\sqrt{2gh} \text{ m/s}$

Question ID : 264330108154
 Status : Not Answered
 Chosen Option : --

Q.38 The angle made by the vector $A = \hat{i} + \hat{j}$ with x-axis is _____.

- Ans ☒ 1. 30 degree
☒ 2. 22.5 degree
☒ 3. 90 degree
☒ 4. 45 degree

Question ID : 264330108438
 Status : Not Answered
 Chosen Option : --

Q.39 Fluid offers resistance to motion due to internal friction, such property is called _____.

- Ans ☒ 1. Viscosity
☒ 2. Buoyancy
☒ 3. Specific gravity
☒ 4. Pressure

Question ID : 264330108252
 Status : Answered
 Chosen Option : 1

Q.40 A spherical surface has a charge of $20\mu\text{C}$. What is the net electric flux?

- Ans ☒ 1. $20\mu/2\epsilon_0 \text{ Vm}$
☒ 2. $20/\epsilon_0 \text{ Vm}$
☒ 3. $20\mu/\epsilon_0 \text{ Vm}$
☒ 4. $20\mu/3\epsilon_0 \text{ Vm}$

Question ID : 264330108297
 Status : Not Answered
 Chosen Option : --

Q.41 Which of the following is responsible for most of refraction of light rays entering human eyes?

- Ans ☒ 1. Retina
☒ 2. Iris
☒ 3. Cornea
☒ 4. Optic nerve

Question ID : 264330108082
 Status : Answered
 Chosen Option : 2

Q.42 $A = [a_{ij}]_{4 \times 1}$ is a _____.

- Ans ☒ 1. Column matrix
☒ 2. Diagonal matrix
☒ 3. Row matrix
☒ 4. Square matrix

Question ID : 264330108031
 Status : Answered
 Chosen Option : 1

Q.43 Given an ideal gas of fixed mass, the final pressure and volume are twice that of its initial pressure and volume. If temperature of gas is 47°C , then what will be its final temperature?

- Ans
- ☒ 1. 1200°C
 - ☒ 2. 108°C
 - ☒ 3. 927°C
 - ☒ 4. 1007°C

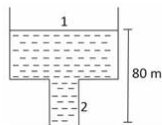
Question ID : **264330107969**
 Status : **Not Answered**
 Chosen Option : --

Q.44 How much work is done in moving a charge of 3 coulomb across two points having a potential difference of 12V?

- Ans
- ☒ 1. 144J
 - ☒ 2. 36J
 - ☒ 3. 4J
 - ☒ 4. 16J

Question ID : **264330108397**
 Status : **Answered**
 Chosen Option : 2

Q.45 As shown in figure, fluid of specific gravity is draining from the bottom of a large container through a 100 mm tube. The fluid tube ends at a point 80 m below the surface of fluid in container. What is the velocity of flow along the streamline at point of discharge from tube? (Take $g = 9.81 \text{ m/s}^2$)



- Ans
- ☒ 1. 39.61 m/s
 - ☒ 2. 29.81 m/s
 - ☒ 3. 14 m/s
 - ☒ 4. 19.81 m/s

Question ID : **264330108158**
 Status : **Not Answered**
 Chosen Option : --

Q.46 The acceleration of a particle performing Simple Harmonic Motion is _____ whose displacement is $f(t) = A \cos(\omega t + \phi)$.

- Ans
- ☒ 1. $\omega^2 A \cos(\omega t - \phi)$
 - ☒ 2. $A \cos(\omega t + \phi)$
 - ☒ 3. $-\omega^2 A \cos(\omega t + \phi)$
 - ☒ 4. $-\omega^2 A \sin(\omega t + \phi)$

Question ID : **264330107972**
 Status : **Answered**
 Chosen Option : 1

Q.47 Equation of curve through point (1, 0) which satisfies the differential equation: $(1 + y^2)dx - xydy = 0$ is _____.

- Ans**
- ☒ 1. $2x^2 - y^2 = z$
 - ☒ 2. $x^2 + y^2 = 1$
 - ☒ 3. $2x^2 - y^2 = 0$
 - ☒ 4. $x^2 - y^2 = 1$

Question ID : **264330108323**
Status : **Not Answered**
Chosen Option : --

Q.48 If A and B are square matrices of same order and A is non-singular, then for a positive integer n, $(A^{-1}BA)^n =$ _____.

- Ans**
- ☒ 1. $A^{-1}B^nA^1$
 - ☒ 2. $n(A^{-1}B(A))$
 - ☒ 3. $A^nB^nA^n$
 - ☒ 4. $A^{-n}B^nA^n$

Question ID : **264330108435**
Status : **Not Answered**
Chosen Option : --

Q.49 A 10 V reference source is designed from a 30 V supply using a Zener diode and a resistance. The test current of the Zener diode is 20 mA. If the supply voltage drops to 20 V, then what will be the zener current?

- Ans**
- ☒ 1. 15 mA
 - ☒ 2. 20 mA
 - ☒ 3. 10 mA
 - ☒ 4. 5 mA

Question ID : **264330108016**
Status : **Not Answered**
Chosen Option : --

Q.50 The r.m.s speed of gas at 17°C is V. If the temperature of gas is raised to 307°C , then what will be the r.m.s speed of gas?

- Ans**
- ☒ 1. V
 - ☒ 2. $\frac{\sqrt{3}}{2}V$
 - ☒ 3. $\frac{2}{\sqrt{2}}V$
 - ☒ 4. $\frac{1V}{\sqrt{2}}$

Question ID : **264330108067**
Status : **Not Answered**
Chosen Option : --

Q.51 Consider two spherical balls of masses m and M . The gravitational force between them is F . The space around the balls is filled with a liquid with specific gravity 5. What is the new gravitational force?

- Ans
- ☒ 1. $F/25$
 - ☒ 2. $5F$
 - ☒ 3. $F/5$
 - ☒ 4. F

Question ID : **264330108354**
 Status : **Not Answered**
 Chosen Option : --

Q.52 If $A = [a_{ij}]_{3 \times 3}$, such that $a_{ij} = \begin{cases} c(\text{constant}), & \text{when } i=j \\ 0, & \text{when } i \neq j \end{cases}$, then $\log_{a11}(a_{23}) = \underline{\hspace{2cm}}$.

- Ans
- ☒ 1. 0
 - ☒ 2. 1
 - ☒ 3. not defined
 - ☒ 4. 2

Question ID : **264330108331**
 Status : **Not Answered**
 Chosen Option : --

Q.53 Find anti-derivative F of f defined by $4x^3 - 6$.

- Ans
- ☒ 1. $x^3 - 6x + C$
 - ☒ 2. $x^4 - 6x + C$
 - ☒ 3. $x^4 + 6x + C$
 - ☒ 4. $x^3 + 6x + C$

Question ID : **264330108021**
 Status : **Answered**
 Chosen Option : 2

Q.54 If A is skew – symmetric matrix of order 3, then the matrix A^4 is _____.

- Ans
- ☒ 1. null
 - ☒ 2. symmetric
 - ☒ 3. skew-symmetric
 - ☒ 4. diagonal

Question ID : **264330108033**
 Status : **Answered**
 Chosen Option : 2

Q.55 Under condition of high pressure, which equations do real gases conform with?

- Ans
- ✓ 1. Van der Waal's equation
 - ✗ 2. Ideal gas equation
 - ✗ 3. Both Ideal and Van der Waal's equation
 - ✗ 4. Charles's equation

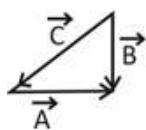
Question ID : 264330108059
Status : Not Answered
Chosen Option : --

Q.56 Resistivity of a wire depends on which of the following?

- Ans
- ✗ 1. cross section area
 - ✓ 2. both material and temperature
 - ✗ 3. material
 - ✗ 4. temperature

Question ID : 264330108093
Status : Answered
Chosen Option : 1

Q.57 For the figure \vec{A} , \vec{B} and \vec{C} , which of the following is correct?



- Ans
- ✗ 1. $\vec{A} + \vec{B} = \vec{C} = 0$
 - ✗ 2. $\vec{A} + \vec{B} = \vec{C}$
 - ✓ 3. $\vec{C} + \vec{A} = \vec{B}$
 - ✗ 4. $\vec{B} + \vec{C} = \vec{A}$

Question ID : 264330108345
Status : Answered
Chosen Option : 2

Q.58 Which of the following is an example of diffraction?

- Ans
- ✗ 1. The tyndall effect
 - ✗ 2. The blue colour of sky
 - ✓ 3. Rainbow pattern found on a CD
 - ✗ 4. The twinkling of stars

Question ID : 264330108083
Status : Answered
Chosen Option : 3

Q.59 What is the value of $\lim_{x \rightarrow 0} \frac{\sin(\pi \cos^2 x)}{x^2}$?

- Ans ☒ 1. π
☒ 2. $-\pi^2$
☒ 3. 0
☒ 4. π^2

Question ID : 264330108025
 Status : Answered
 Chosen Option : 2

Q.60 What is dimensional formula for specific heat?

- Ans ☒ 1. $L^2 T^2 K^1$
☒ 2. $L^2 T^{-2} K^1$
☒ 3. $L^{-2} T^2 K^{-1}$
☒ 4. $L^2 T^{-2} K^{-1}$

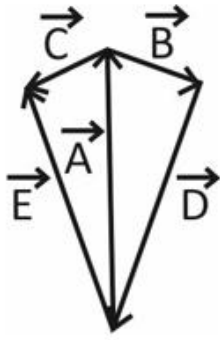
Question ID : 264330108361
 Status : Not Answered
 Chosen Option : --

Q.61 Image formed by plane mirror is always _____.

- Ans ☒ 1. real and erect
☒ 2. virtual and inverted
☒ 3. real and inverted
☒ 4. virtual and erect

Question ID : 264330108380
 Status : Answered
 Chosen Option : 4

Q.62 In the figure, E equals _____.



- Ans
- ☒ 1. \vec{B}
 - ☒ 2. \vec{A}
 - ☒ 3. $(\vec{A} + \vec{C})$
 - ☒ 4. $(\vec{A} + \vec{B})$

Question ID : 264330108447

Status : Answered

Chosen Option : 3

Q.63 In a projectile, the horizontal range is minimum when angle of projection (θ) is _____.

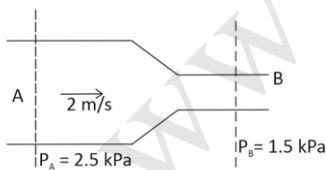
- Ans
- ☒ 1. 90 degree
 - ☒ 2. 45 degree
 - ☒ 3. 60 degree
 - ☒ 4. 0 degree

Question ID : 264330108250

Status : Answered

Chosen Option : 1

Q.64 A fluid flows at a steady velocity through a horizontal pipe with changeable diameter as shown in figure. The velocity is 2 metre/second and pressure is 2.5 kPa at A. The pressure drops to 1.5 kPa at point B. Find the fluid velocity at point B.



- Ans
- ☒ 1. $\sqrt{6}$ metre/second
 - ☒ 2. 6 metre/second
 - ☒ 3. $\sqrt{3}$ metre/second
 - ☒ 4. 3 metre/second

Question ID : 264330108058

Status : Not Answered

Chosen Option : --

Q.65 A spherical ball at 800 K is suspended in air. Consider the ball to be black body and its diameter to be 20 cm. What is the spectral blackbody emissive power at a wavelength of $3 \mu\text{m}$?

$$C_1 = 3.743 \times 10^8 \text{ W}\cdot\mu\text{m}^4/\text{m}^2, C_2 = 1.4387 \times 10^4 \mu\text{mK}$$

Ans

☒ 1. $3600 \text{ W}/\text{m}^2\cdot\mu\text{m}$

☒ 2. $3848 \text{ W}/\text{m}^2\cdot\mu\text{m}$

☒ 3. $2100 \text{ W}/\text{m}^2\cdot\mu\text{m}$

☒ 4. $4200 \text{ W}/\text{m}^2\cdot\mu\text{m}$

Question ID : **264330108370**

Status : **Not Answered**

Chosen Option : --

Q.66 Which of the following can be approximated to be an ideal gas?

Ans

☒ 1. Saturated vapour

☒ 2. Unsaturated vapour

☒ 3. Highly superheated vapour

☒ 4. Super critical fluid

Question ID : **264330108259**

Status : **Answered**

Chosen Option : 1

Q.67 Find the value:

$$\begin{vmatrix} 1 & yz & y+z \\ 1 & xz & x+z \\ 1 & xy & x+y \end{vmatrix}$$

Ans

☒ 1. $xz(x-z) + yz(z-x)$

☒ 2. $xz(x-z) + xy(y-x)$

☒ 3. $xy(y-x) + yz(z-x)$

☒ 4. $xz(x-z) + xy(y-x) + yz(z-y)$

Question ID : **264330108436**

Status : **Answered**

Chosen Option : 4

Q.68 The Brewster's angle(i_b) for an interface should be _____.

- Ans
- ☒ 1. $i_b = 90^\circ$
 - ☒ 2. $45^\circ < i_b < 90^\circ$
 - ☒ 3. $0^\circ < i_b < 30^\circ$
 - ☒ 4. $30^\circ < i_b < 45^\circ$

Question ID : 264330108281
Status : Answered
Chosen Option : 2

Q.69 Maximum shear stress in a triangular cross - section (altitude) of a simply supported beam occurs at a distance of _____.

- Ans
- ☒ 1. $h/5$ from top of beam
 - ☒ 2. $h/3$ from top of beam
 - ☒ 3. $h/6$ from neutral axis
 - ☒ 4. $h/5$ from bottom of beam

Question ID : 264330108256
Status : Not Answered
Chosen Option : --

Q.70 What is the condition for which real gas obeys ideal gas equation?

- Ans
- ☒ 1. At high pressure and high temperature
 - ☒ 2. At high pressure and low temperature
 - ☒ 3. At low pressure and high temperature
 - ☒ 4. At low pressure and low temperature

Question ID : 264330107959
Status : Not Answered
Chosen Option : --

Q.71 At critical state of Van der Waal's equation, what is the value of compressibility factor z ?

- Ans
- ☒ 1. 3.725
 - ☒ 2. 3.375
 - ☒ 3. 0.735
 - ☒ 4. 0.375

Question ID : 264330108159
Status : Not Answered
Chosen Option : --

Q.72 The bracket series of spectral lines arise when an electron in an excited hydrogen atom jumps from an energy _____.

- Ans
- ☒ 1. $n = 5$ to $n = 3$
 - ☒ 2. $n = 5$ to $n = 4$
 - ☒ 3. $n = 5$ to $n = 2$
 - ☒ 4. $n = 5$ to $n = 1$

Question ID : 264330108211

Status : Not Answered

Chosen Option : --

Q.73 Bohr's atomic model can explain the _____.

- Ans
- ☒ 1. solar spectrum
 - ☒ 2. spectrum of an atom or ion with one e^- only
 - ☒ 3. spectrum of hydrogen molecule only
 - ☒ 4. spectrum of hydrogenation

Question ID : 264330108207

Status : Not Answered

Chosen Option : --

Q.74 If \vec{a} and \vec{b} are two vector, then the value of $(\vec{a} + \vec{b}) \times (\vec{a} - \vec{b})$ is _____.

- Ans
- ☒ 1. $\vec{b} \times \vec{a}$
 - ☒ 2. $-2(\vec{b} \times \vec{a})$
 - ☒ 3. $(\vec{a} \times \vec{b})/2$
 - ☒ 4. $2(\vec{b} \times \vec{a})$

Question ID : 264330108124

Status : Answered

Chosen Option : 2

Q.75 $\tan^{-1}x + \tan^{-1}y = c$ is the general solution of differential equation _____.

- Ans
- ☒ 1. $\frac{dy}{dx} = \frac{1+x^2}{1+y^2}$
 - ☒ 2. $(1+x^2)dy + (1+y^2)dx = 0$
 - ☒ 3. $(1+x^2)dx + (1+y^2)dy = 0$
 - ☒ 4. $\frac{dy}{dx} = \frac{1+y^2}{1+x^2}$

Question ID : 264330108326

Status : Answered

Chosen Option : 3

Q.76 Number of unpaired e^- in N^{2+} is _____ .

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

Question ID : 264330108006
Status : Answered
Chosen Option : 3

Q.77 The energy needed to convert helium atom to He^{+2} is -79 eV. The first ionization energy of atom is about _____.

- Ans
- ☒ 1. 48.6 eV
 - ☒ 2. 24.6 eV
 - ☒ 3. 65.4 eV
 - ☒ 4. 15.4 eV

Question ID : 264330108409
Status : Not Answered
Chosen Option : --

Q.78 Which region of the transistor is highly doped?

- Ans
- ☒ 1. Emitter
 - ☒ 2. Base
 - ☒ 3. Both Emitter and collector
 - ☒ 4. Collector

Question ID : 264330108115
Status : Answered
Chosen Option : 1

Q.79 An object originally at the point (2, 5, 1) is given a displacement $8\hat{i} - 2\hat{j} + \hat{k}$ cm. The coordinates of the new position are _____.

- Ans
- ☒ 1. (0, 0, 0)
 - ☒ 2. (10, 3, 2)
 - ☒ 3. (0, 8, 0)
 - ☒ 4. (8, -2, +1)

Question ID : 264330108244
Status : Not Answered
Chosen Option : --

Q.80 What is the reference point temperature for Kelvin Scale?

- Ans**
- ☒ 1. Critical point of water
 - ☒ 2. Triple point of water
 - ☒ 3. Boiling point of water
 - ☒ 4. Freezing point of water

Question ID : 264330108060

Status : Not Answered

Chosen Option : --

Q.81 Two lenses of focal lengths 20 cm and -40 cm are held in contact. The image of an object at ∞ will be formed by combination at _____.

- Ans**
- ☒ 1. 40 cm
 - ☒ 2. 20 cm
 - ☒ 3. 10 cm
 - ☒ 4. ∞

Question ID : 264330108088

Status : Not Answered

Chosen Option : --

Q.82 The angle between two vectors of magnitude 12 units and 18 units when their resultant magnitude is 24 units, will be _____.

- Ans**
- ☒ 1. 82.31 degree
 - ☒ 2. 63.51 degree
 - ☒ 3. 89.16 degree
 - ☒ 4. 75.52 degree

Question ID : 264330108047

Status : Not Answered

Chosen Option : --

Q.83 Given a hemispherical bowl of radius(R), a ball of radius(r) is made to oscillate inside it. What would be the time-period of its oscillation? (Consider $R > r$)

- Ans**
- ☒ 1. $2\pi\sqrt{\frac{r}{g}}$
 - ☒ 2. $2\pi\sqrt{\frac{R}{g}}$
 - ☒ 3. $2\pi\sqrt{\frac{R+r}{g}}$
 - ☒ 4. $2\pi\sqrt{\frac{R-r}{g}}$

Question ID : 264330108077

Status : Answered

Chosen Option : 4

Q.84 A _____ is an infinitesimal part of an atom which is itself of course an insubstantial thing.

- Ans**
- ☒ 1. proton
 - ☐ 2. neutron
 - ☐ 3. electron
 - ☐ 4. particles

Question ID : **264330108111**
 Status : **Answered**
 Chosen Option : **2**

Q.85 In the Young's double-slit experiment, the intensity of light at a point on the screen with path difference λ is K. The intensity of light at a point where path difference is $\lambda/4$, will be _____.

- Ans**
- ☒ 1. $K/2$
 - ☐ 2. K
 - ☐ 3. 0
 - ☐ 4. $K/4$

Question ID : **264330108285**
 Status : **Answered**
 Chosen Option : **4**

Q.86 The magnitude of a given vector with end points (4, -4, 0) and (-2, -2, 0) must be _____.

- Ans**
- ☐ 1. $5\sqrt{2}$
 - ☐ 2. 4
 - ☒ 3. $2\sqrt{10}$
 - ☐ 4. 6

Question ID : **264330108441**
 Status : **Answered**
 Chosen Option : **3**

Q.87 In a moving coil galvanometer, if the current flowing through it is increased, then the deflection in the coil _____.

- Ans**
- ☐ 1. remain same
 - ☐ 2. first increases then decreases
 - ☐ 3. will decrease
 - ☒ 4. will increase

Question ID : **264330108393**
 Status : **Answered**
 Chosen Option : **2**

Q.88 The value of a resistance as measured by a Wheatstone bridge is 15 K using a voltage source of 10 V. If the same resistance is measured by the same bridge using voltage source of 15 V, then the value of resistance is _____.

- Ans**
- ☒ 1. 15 K
 - ☐ 2. 12 K
 - ☐ 3. 25 K
 - ☐ 4. 10 K

Question ID : **264330107998**
 Status : **Answered**
 Chosen Option : **3**

Q.89 A 0.66 kg ball is moving with speed(s) = 100 m/s. Find its wavelength.

- Ans
- ☒ 1. 1×10^{-32} m
 - ☒ 2. 1×10^{-35} m
 - ☒ 3. 6.6×10^{-32} m
 - ☒ 4. 6.6×10^{-34} m

Question ID : 264330108012
Status : Answered
Chosen Option : 3

Q.90 $A = [a_{ij}]_{1 \times n}$ is a _____ matrix.

- Ans
- ☒ 1. diagonal
 - ☒ 2. column
 - ☒ 3. square
 - ☒ 4. row

Question ID : 264330108429
Status : Answered
Chosen Option : 4

Q.91 If a wave is reflected from a denser medium, then what is the change in phase?

- Ans
- ☒ 1. 0
 - ☒ 2. 3π
 - ☒ 3. π
 - ☒ 4. $\pi/4$

Question ID : 264330108275
Status : Answered
Chosen Option : 4

Q.92 What is the value of $\int a^x dx$?

- Ans
- ☒ 1. $a^x + C$
 - ☒ 2. $a^x \cdot \log a + C$
 - ☒ 3. $(a^x / \log a) + C$
 - ☒ 4. $e^x \cdot a^x + C$

Question ID : 264330108022
Status : Answered
Chosen Option : 3

Q.93 Which of following variables has zero values at the extreme position in Simple Harmonic Motion?

- Ans
- ☐ 1. Displacement
 - ☐ 2. Angular frequency
 - ☐ 3. Acceleration
 - ☒ 4. Speed

Question ID : 264330108071

Status : Answered

Chosen Option : 3

Q.94 A metal ball of mass 1 kg falls freely from a height of 10 metre and bounces to a height of 5 metre from ground. If dissipated energy in this process is absorbed by the ball, then the rise in its temperature is _____. (Specific heat of metal = $450 \text{ J/kg}^\circ\text{C}$; Take $g = 9.81 \text{ m/s}^2$)

- Ans
- ☒ 1. 0.109°C
 - ☐ 2. 0.33°C
 - ☐ 3. 0.48°C
 - ☐ 4. 0.56°C

Question ID : 264330107966

Status : Not Answered

Chosen Option : --

Q.95 The image formed by a concave mirror is _____.

- Ans
- ☐ 1. certainly virtual if object is real
 - ☒ 2. certainly real if object is virtual
 - ☐ 3. always virtual
 - ☐ 4. always real

Question ID : 264330108181

Status : Answered

Chosen Option : 4

Q.96 A periscope makes use of _____.

- Ans
- ☐ 1. 3 plane mirrors
 - ☐ 2. 3 spherical mirrors
 - ☐ 3. 2 spherical mirrors
 - ☒ 4. 2 plane mirrors

Question ID : 264330107986

Status : Answered

Chosen Option : 4

Q.97 What is the SI unit for solid angle?

- Ans
- ☐ 1. Grade
 - ☐ 2. Radian
 - ☒ 3. Steradian
 - ☐ 4. Degree

Question ID : 264330108248
Status : Answered
Chosen Option : 3

Q.98 A black body is maintained at 17°C and 307°C . What is the ratio of radiation emitted?

- Ans
- ☐ 1. 1 : 32
 - ☐ 2. 1 : 64
 - ☒ 3. 1 : 16
 - ☐ 4. 1 : 4

Question ID : 264330108068
Status : Not Answered
Chosen Option : --

Q.99 If A and B are symmetric matrices of same order and $X = AB + BA$ and $Y = AB - BA$, then $(-YX)$ is equal to _____.

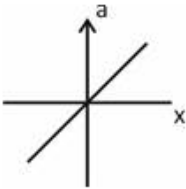
- Ans
- ☒ 1. $(XY)^T$
 - ☐ 2. YX
 - ☐ 3. X^TY^T
 - ☐ 4. $(YX)^T$

Question ID : 264330108328
Status : Answered
Chosen Option : 3

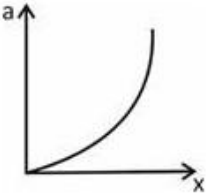
Q.100 Which of the following graph represents variation of acceleration (a) of a particle executing simple harmonic motion with displacement(x)?

Ans

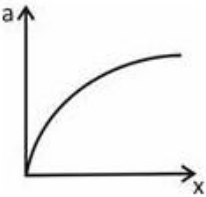
✗ 1.



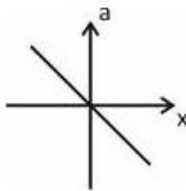
✗ 2.



✗ 3.



✓ 4.



Question ID : 264330108376

Status : Answered

Chosen Option : 2