

Scientific Assistant in India Meteorological Department Examination 2022

Roll Number	
Candidate Name	
Venue Name	
Exam Date	14/12/2022
Exam Time	1:00 PM - 3:00 PM
Subject	IMD Scientific Assistant Physics

Section : General Intelligence and Reasoning

Q.1 Which two signs should be interchanged to make the given equation correct?
 $11 \div 11 - 232 \times 8 - 25 + 14 = 81$

- Ans
- ☒ 1. + and -
 - ☒ 2. + and x
 - ☒ 3. ÷ and -
 - ☒ 4. x and ÷

Question ID : 26433078857
Status : Answered
Chosen Option : 4

Q.2 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. DWG
 - ☒ 2. TGQ
 - ☒ 3. CXH
 - ☒ 4. BPZ

Question ID : 26433081510
Status : Answered
Chosen Option : 3

Q.3 Which of the following numbers will replace the question mark (?) in the given series?
8, 10, 16, 34, 88, ?

- Ans
- ☒ 1. 161
 - ☒ 2. 171
 - ☒ 3. 250
 - ☒ 4. 172

Question ID : 26433085710
Status : Answered
Chosen Option : 3

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Q.4 Which option represents the correct order of the given words as they would appear in an English dictionary?
1. Devoted
2. Digital
3. Destroy
4. Distant
5. Despite

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

Question ID : 26433095986
Status : Answered
Chosen Option : 4

Q.5 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:
All oranges are red.
Some red are buses.
No bus is pink.
Conclusions:
I. Some buses are not pink.
II. Some buses are red.
III. All red are orange.

- Ans ☒ 1. Only conclusions I and III follow
☒ 2. All the conclusions follow
☒ 3. Only conclusions II and III follow
☒ 4. Only conclusions I and II follow

Question ID : 26433092652
Status : Answered
Chosen Option : 4

Q.6 In a certain code language, 'CAT' is coded as 22245 and 'DOG' is coded as 211018. How will 'HORSE' be coded in that language?

- Ans ☒ 1. 19129822
☒ 2. 17107620
☒ 3. 15105618
☒ 4. 19109622

Question ID : 26433074524
Status : Answered
Chosen Option : 2

Q.7 If A is the mother of B;
C is the mother of A and
D is the husband of C, then
how is D related to B?

- Ans ☒ 1. Great-grandfather
☒ 2. Father
☒ 3. Maternal grandfather
☒ 4. Father-in-law

Question ID : 264330106640
Status : Answered
Chosen Option : 3

Q.8 Select the figure from the options that can replace the question mark (?) and complete the given pattern.

B	O	L	=	X	O	S	=	X	O	△	=	
=	X	↑	△	↑	L	O	△	↑	L	↑	X	?
△	A	3	A	3	B	L	A	3	A	3	S	

Ans

✓ 1.

9	O	△
=	L	↑
X	A	3

✗ 2.

L	↑	△
A	X	=
3	S	O

✗ 3.

9	O	△
↑	X	=
L	A	3

✗ 4.

S	O	△
=	L	↑
X	A	3

Question ID : 26433085806
Status : Marked For Review
Chosen Option : 1

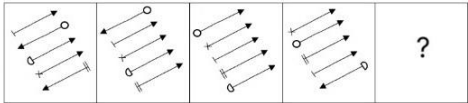
Q.9 Select the letter-cluster pair that best represents a similar relationship to the one expressed in the pair of letter-clusters given below.
BREAK : KAREB

- Ans
- ✓ 1. PLATE : ETLAP
 - ✗ 2. BLACK : LBACK
 - ✗ 3. SAINT : TSAIN
 - ✗ 4. RINSE : IRNES

Question ID : 264330103843
Status : Answered
Chosen Option : 1

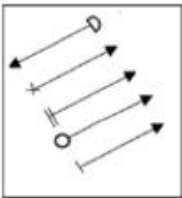
<p>Q.10 Select the option that is related to the fifth number in the same way as the second number is related to the first number and the fourth number is related to the third number. 3 : 3 :: 9 : 63 :: 10 : ?</p> <p>Ans ☒ 1. 50 ☒ 2. 69 ☒ 3. 20 ☒ 4. 80</p>	<div><p>Question ID : 26433079408 Status : Answered Chosen Option : 4</p></div>
<p>Q.11 Which of the following numbers will replace the question mark (?) in the given series? 2, 5, 18, 41, ?</p> <p>Ans ☒ 1. 58 ☒ 2. 74 ☒ 3. 33 ☒ 4. 56</p>	<div><p>Question ID : 26433085711 Status : Answered Chosen Option : 2</p></div>
<p>Q.12 Seven people F, C, W, U, J, Y, and B are sitting in a straight row, facing north. Only four people sit to the left of F. C sits at the extreme right of the row. W sits at the extreme left of the row. B sits in between U and F. Y is the immediate neighbour of W. J sits second to the right of B. Who sits in the middle of the row?</p> <p>Ans ☒ 1. U ☒ 2. B ☒ 3. Y ☒ 4. F</p>	<div><p>Question ID : 26433082640 Status : Answered Chosen Option : 2</p></div>

Q.13 Select the figure from the given options that can replace the question mark (?) in the following series.

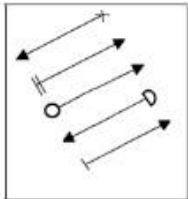


Ans

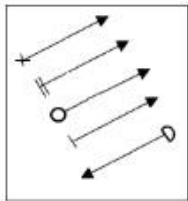
✗ 1.



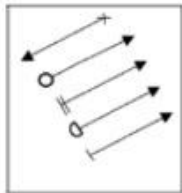
✓ 2.



✗ 3.

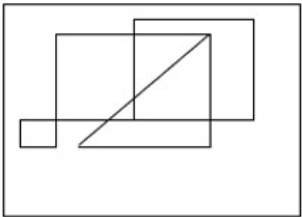


✗ 4.



Question ID : 264330106166
Status : Answered
Chosen Option : 4

Q.14 Select the option figure that is embedded in the given figure, as its part. (Rotation is not allowed.)



Ans

- ✓ 1.
- ✗ 2.
- ✗ 3.
- ✗ 4.

Question ID : 26433069070
Status : Answered
Chosen Option : 1

Q.15 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)
Currency : Euro :: Direction : ?

- Ans
- ✓ 1. South-East
 - ✗ 2. Outside
 - ✗ 3. Circle
 - ✗ 4. Inside

Question ID : 26433076678
Status : Answered
Chosen Option : 1

Q.16 C, D, E, F, G, H, I and J are sitting around a square table facing the centre. Some of them are sitting at the corners while some are sitting at the exact centre of the sides. D is sitting at the top right corner. J is sitting to the immediate left of D. E is sitting to the immediate left of F and immediate right of G. J is sitting between D and F. H is sitting to the second left of G, I is sitting between H and G. C is sitting to the immediate right of D. Who is sitting to the immediate right of I?

- Ans
- ☒ 1. H
 - ☒ 2. C
 - ☒ 3. J
 - ☒ 4. G

Question ID : 26433074615
Status : Answered
Chosen Option : 4

Q.17 Riya, Tanvi, Jasleen, Shreya and Mehak are sitting around a circular table facing the centre. Jasleen is to the immediate right of Riya and is second to the left of Shreya. Mehak is not between Riya and Shreya. Who is second to the left of Jasleen?

- Ans
- ☒ 1. Mehak
 - ☒ 2. Tanvi
 - ☒ 3. Riya
 - ☒ 4. Shreya

Question ID : 26433082549
Status : Answered
Chosen Option : 1

Q.18 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:
All doctors are scientists.
All students are scientists.
Some scientists are engineers.
Conclusions:
I. All students are engineers.
II. Some doctors are scientists.
III. All engineers are scientists.

- Ans
- ☒ 1. All conclusions follow.
 - ☒ 2. Only conclusion III follows.
 - ☒ 3. Only conclusion II follows.
 - ☒ 4. Only conclusion I follows.

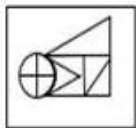
Question ID : 26433074643
Status : Answered
Chosen Option : 3

Q.19 Select the option in which the given figure is embedded (rotation is NOT allowed).



Ans

✓ 1.



✗ 2.



✗ 3.



✗ 4.



Question ID : 26433068613

Status : Answered

Chosen Option : 1

Q.20 W is the wife of H.
A and D are married to each other.
S and K are married to each other.
D and S are siblings.
W is the mother-in-law of A.
How is H related to K?

Ans ✗ 1. Uncle

✗ 2. Husband

✓ 3. Father-in-law

✗ 4. Father

Question ID : 26433095000

Status : Answered

Chosen Option : 3

Q.21 Select the correct combination of mathematical signs to sequentially replace the * signs and to balance the given equation.

$$(81 * 2) * (\sqrt{225} * 3) * 176 * 19$$

Ans ✗ 1. ÷, =, +, -, +

✗ 2. ×, +, +, =, +

✗ 3. ×, -, -, =, -

✓ 4. ×, -, +, =, -

Question ID : 26433080999

Status : Answered

Chosen Option : 4

Q.22 Select the option that represents the letters that, when sequentially placed from left to right in the blanks below, will complete the letter series.
N _ _ K L _ _ C K L _ E C _ L N E _ K _

- Ans ☒ 1. ECNENKCL
☒ 2. NECKLNCE
☒ 3. ENNKLCKE
☒ 4. KLNECLNE

Question ID : 26433068997
Status : Answered
Chosen Option : 1

Q.23 There are seven students J, K, L, M, N, O and P. Each scored different marks in a test. L scored higher than only three others. N scored higher than O, who scored the least marks among all. K scored higher than L but lower than J. J scored lower than P but higher than K. M scored higher than N but lower than L. Who scored the second highest marks among all students?

- Ans ☒ 1. J
☒ 2. M
☒ 3. K
☒ 4. N

Question ID : 26433068884
Status : Answered
Chosen Option : 1

Q.24 In a certain code language, 'BLIND' is coded as '94' and 'FOLD' is coded as '71'. How will 'BOLD' be coded in that language?

- Ans ☒ 1. 62
☒ 2. 65
☒ 3. 75
☒ 4. 82

Question ID : 26433067790
Status : Answered
Chosen Option : 3

Q.25 Which of the following letter-clusters will replace the question mark (?) and complete the following letter-cluster series?
XU, RO, LI, FC, ?

- Ans ☒ 1. AA
☒ 2. ZB
☒ 3. ZW
☒ 4. YZ

Question ID : 26433069547
Status : Answered
Chosen Option : 3

Section : Quantitative Aptitude

Q.1 If $\frac{245}{0.245} = \frac{24.5}{P}$, then the value of P is:

- Ans ☒ 1. 0.00245
☒ 2. 0.0245
☒ 3. 0.245
☒ 4. 2.45

Question ID : 26433080354
Status : Answered
Chosen Option : 2

Q.2 The third proportion of 9 and 21 is:

- Ans ☒ 1. 35
☒ 2. 49
☒ 3. 28
☒ 4. 36

Question ID : 264330106912
Status : Answered
Chosen Option : 2

Q.3 Suraj can finish a work in 11 days, while his wife can do the same piece of work in 9 days. In how many days will the work get completed if Suraj and his wife work together?

- Ans ☒ 1. $5\frac{19}{20}$
☒ 2. $4\frac{18}{20}$
☒ 3. $2\frac{18}{19}$
☒ 4. $4\frac{19}{20}$

Question ID : 26433082509
Status : Answered
Chosen Option : 4

Q.4 If $4x^2 + 9y^2 = 21$ and $xy = 5$, where $x, y \geq 0$, then the value of $2x + 3y$ is:

- Ans ☒ 1. 9
☒ 2. 15
☒ 3. 8
☒ 4. 12

Question ID : 26433083022
Status : Answered
Chosen Option : 1

Q.5 The radii of two cylinders are in the ratio 1 : 2. If their heights are equal, what is the ratio of their volumes?

- Ans
- ☒ 1. 1 : 2
 - ☒ 2. 1 : 3
 - ☒ 3. 1 : 9
 - ☒ 4. 1 : 4

Question ID : 26433075996
Status : Answered
Chosen Option : 4

Q.6 In a 1000 m race, P beats Q by 100 m and in the same race Q beats R by 50 m. By what distance does P beat R in the same race?

- Ans
- ☒ 1. 855 m
 - ☒ 2. 375 m
 - ☒ 3. 80 m
 - ☒ 4. 145 m

Question ID : 26433081601
Status : Answered
Chosen Option : 4

Q.7 If $\frac{x^2-2}{x} = 7$, then the value of $\frac{x^6-8}{x^3}$ is:

- Ans
- ☒ 1. 343
 - ☒ 2. 512
 - ☒ 3. 364
 - ☒ 4. 385

Question ID : 264330106881
Status : Answered
Chosen Option : 4

Q.8 Mustard oil cost ₹100 per litre. After adulterating it with vegetable oil costing ₹28 per litre, a shopkeeper sells the mixture at the rate of ₹95 per liter, thereby making a profit of 25%. In what ratio does he mix mustard oil and vegetable oil?

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

Question ID : 264330106908
Status : Answered
Chosen Option : 1

Q.9 Study the following table carefully and answer the following question.
The table shows the production of main crops in India (in Million tonnes).

Crops	2010-11	2011-12	2012-13	2013-14	2014-15
Pulses	20	30	25	40	30
Oil seeds	16	18	20	30	40
Rice	60	70	75	80	70
Wheat	40	50	55	60	50
Sugarcane	20	20	25	40	30

The production of rice was what percentage of the crops produced in the year 2012-13?

- Ans**
- ☒ 1. $35\frac{1}{2}\%$
 - ☒ 2. $34\frac{1}{2}\%$
 - ☒ 3. $36\frac{1}{2}\%$
 - ☒ 4. $37\frac{1}{2}\%$

Question ID : 26433075125
Status : Answered
Chosen Option : 4

Q.10 A solid metallic sphere of radius 5 cm is melted to form 25 equal small solid spheres.
The ratio of the surface area of this sphere to that of the small sphere is:

- Ans**
- ☒ 1. $25 : \sqrt{20}$
 - ☒ 2. $5 : \sqrt{5}$
 - ☒ 3. $25 : (\sqrt[3]{5})^2$
 - ☒ 4. $20 : \sqrt{5}$

Question ID : 26433076294
Status : Answered
Chosen Option : 3

Q.11 What will be the compound interest on Rs.8,000 at 10% per annum for $1\frac{1}{2}$ years when the interest is compounded half-yearly?

- Ans**
- ☒ 1. Rs.1,261
 - ☒ 2. Rs.1,325
 - ☒ 3. Rs.1,020
 - ☒ 4. Rs.1,451

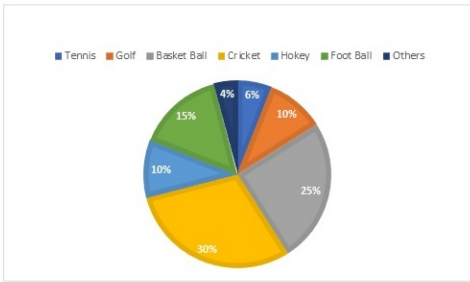
Question ID : 26433064921
Status : Answered
Chosen Option : 1

<p>Q.12 An auto rickshaw covers four successive 10-km stretches at the speeds of 10 km/h, 20 km/h, 30 km/h and 40 km/h, respectively. The average speed of the auto rickshaw over this distance is:</p> <p>Ans ☒ 1. 19.2 km/h ☐ 2. 25 km/h ☐ 3. 25.2 km/h ☐ 4. 20 km/h</p>	<div>Question ID : 26433062627 Status : Answered Chosen Option : 1</div>
<p>Q.13 Amit's monthly income was Rs. 13,500, and his monthly expenses were Rs. 9,000. His income increased by 14% and his monthly expenses increased by 7%. What was the percentage increase in his savings?</p> <p>Ans ☒ 1. 28% ☐ 2. 21% ☐ 3. 7% ☐ 4. 30%</p>	<div>Question ID : 26433065269 Status : Answered Chosen Option : 4</div>
<p>Q.14 If the area of a triangle ABC is 56 cm² and the length of the base AB is 6 cm greater than the length of its corresponding altitude, then the length of the base (in cm) is:</p> <p>Ans ☐ 1. 10 ☐ 2. 8 ☐ 3. 6 ☒ 4. 14</p>	<div>Question ID : 264330106929 Status : Answered Chosen Option : 4</div>
<p>Q.15 What is the compound ratio of 5 : 6, 8 : 9 and 11 : 14?</p> <p>Ans ☐ 1. 89 : 11 ☐ 2. 54 : 55 ☐ 3. 40 : 99 ☒ 4. 110 : 189</p>	<div>Question ID : 26433061258 Status : Answered Chosen Option : 4</div>
<p>Q.16 A man walks from point P to Q at the speed of 13 km/h but comes back from point Q to P at the speed of 17 km/h. Find his average speed (up to two decimal points).</p> <p>Ans ☐ 1. 14.58 km/h ☐ 2. 14.00 km/h ☐ 3. 15.75 km/h ☒ 4. 14.73 km/h</p>	<div>Question ID : 26433090283 Status : Answered Chosen Option : 4</div>

<p>Q.17 A thief is noticed by a policeman from 250 metres. The thief and the policeman run at the speeds of 10 km/h and 11 km/h, respectively. In how much time will the policeman catch the thief?</p> <p>Ans ☒ 1. 10 minutes</p> <p> ☒ 2. 12 minutes</p> <p> ☒ 3. 15 minutes</p> <p> ☒ 4. 20 minutes</p>	<div><p>Question ID : 26433082795</p><p>Status : Answered</p><p>Chosen Option : 3</p></div>
<p>Q.18 X can do a piece of work in 10 days and Y can do it in 20 days. They do the work on alternate days, beginning with X. In how many days will they finish the work?</p> <p>Ans ☒ 1. 13 days</p> <p> ☒ 2. 15 days</p> <p> ☒ 3. 16 days</p> <p> ☒ 4. 14 days</p>	<div><p>Question ID : 26433082989</p><p>Status : Answered</p><p>Chosen Option : 1</p></div>
<p>Q.19 The exterior angles obtained on producing the base of a triangle both ways are 114° and 132°. Find the angles of the triangle.</p> <p>Ans ☒ 1. 64°, 52°, 64°</p> <p> ☒ 2. 64°, 50°, 66°</p> <p> ☒ 3. 66°, 48°, 66°</p> <p> ☒ 4. 64°, 48°, 68°</p>	<div><p>Question ID : 264330106943</p><p>Status : Answered</p><p>Chosen Option : 3</p></div>
<p>Q.20 What discount will be equivalent to three successive discounts of 10 percent, 20 percent and 40 percent?</p> <p>Ans ☒ 1. $51\frac{1}{5}$ percent</p> <p> ☒ 2. $55\frac{3}{5}$ percent</p> <p> ☒ 3. $56\frac{4}{5}$ percent</p> <p> ☒ 4. $52\frac{2}{5}$ percent</p>	<div><p>Question ID : 26433079867</p><p>Status : Answered</p><p>Chosen Option : 3</p></div>

Q.21 The circle graph given here shows the spending of a country on various sports during a year. Study the graph carefully to answer the question.

Percentage of money spent on various sports for one year.



The ratio of the total amount spent on Football to that spent on Cricket was:

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

Question ID : 26433074239
Status : Answered
Chosen Option : 2

Q.22 The speed of a boat in still water is 1.5 times the speed of stream. If it takes 15 min to reach Q from P in still water, then time taken by it from P to Q and back to P in the stream is (in min) :

- Ans ☒ 1. 63
☒ 2. 36
☒ 3. 54
☒ 4. 45

Question ID : 26433081728
Status : Answered
Chosen Option : 2

Q.23 Roshni's monthly income is ₹1,20,000. She gives 10% of it to a charity organisation, spends 20% on the education of her children, saves 10% in GPF, pays 10% of it in rent, pays 10% of it to a bank for EMI of the car, saves 10% on a fixed deposit and spends rest on household affairs. The money spent by her on household affairs is:

- Ans ☒ 1. ₹36,000
☒ 2. ₹30,000
☒ 3. ₹48,000
☒ 4. ₹42,000

Question ID : 26433091533
Status : Answered
Chosen Option : 1

Q.24 The length, breadth and height of a three-dimensional room are 9 m 25 cm, 6 m 50 cm, and 2 m 75 cm, respectively. What is the length of the longest measuring tape that can measure the three dimensions of the room without any fractions?

- Ans ☒ 1. 35 cm
☒ 2. 25 cm
☒ 3. 50 cm
☒ 4. 75 cm

Question ID : 26433080372
Status : Answered
Chosen Option : 2

Q.25 What is the greatest common factor of the decimal numbers 1.08, 3.6 and 14.4?

- Ans ☒ 1. 0.72
☒ 2. 0.18
☒ 3. 0.36
☒ 4. 1.44

Question ID : 26433080259
Status : Answered
Chosen Option : 2

Section : English Language & Comprehension

Q.1 Select the option that expresses the given sentence in active voice.

The fruits have been washed with water by the maid.

- Ans ☒ 1. The maid washed the fruits with water.
☒ 2. The maid have washed the fruits with water.
☒ 3. The maid has washed the fruits with water.
☒ 4. With water, the maid has washed the fruits.

Question ID : 26433090403
Status : Answered
Chosen Option : 3

Q.2 Select the most appropriate synonym of the given word.

Predict

- Ans ☒ 1. Conduct
☒ 2. Promise
☒ 3. Rely
☒ 4. Foretell

Question ID : 26433089342
Status : Answered
Chosen Option : 4

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

To believe you have nothing more to learn is a _____ illusion.

- Ans ☒ 1. vicious
☒ 2. fire
☒ 3. dangerous
☒ 4. menacing

Question ID : 264330106704
Status : Answered
Chosen Option : 3

Q.4 Select the most appropriate homonym to fill in the blank.
One needs to _____ one's abilities before making massive efforts.

- Ans ☒ 1. assess
☒ 2. axis
☒ 3. access
☒ 4. excess

Question ID : 26433058523
Status : Answered
Chosen Option : 1

Q.5 Select the most appropriate meaning of the underlined idiom from the given options.

The philosopher was found sitting in a corner of the library in a brown study.

- Ans ☒ 1. A euphoric state
☒ 2. A bout of hiccups
☒ 3. A lot of anxiety
☒ 4. A state of reverie

Question ID : 26433086520
Status : Answered
Chosen Option : 3

Q.6 Select the INCORRECTLY spelt word.

- Ans ☒ 1. Cylender
☒ 2. Colander
☒ 3. Consider
☒ 4. Calendar

Question ID : 26433073925
Status : Answered
Chosen Option : 1

Q.7 Identify the correct spelling of the underlined word in the given sentence.

It is regretable that the press, radio and television still tend too often to present old age in an unhappily one-sided way.

- Ans ☒ 1. regrettable
☒ 2. regruttable
☒ 3. regretabel
☒ 4. regreatable

Question ID : 26433088151
Status : Answered
Chosen Option : 1

Q.8 Select the option that will improve the underlined part of the given sentence. In case no improvement is needed, select 'No improvement required'.
Owing on the incessant rain, we had to cancel our trip.

- Ans ☒ 1. No improvement required
☒ 2. Owing of
☒ 3. Owing to
☒ 4. Owing for

Question ID : 26433063105
Status : Answered
Chosen Option : 3

Q.9 Select the option that expresses the given sentence in active voice.

By whom will this packet be opened?

- Ans ☒ 1. Who will open this packet?
☐ 2. Who opens this packet?
☐ 3. Who will be opening this packet?
☐ 4. Will you open this packet?

Question ID : 26433090404
Status : Answered
Chosen Option : 1

Q.10 Select the most appropriate synonym of the given word.

Grim

- Ans ☐ 1. Gentle
☐ 2. Genial
☐ 3. Gratifying
☒ 4. Ghastly

Question ID : 26433073272
Status : Marked For Review
Chosen Option : 4

Q.11 Select the most appropriate ANTONYM of the underlined word in the following sentence.

Fire and water are hostile in nature.

- Ans ☒ 1. Friendly
☐ 2. Indifferent
☐ 3. Opposite
☐ 4. Complementary

Question ID : 26433072511
Status : Marked For Review
Chosen Option : 3

Q.12 Select the most appropriate option to fill in the blank.
_____ are made for the shoot, in which cast and film crew are hired, locations are selected and sets are built.

- Ans ☐ 1. Conditions
☐ 2. Development
☒ 3. Preparations
☐ 4. Directions

Question ID : 26433060784
Status : Answered
Chosen Option : 3

<p>Q.13 Select the most appropriate meaning of the given idiom. To let the cat out of the bag</p> <p>Ans ☒ 1. To be caught while smuggling something ☒ 2. To have an embarrassing moment ☒ 3. To clean litter ☒ 4. To reveal a secret</p>	<div>Question ID : 26433088821 Status : Answered Chosen Option : 4</div>
<p>Q.14 Select the option that can be used as a one-word substitute for the given group of words.</p> <p>A person who loves himself the most</p> <p>Ans ☒ 1. Pessimist ☒ 2. Optimist ☒ 3. Altruist ☒ 4. Narcissist</p>	<div>Question ID : 26433073973 Status : Marked For Review Chosen Option : 4</div>
<p>Q.15 Select the option that can be used as a one-word substitute for the given group of words.</p> <p>Something that is suitable for drinking</p> <p>Ans ☒ 1. Inarable ☒ 2. Inimitable ☒ 3. Brittle ☒ 4. Potable</p>	<div>Question ID : 26433071768 Status : Answered Chosen Option : 4</div>
<p>Q.16 Select the option that expresses the given sentence in passive voice.</p> <p>One expects better behaviour from a senior student.</p> <p>Ans ☒ 1. Senior student behaviour is expected better. ☒ 2. Better behaviour was expected from senior student. ☒ 3. Better behaviour is expected from a senior student. ☒ 4. As a senior student you need to behave.</p>	<div>Question ID : 26433093195 Status : Answered Chosen Option : 3</div>

Q.17 Select the most appropriate synonym of the given word.

Rival

- Ans
- ☒ 1. Acquaintance
 - ☒ 2. Colleague
 - ☒ 3. Senior
 - ☒ 4. Contender

Question ID : 26433073397
Status : Answered
Chosen Option : 4

Q.18 Select the most appropriate option to substitute the underlined segment in the given sentence.

First of all, I was none the only one involved.

- Ans
- ☒ 1. were not the only
 - ☒ 2. was not the only
 - ☒ 3. was nor the only
 - ☒ 4. is not the some

Question ID : 26433099832
Status : Answered
Chosen Option : 2

Q.19 Select the option that can be used as a one-word substitute for the given group of words/phrase.

A general contempt towards mankind

- Ans
- ☒ 1. Misanthropy
 - ☒ 2. Miscarriage
 - ☒ 3. Misogyny
 - ☒ 4. Distinctive

Question ID : 26433071942
Status : Answered
Chosen Option : 1

Q.20 Select the most appropriate option that can substitute the underlined segment in the given sentence.

I know that political leader for 1980 when he was just starting his career in the field of politics.

- Ans
- ☒ 1. since 1980
 - ☒ 2. because 1980
 - ☒ 3. yet 1980
 - ☒ 4. during 1980

Question ID : 26433081329
Status : Answered
Chosen Option : 1

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.
Unless we control or manage our mind, it is difficult to achieve success and peace.
(1)_____ say every interest is first born in the mind as a seed. Then it continues to grow. Later it takes its real form which everybody can see. The interest that first appears in the mind remains weak (2)_____ the first three minutes and it becomes (3)_____ within the next five minutes. All the negative aspects should be deleted within the first three minutes. If not taken out, they would become stronger later and you can never (4)_____ them out. After taking control over the mind, we can control passion, interest and unrest. Mind management is (5)_____ for a peaceful, successful and healthy life.

SubQuestion No : 21

Q.21 Select the most appropriate option to fill in blank no. 1.

- Ans ☒ 1. Paediatricians
☒ 2. Physiologists
☒ 3. Psychiatrists
☒ 4. Pathologists

Question ID : 26433099639
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.
Unless we control or manage our mind, it is difficult to achieve success and peace.
(1)_____ say every interest is first born in the mind as a seed. Then it continues to grow. Later it takes its real form which everybody can see. The interest that first appears in the mind remains weak (2)_____ the first three minutes and it becomes (3)_____ within the next five minutes. All the negative aspects should be deleted within the first three minutes. If not taken out, they would become stronger later and you can never (4)_____ them out. After taking control over the mind, we can control passion, interest and unrest. Mind management is (5)_____ for a peaceful, successful and healthy life.

SubQuestion No : 22

Q.22 Select the most appropriate option to fill in blank no. 2.

- Ans ☒ 1. by
☒ 2. of
☒ 3. at
☒ 4. for

Question ID : 26433099640
Status : Answered
Chosen Option : 4

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.
Unless we control or manage our mind, it is difficult to achieve success and peace.
(1)_____ say every interest is first born in the mind as a seed. Then it continues to grow. Later it takes its real form which everybody can see. The interest that first appears in the mind remains weak (2)_____ the first three minutes and it becomes (3)_____ within the next five minutes. All the negative aspects should be deleted within the first three minutes. If not taken out, they would become stronger later and you can never (4)_____ them out. After taking control over the mind, we can control passion, interest and unrest. Mind management is (5)_____ for a peaceful, successful and healthy life.

SubQuestion No : 23

Q.23 Select the most appropriate option to fill in blank no. 3.

- Ans ☒ 1. strength
☒ 2. strengthening
☒ 3. strongest
☒ 4. strong

Question ID : 26433099641
Status : Answered
Chosen Option : 4

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.
Unless we control or manage our mind, it is difficult to achieve success and peace.
(1)_____ say every interest is first born in the mind as a seed. Then it continues to grow. Later it takes its real form which everybody can see. The interest that first appears in the mind remains weak (2)_____ the first three minutes and it becomes (3)_____ within the next five minutes. All the negative aspects should be deleted within the first three minutes. If not taken out, they would become stronger later and you can never (4)_____ them out. After taking control over the mind, we can control passion, interest and unrest. Mind management is (5)_____ for a peaceful, successful and healthy life.

SubQuestion No : 24

Q.24 Select the most appropriate option to fill in blank no. 4.

- Ans ☒ 1. throws
☒ 2. thrown
☒ 3. throw
☒ 4. threw

Question ID : 26433099642
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.
Unless we control or manage our mind, it is difficult to achieve success and peace.
(1)_____ say every interest is first born in the mind as a seed. Then it continues to grow. Later it takes its real form which everybody can see. The interest that first appears in the mind remains weak (2)_____ the first three minutes and it becomes (3)_____ within the next five minutes. All the negative aspects should be deleted within the first three minutes. If not taken out, they would become stronger later and you can never (4)_____ them out. After taking control over the mind, we can control passion, interest and unrest. Mind management is (5)_____ for a peaceful, successful and healthy life.

SubQuestion No : 25

Q.25 Select the most appropriate option to fill in blank no. 5.

- Ans ☒ 1. potential
☒ 2. efficient
☒ 3. effective
☒ 4. essential

Question ID : 26433099643
Status : Answered
Chosen Option : 4

Section : General Awareness

Q.1 Who became the first female Indian golfer to qualify for the Tokyo 2020 Olympics?

- Ans ☒ 1. Ridhima Dilawari
☒ 2. Gaurika Bishnoi
☒ 3. Aditi Ashok
☒ 4. Diksha Dagar

Question ID : 26433069840
Status : Answered
Chosen Option : 3

Q.2 Which young Indian wrestler won a silver medal at the World Wrestling Championship in October 2021 in the 57 kg wrestling category?

- Ans ☒ 1. Babita Kumari
☒ 2. Anshu Malik
☒ 3. Vinesh Phogat
☒ 4. Pooja Dhanda

Question ID : 26433074190
Status : Answered
Chosen Option : 4

Q.3 How many fundamental duties are there under the Indian Constitution?

- Ans ☒ 1. 12
☒ 2. 14
☒ 3. 13
☒ 4. 11

Question ID : 26433089954
Status : Answered
Chosen Option : 4

Q.4 What is the land area extent of Sri Lanka?

- Ans ☒ 1. 65610 km²
☐ 2. 66610 km²
☐ 3. 65110 km²
☐ 4. 65616 km²

Question ID : 264330106805
Status : Answered
Chosen Option : 3

Q.5 The number of times a unit of money changes hands during the unit period is called _____.

- Ans ☐ 1. Transaction of money
☐ 2. Income velocity of money
☐ 3. Circulation of money
☒ 4. Velocity of circulation of money

Question ID : 264330106781
Status : Answered
Chosen Option : 1

Q.6 Madhavan Nambiar, a Padma awardee, is a coach of which of the following sports?

- Ans ☐ 1. Wrestling
☐ 2. Badminton
☐ 3. Shooting
☒ 4. Athletics

Question ID : 264330106735
Status : Answered
Chosen Option : 4

Q.7 _____ has been launched with the objective of enhancing governance through Civil Service Capacity Building.

- Ans ☐ 1. Mission Shakti
☐ 2. Mission Rajya
☒ 3. Mission Karmayogi
☐ 4. Mission service

Question ID : 26433055025
Status : Answered
Chosen Option : 3

Q.8 In a state-level women's conference held at the BTI Ground in Raipur on 7 March 2022, Chief Minister Bhupesh Baghel introduced the _____ by handing out _____ cheques to five beneficiaries for safe motherhood.

- Ans ☐ 1. SaubhagyaYojana; ₹5,000
☐ 2. SaubhagyaYojana; ₹10,000
☒ 3. KaushalyaMatritva Yojana; ₹5,000
☐ 4. KaushalyaMatritva Yojana; ₹10,000

Question ID : 26433081877
Status : Answered
Chosen Option : 4

Q.9 A current of 1 A is drawn by a filament of an electric bulb for five minutes. Find the amount of electric charge that has flown through the circuit.

- Ans
- ☒ 1. 200 C
 - ☒ 2. 400 C
 - ☒ 3. 300 C
 - ☒ 4. 150 C

Question ID : 264330106769
Status : Answered
Chosen Option : 3

Q.10 With reference to the administration of Delhi Sultanate, the Diwan-i-Insha, headed by the Dabir-i-Khas, looked after the department of:

- Ans
- ☒ 1. court ceremonies
 - ☒ 2. market regulations
 - ☒ 3. royal household
 - ☒ 4. royal correspondence

Question ID : 264330106807
Status : Answered
Chosen Option : 4

Q.11 It is said that the Emperor Akbar donated some of the red sandstone that had been brought for the Red Fort at Agra, for the construction of which of the following temples?

- Ans
- ☒ 1. Radha Raman Temple
 - ☒ 2. Gokulnanda Temple
 - ☒ 3. Prem Temple
 - ☒ 4. Govind Dev Temple

Question ID : 26433066569
Status : Answered
Chosen Option : 3

Q.12 How many Fundamental Duties were included by the 42nd Constitutional Amendment Act, 1976?

- Ans
- ☒ 1. Nine
 - ☒ 2. Eleven
 - ☒ 3. Ten
 - ☒ 4. Eight

Question ID : 264330106867
Status : Answered
Chosen Option : 3

Q.13 Christopher Guruswamy is an exponent of which of the following Indian classical dance forms?

- Ans
- ☒ 1. Bharatanatyam
 - ☒ 2. Mohiniattam
 - ☒ 3. Kathak
 - ☒ 4. Kathakali

Question ID : 26433064661
Status : Answered
Chosen Option : 2

<p>Q.14 What type of electroacoustic transducer is used in a seismograph to measure vibrations in rockets?</p> <p>Ans ☒ 1. Ultrasonic transducer</p> <p>☒ 2. Pressure transducer</p> <p>☒ 3. Piezoelectric transducer</p> <p>☒ 4. Temperature transducer</p>	<div><div>Question ID : 264330106746</div><div>Status : Answered</div><div>Chosen Option : 3</div></div>
<p>Q.15 The Allahabad Prasasti of Samudragupta describes him as ‘equal to the Gods’. Which of the following Gods is NOT mentioned in this context in the Allahabad Prasasti?</p> <p>Ans ☒ 1. Varuna</p> <p>☒ 2. Indra</p> <p>☒ 3. Rudra</p> <p>☒ 4. Antaka</p>	<div><div>Question ID : 264330106836</div><div>Status : Answered</div><div>Chosen Option : 4</div></div>
<p>Q.16 Who were the first to start the Dravidian style of temple architecture in South India?</p> <p>Ans ☒ 1. The Cheras</p> <p>☒ 2. The Cholas</p> <p>☒ 3. The Pallavas</p> <p>☒ 4. The Pandyas</p>	<div><div>Question ID : 26433066572</div><div>Status : Answered</div><div>Chosen Option : 2</div></div>
<p>Q.17 The term ‘green revolution’ was coined by _____ (the then Administrator of USAID) who in 1968 used the term to describe the success achieved by the new agricultural technology in developing countries of Asia and Latin America.</p> <p>Ans ☒ 1. Dr. M S Swaminathan</p> <p>☒ 2. Dr Rajiv Shah</p> <p>☒ 3. Dr. Norman Borlaug</p> <p>☒ 4. Dr. William Gaud</p>	<div><div>Question ID : 264330106787</div><div>Status : Answered</div><div>Chosen Option : 3</div></div>
<p>Q.18 What is the PM-SVANidhi scheme, which ended in March 2022?</p> <p>Ans ☒ 1. Allotment of lease to tribals for owning lands</p> <p>☒ 2. Allotment of pakka house</p> <p>☒ 3. Allotment of land to rural landless farmers</p> <p>☒ 4. Allotment of micro credit</p>	<div><div>Question ID : 264330106732</div><div>Status : Answered</div><div>Chosen Option : 4</div></div>

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<p>Q.19 Which scheme was started in 1993 to create self-employment opportunities for educated, unemployed youth in rural areas and small towns?</p> <p>Ans ☒ 1. Swarnajayanti Gram Swarojgar Yojana</p> <p>☒ 2. Rural Employment Generation Programme</p> <p>☒ 3. National Rural Employment Guarantee Act</p> <p>☒ 4. Prime Minister Rojgar Yojana</p>	<div><p>Question ID : 26433065473</p><p>Status : Answered</p><p>Chosen Option : 1</p></div>
<p>Q.20 Which of the following provisions of the Constitution of India does NOT prevent the State from making any provision for the reservation of appointments in favour of any economically weaker sections of citizens?</p> <p>Ans ☒ 1. Article 15</p> <p>☒ 2. Article 18</p> <p>☒ 3. Article 17</p> <p>☒ 4. Article 16</p>	<div><p>Question ID : 264330106845</p><p>Status : Answered</p><p>Chosen Option : 2</p></div>
<p>Q.21 On the basis of the given values, what will be the estimate of national income? (1) Net National Product at market price (NNPMP) = ₹500 (2) Indirect Taxes = ₹150 (3) Subsidies = ₹50</p> <p>Ans ☒ 1. ₹500</p> <p>☒ 2. ₹400</p> <p>☒ 3. ₹650</p> <p>☒ 4. ₹600</p>	<div><p>Question ID : 26433097129</p><p>Status : Answered</p><p>Chosen Option : 2</p></div>
<p>Q.22 In the Union Budget 2021-22, presented on 1 February 2021, the Finance Minister announced an outlay of _____ for the Production-Linked Incentive (PLI) Schemes for 13 key sectors.</p> <p>Ans ☒ 1. ₹1.77 lakh crores</p> <p>☒ 2. ₹1.57 lakh crores</p> <p>☒ 3. ₹1.27 lakh crores</p> <p>☒ 4. ₹1.97 lakh crores</p>	<div><p>Question ID : 264330106708</p><p>Status : Answered</p><p>Chosen Option : 3</p></div>

Q.23 Select the option that correctly matches the names of 'Slash and Burn' agriculture known in different states of India.

States of India	Slash and Burn agriculture
1. Madhya Pradesh	(a) Podu or Penda
2. Andhra Pradesh	(b) Bewar or Dahiya
3. Odisha	(c) Valtre or Waltre
4. South eastern Rajasthan	(d) Koman or Bringa

- Ans ☒ 1. 1-c, 2-d, 3-b, 4-c
- ☒ 2. 1-d, 2-c, 3-a, 4-b
- ☒ 3. 1-a, 2-b, 3-c, 4-d
- ☒ 4. 1-b, 2-a, 3-d, 4-c

Question ID : 264330103804
Status : Answered
Chosen Option : 2

Q.24 Which of the following is an act of privatisation?

- Ans ☒ 1. Implementation of GST
- ☒ 2. Disinvestment in Public Sector Units
- ☒ 3. Reduction in Custom Duty
- ☒ 4. Nationalisation of a bank

Question ID : 26433064587
Status : Answered
Chosen Option : 2

Q.25 Pala King, Dharmapala was succeeded by his son _____.

- Ans ☒ 1. Narayanapala
- ☒ 2. Kumarapala
- ☒ 3. Devapala
- ☒ 4. Mahipala

Question ID : 264330106830
Status : Answered
Chosen Option : 4

Section : Physics

Q.1 If the system of linear equations $x + y - z = 6$, $x + 2y - 3z = 14$ and $2x + 5y + \lambda z = \mu$, ($\lambda, \mu \in \mathbb{R}$) has no solution, then _____.

- Ans ☒ 1. $\lambda = -8, \mu \neq 36$
- ☒ 2. $\lambda = -8, \mu = 36$
- ☒ 3. $\lambda \neq -8$
- ☒ 4. $\mu = 36$

Question ID : 264330108231
Status : Marked For Review
Chosen Option : 2

Q.2 A bifocal lens is used as a remedy in which of the following defects in eyes?

- Ans
- ☒ 1. astigmatism
 - ☒ 2. myopia
 - ☒ 3. hypermetropia
 - ☒ 4. presbyopia

Question ID : 264330108381
Status : Answered
Chosen Option : 4

Q.3 In Simple Harmonic Motion, what is phase difference between velocity and acceleration?

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

Question ID : 264330108075
Status : Answered
Chosen Option : 4

Q.4 Three metal blocks, having same cross-sectional area are having thermal conductivities in the ratio 1 : 2 : 4 and transfer heat at the rate of 3000 KJ/hr. If the thickness of wall remains same, then what will be the ratio of thermal conductivities when temperature drops?

- Ans
- ☒ 1. $1 : \frac{1}{2} : \frac{1}{4}$
 - ☒ 2. 1 : 2 : 4
 - ☒ 3. 1 : 1 : 1
 - ☒ 4. $\frac{1}{2} : \frac{1}{4} : 1$

Question ID : 264330108369
Status : Answered
Chosen Option : 4

Q.5 A simple pendulum consists of a small metallic ball suspended from a rigid stand by a thread. The metallic ball is called the _____ of pendulum.

- Ans
- ☒ 1. hinge
 - ☒ 2. Knob
 - ☒ 3. Bob
 - ☒ 4. Head

Question ID : 264330108177
Status : Answered
Chosen Option : 3

Q.6 The Gibbs free energy becomes positive when the change in enthalpy and entropy are positive at which of the following conditions?

- Ans**
- ☒ 1. At high temperature
 - ☒ 2. At all temperature
 - ☒ 3. At low temperature
 - ☒ 4. Only at 0 Kelvin

Question ID : 264330107962
Status : Answered
Chosen Option : 3

Q.7 Calculate the work done by gas in an isothermal process from process A to process B.

$P_A = 1 \text{ Pa}$, $V_A = 6 \text{ m}^3$, $P_B = 3 \text{ Pa}$ ($\ln 3 = 1.09$)

- Ans**
- ☒ 1. 3.3 J
 - ☒ 2. 3 J
 - ☒ 3. -3.3 J
 - ☒ 4. -4.56 J

Question ID : 264330108266
Status : Answered
Chosen Option : 4

Q.8 2 coherent monochromatic light beams of intensities I and 4I are superimposed. The maximum and minimum possible intensities in resulting beam are _____.

- Ans**
- ☒ 1. 3I and I
 - ☒ 2. 5I and 3I
 - ☒ 3. 9I and I
 - ☒ 4. 5I and I

Question ID : 264330108387
Status : Answered
Chosen Option : 1

Q.9 If the damping force is directly proportional to velocity, then what is the unit of the constant of proportionality of an oscillator?

- Ans**
- ☒ 1. kg.s
 - ☒ 2. kg/s
 - ☒ 3. kg m/s²
 - ☒ 4. kg m/s

Question ID : 264330108273
Status : Answered
Chosen Option : 2

Q.10 If none of these vectors $\vec{A}, \vec{B}$ and $\vec{C}$ are zero and $\vec{A} \times \vec{B} = 0$ and $\vec{B} \times \vec{C} = 0$ then what is the value of $|\vec{A} \times \vec{C}|$?

Ans ☒ 1. 0

☐ 2. $|\vec{A}| |\vec{C}| \cos \theta$

☐ 3. $|\vec{B}|^2$

☐ 4. 1

Question ID : 264330108146
Status : Answered
Chosen Option : 1

Q.11 What is the dimensional formula for mass density?

Ans ☐ 1. $[M^0 L^0 T^0]$

☒ 2. $[M^1 L^{-3} T^0]$

☐ 3. $[M^0 L^3 T^0]$

☐ 4. $[M^1 L^3 T^0]$

Question ID : 264330107955
Status : Answered
Chosen Option : 2

Q.12 Which of the following is NOT correct? If $\vec{A} = 3\hat{i} + 4\hat{j}$ and $\vec{B} = 6\hat{i} + 8\hat{j}$ where $\vec{A}$ and $\vec{B}$ are magnitude of $\vec{A}$ and $\vec{B}$.

Ans ☒ 1. $\vec{A} \cdot \vec{B} = 48$

☐ 2. $\frac{A}{B} = \frac{1}{2}$

☐ 3. $\vec{A} \times \vec{B} = 0$

☐ 4. $A = 5$

Question ID : 264330108242
Status : Answered
Chosen Option : 1

Q.13 Which of the following Maxwell relation is incorrect?

Ans

✓ 1. $\left(\frac{\Delta V}{\Delta T}\right)_P = \left(\frac{\Delta P}{\Delta S}\right)_T$

✗ 2. $\left(\frac{\Delta T}{\Delta V}\right)_S = -\left(\frac{\Delta P}{\Delta S}\right)_V$

✗ 3. $\left(\frac{\Delta P}{\Delta T}\right)_V = \left(\frac{\Delta S}{\Delta V}\right)_T$

✗ 4. $\left(\frac{\Delta T}{\Delta P}\right)_S = \left(\frac{\Delta V}{\Delta S}\right)_P$

Question ID : 264330107964

Status : Answered

Chosen Option : 4

Q.14 The equation which involves partial derivatives is called _____.

Ans

✓ 1. partial differential equation

✗ 2. linear differential equation

✗ 3. non-linear differential equation

✗ 4. ordinary differential equation

Question ID : 264330108218

Status : Answered

Chosen Option : 2

Q.15 Which of the following has maximum number of unpaired e^- ?

Ans

✗ 1. Ti^{3+}

✗ 2. V^{3+}

✗ 3. Mg^{2+}

✓ 4. Fe^{2+}

Question ID : 264330108412

Status : Answered

Chosen Option : 4

Q.16 Electronic configuration of outer shell of element Gd with atomic number 64 is _____.

Ans

✓ 1. $4f^7 5d^1 6s^2$

✗ 2. $4f^5 5d^4 6s^3$

✗ 3. $4f^4 5d^3 6s^2$

✗ 4. $4f^5 5d^4 6s^1$

Question ID : 264330108010

Status : Answered

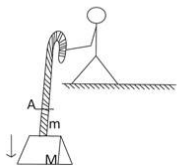
Chosen Option : 1



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Q.17 A body having mass 'M' descends with an acceleration(a) as shown in figure. The mass of the string below point A is 'm'. What is the Tension of the string at the point A?



- Ans**
- ☒ 1. $(M - m) g$
 - ☒ 2. $(M + m) a$
 - ☒ 3. $(M + m)(g + a)$
 - ☒ 4. $(M + m)(g - a)$

Question ID : 264330107957
Status : Answered
Chosen Option : 1

Q.18 Consider interference between 2 waves from 2 sources of intensities I and 4 I. The resultant intensity at a point where phase difference is $\pi/2$, is K. Find the value of K.

- Ans**
- ☒ 1. 5 I
 - ☒ 2. 6 I
 - ☒ 3. I
 - ☒ 4. 9 I

Question ID : 264330108389
Status : Answered
Chosen Option : 1

Q.19 A particle is undergoing with Simple Harmonic Motion with amplitude 10 cm. The maximum speed it achieves is 1 m/s. Find the time it takes to reach from mean position to half the amplitude.

- Ans**
- ☒ 1. $\pi/15$ seconds
 - ☒ 2. $\pi/60$ seconds
 - ☒ 3. $\pi/30$ seconds
 - ☒ 4. $\pi/40$ seconds

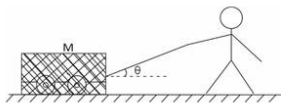
Question ID : 264330108072
Status : Answered
Chosen Option : 2

Q.20 What is the dimensional formula of electric potential?

- Ans**
- ☒ 1. $[M L T^{-2}]$
 - ☒ 2. $[M L^2 T^{-2}]$
 - ☒ 3. $[M L T^{-2} A^{-1}]$
 - ☒ 4. $[M L^2 T^{-3} A^{-1}]$

Question ID : 264330108390
Status : Answered
Chosen Option : 4

Q.21 A body of mass M is pulled on smooth ground by a string making an angle θ with the horizontal as shown in figure. If the acceleration of the block is 'a', then what is the force applied by the string?



- Ans
- ☒ 1. $\frac{M(a+g)}{\cos \theta}$
 - ☒ 2. $\frac{Ma}{\sin \theta}$
 - ☒ 3. Mg
 - ☒ 4. $\frac{Ma}{\cos \theta}$

Question ID : 264330108053
Status : Answered
Chosen Option : 1

Q.22 A force of 6 kg and another of 8 kg can be applied together to produce the effect of single force of _____.

- Ans
- ☒ 1. 1 kg
 - ☒ 2. 11 kg
 - ☒ 3. 16 kg
 - ☒ 4. 15 kg

Question ID : 264330108445
Status : Answered
Chosen Option : 2

Q.23 Change in enthalpy of a system is due to which of the following?

- Ans
- ☒ 1. Heat supplied at constant volume
 - ☒ 2. Heat supplied at variable volume
 - ☒ 3. Heat supplied at both constant volume and pressure
 - ☒ 4. Heat supplied at constant pressure

Question ID : 264330108362
Status : Answered
Chosen Option : 1

Q.24 What is the magnitude of vector $4\hat{i} + 3\hat{j} + \sqrt{11}\hat{k}$?

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

Question ID : 264330108144
Status : Answered
Chosen Option : 3

Q.25 If the system of equations $x + ay = 0$, $az + y = 0$, $ax + z = 0$ has infinite solutions, then $|a| = \underline{\hspace{2cm}}$.

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

Question ID : 264330108232
Status : Answered
Chosen Option : 4

Q.26 Are 5 seconds and 1000 cm^3 scalar or vector quantities?

- Ans
- ☒ 1. 5 seconds is vector, 1000 cm^3 is scalar
 - ☒ 2. Both are scalar
 - ☒ 3. Both are vector
 - ☒ 4. 5 seconds is scalar, 1000 cm^3 is vector

Question ID : 264330108038
Status : Answered
Chosen Option : 2

Q.27 Which of the following parameters cannot be found with Hall effect?

- Ans
- ☒ 1. Area of the device
 - ☒ 2. Carrier concentration
 - ☒ 3. Conductivity
 - ☒ 4. Polarity

Question ID : 264330108396
Status : Answered
Chosen Option : 1

Q.28 If a matrix has 8 elements, then how many possible orders it can have?

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

Question ID : 264330108028
Status : Answered
Chosen Option : 4

Q.29 Faraday’s laws are result of the conservation of which quantity?

- Ans
- ☒ 1. Charge
 - ☒ 2. Energy
 - ☒ 3. Momentum
 - ☒ 4. Magnetic field

Question ID : 264330108094
Status : Answered
Chosen Option : 1

Q.30 The vector $\vec{P} = a\hat{i} + a\hat{j} + 3\hat{k}$ and $\vec{Q} = a\hat{i} - 2\hat{j} - \hat{k}$ are perpendicular to each other. The positive value of a is _____.

- Ans
- ☒ 1. 3
 - ☒ 2. 4
 - ☒ 3. 13
 - ☒ 4. 9

Question ID : 264330108042
Status : Answered
Chosen Option : 1

Q.31 Orbital angular momentum of pe^- is _____.

- Ans
- ☒ 1. $\frac{h}{\sqrt{2}\pi}$
 - ☒ 2. $\sqrt{6}\left(\frac{h}{2\pi}\right)$
 - ☒ 3. $\sqrt{3}\left(\frac{h}{2\pi}\right)$
 - ☒ 4. $\sqrt{\frac{3}{2}}\frac{h}{\pi}$

Question ID : 264330107987
Status : Answered
Chosen Option : 3

Q.32

If $A^T = \begin{bmatrix} 1 & 3 \\ 2 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 0 & 4 \\ -1 & 6 \end{bmatrix}$, then $(4A + B)^T$ will be equal to _____.

Ans

✓ 1. $\begin{bmatrix} 4 & 7 \\ 16 & 22 \end{bmatrix}$

✗ 2. $\begin{bmatrix} 4 & 9 \\ 19 & 22 \end{bmatrix}$

✗ 3. $\begin{bmatrix} 4 & 9 \\ 16 & 22 \end{bmatrix}$

✗ 4. $\begin{bmatrix} 4 & 9 \\ 19 & 23 \end{bmatrix}$

Question ID : 264330108235

Status : Answered

Chosen Option : 3

Q.33 If a charge of 5 coulomb is placed at a point and the charge has electrical potential energy of 100 J, then what is the electric potential ?

Ans

✗ 1. 50V

✗ 2. 25V

✓ 3. 20V

✗ 4. 100V

Question ID : 264330108101

Status : Answered

Chosen Option : 3

Q.34 Which of the following system of units is accepted internationally for measurement?

Ans

✗ 1. MKS

✗ 2. FPS

✗ 3. CGS

✓ 4. SI

Question ID : 264330107948

Status : Answered

Chosen Option : 4

Q.35 _____ quantum number determines the size of orbital.

Ans

✓ 1. Principal

✗ 2. Angular

✗ 3. Magnetic orbital

✗ 4. Electron spin

Question ID : 264330108110

Status : Answered

Chosen Option : 1

Q.36 A photon of wavelength 300 nm causes emission of two photons. If wavelength of one of them is 700 nm, then what is wavelength of other photon?

- Ans**
- ☒ 1. 600 nm
 - ☒ 2. 450 nm
 - ☒ 3. 525 nm
 - ☒ 4. 300 nm

Question ID : 264330108305
Status : Answered
Chosen Option : 3

Q.37 Which of the following has the same SI unit as that of Surface Tension?

- Ans**
- ☒ 1. Surface energy per unit area
 - ☒ 2. Surface energy per unit length
 - ☒ 3. Surface energy per unit volume
 - ☒ 4. Force per unit area

Question ID : 264330108052
Status : Answered
Chosen Option : 2

Q.38 Given the maximum velocity and acceleration of a Harmonic Oscillator as $V_{\max}$ and $a_{\max}$ respectively, its time period in terms of $V_{\max}$ and $a_{\max}$ is _____.

- Ans**
- ☒ 1. $2\pi V_{\max}/a_{\max}$
 - ☒ 2. $\pi V_{\max}/a_{\max}$
 - ☒ 3. $\pi a_{\max}/V_{\max}$
 - ☒ 4. $2\pi a_{\max}/V_{\max}$

Question ID : 264330108172
Status : Answered
Chosen Option : 4

Q.39
If $|\vec{A} + \vec{B}| = |\vec{A}| = |\vec{B}|$, then the angle between A and B is _____.

- Ans**
- ☒ 1. 120 degree
 - ☒ 2. 0 degree
 - ☒ 3. 60 degree
 - ☒ 4. 30 degree

Question ID : 264330108239
Status : Answered
Chosen Option : 3

<div>Q.40</div> <div>Particle nature of light is shown by phenomenon of ____.</div> <div>Ans</div> <div><div><div>✖ 1.</div>Reflection</div><div><div>✖ 2.</div>Polarisation</div><div><div>✖ 3.</div>Transmission</div><div><div>✔ 4.</div>Photoelectric effect</div></div>
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Question ID : 264330108379

Status : Answered

Chosen Option : 4

Q.44 Two similar cubes X and Y contains charge Q and 2Q respectively. What is the ratio of flux associated with cube X and cube Y respectively?

- Ans**
- ☐ 1. 2:1
 - ☐ 2. 4:1
 - ☐ 3. 1:4
 - ☒ 4. 1:2

Question ID : 264330108401
Status : Answered
Chosen Option : 3

Q.45 A material has a permeability of 0.3 H/m when the magnetic intensity is 20 A/m. What will be the magnetic induction inside the material?

- Ans**
- ☐ 1. 20T
 - ☒ 2. 6T
 - ☐ 3. 0.6T
 - ☐ 4. 60T

Question ID : 264330108298
Status : Answered
Chosen Option : 3

Q.46 What is surface energy?

- Ans**
- ☐ 1. The extra energy of the molecules inside the beaker
 - ☐ 2. The force per unit length acting on surface particles
 - ☐ 3. Kinetic energy of surface molecules
 - ☒ 4.

The extra energy that the molecules have at the surface relative to molecules inside the liquid

Question ID : 264330107952
Status : Answered
Chosen Option : 4

Q.47 A 50-Hz voltage with an effective value of 220 V is applied to an inductor of 0.25 H. What is the inductive reactance?

- Ans**
- ☐ 1. 22.5 ohm
 - ☒ 2. 78.5 ohm
 - ☐ 3. 40 ohm
 - ☐ 4. 34.5 ohm

Question ID : 264330108400
Status : Answered
Chosen Option : 1

Q.48 Over-damping (gradual reduction of excessive oscillation) is because of _____.

- Ans
- ☒ 1. Arrhythmic return to equilibrium
 - ☒ 2. Slower return to equilibrium
 - ☒ 3. Faster return to equilibrium
 - ☒ 4. Equilibrium is never achieved

Question ID : 264330108311
Status : Answered
Chosen Option : 2

Q.49 If $f(a) = 2$, $f'(a) = 1$, $g(a) = -1$, $g'(a) = 2$, then what is the value of $\lim_{x \rightarrow a} \frac{g(x)f(a) - g(a)f(x)}{x - a}$?

- Ans
- ☒ 1. 0
 - ☒ 2. 5
 - ☒ 3. 1
 - ☒ 4. 100

Question ID : 264330108139
Status : Answered
Chosen Option : 2

Q.50 The magnitude of a given vector with end points $(4, -4, 0)$ and $(-2, -2, 0)$ must be _____.

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

Question ID : 264330108039
Status : Answered
Chosen Option : 3

Q.51 A hydraulic press machine has an arm of 15 cm diameter and plunger with 2cm diameter. It is used for lifting a weight of 35 kN. What is the force required at plunger?

- Ans
- ☒ 1. 233.3 kN
 - ☒ 2. 622.22 kN
 - ☒ 3. 460.6 kN
 - ☒ 4. 311.11 kN

Question ID : 264330107958
Status : Answered
Chosen Option : 3

Q.52 Ohm's law is not applicable to which of the following?

- Ans
- ☒ 1. Small resistors
 - ☒ 2. D.C. circuits
 - ☒ 3. High electric currents
 - ☒ 4. Semiconductors

Question ID : 264330107994
Status : Answered
Chosen Option : 4

Q.53 The equation $y^2 = cx$ is a general solution of _____.

- Ans
- ☒ 1. $y' = 2y/x$
 - ☒ 2. $y' = y/2x$
 - ☒ 3. $y' = x/y$
 - ☒ 4. $y' = 2x/y$

Question ID : 264330108424
Status : Answered
Chosen Option : 4

Q.54 A beam of light of 60 nm from a distant source falls on a single slit 1 mm wide and resulting in diffraction pattern as observed on a screen 2 m away. The distance between first dark fringes on either of central bright fringe is _____.

- Ans
- ☒ 1. 0.24 mm
 - ☒ 2. 2.4 cm
 - ☒ 3. 1.2 mm
 - ☒ 4. 0.94 cm

Question ID : 264330108286
Status : Answered
Chosen Option : 1

Q.55 Which of the following is a fluid?

- Ans
- ☒ 1. Liquid
 - ☒ 2. Both gas and liquid
 - ☒ 3. Solid
 - ☒ 4. Gas

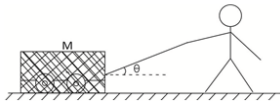
Question ID : 264330108063
Status : Answered
Chosen Option : 2

Q.56 $A = [a_{ij}]_{m \times n}$ is a square matrix, if _____.

- Ans ☒ 1. $m = n$
☐ 2. $m > n$
☐ 3. $m < n$
☐ 4. $m = 10$

Question ID : 264330108030
Status : Answered
Chosen Option : 1

Q.57 A body of mass M is pulled on smooth ground by a string making an angle θ with the horizontal as shown in figure. If the acceleration of the body is 'a', then what is the force applied by the ground on the body?



- Ans ☐ 1. $Ma + Mg \cos \theta$
☐ 2. $Mg + Ma \tan \theta$
☒ 3. $Mg - Ma \tan \theta$
☐ 4. $Mg \cos \theta$

Question ID : 264330108153
Status : Answered
Chosen Option : 4

Q.58 If system of equation $x + ay = 0$, $az + y = 0$ and $ax + z = 0$ has infinite solutions, then the value of a is _____.

- Ans ☒ 1. -1
☐ 2. ∞
☐ 3. 0
☐ 4. 1

Question ID : 264330108437
Status : Answered
Chosen Option : 1

Q.59 The position vectors of P and Q are $5\hat{i} + 4\hat{j} + a\hat{k}$ and $-\hat{i} + 2\hat{j} - 2\hat{k}$ respectively. If the distance between them is 7, then the value of 'a' will be _____.

- Ans ☐ 1. $1, 0$
☐ 2. $5, 1$
☒ 3. $-5, 1$
☐ 4. $0, 5$

Question ID : 264330108125
Status : Answered
Chosen Option : 3

Q.60

If $A = \begin{bmatrix} 9 & 0 & 0 \\ 0 & 5 & 3 \\ 0 & 3 & 5 \end{bmatrix}$, then what is the rank of A?

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

Question ID : 264330108337

Status : Answered

Chosen Option : 3

Q.61

Which of the following does not involve Total Internal Reflection?

- Ans
- ☒ 1. Diamond sparkle
 - ☒ 2. Mirages
 - ☒ 3. Transmission of light rays
 - ☒ 4. Kaleidoscope

Question ID : 264330108079

Status : Answered

Chosen Option : 4

Q.62

For a given isothermal process, the internal energy of the system _____.

- Ans
- ☒ 1. first increases and then decreases
 - ☒ 2. remains constant
 - ☒ 3. increases
 - ☒ 4. decreases

Question ID : 264330108360

Status : Answered

Chosen Option : 2

Q.63

Which of the following pairs represents isobars?

- Ans
- ☒ 1. $^{40}\text{K}_{19}$ and $^{39}\text{K}_{19}$
 - ☒ 2. $^{40}\text{K}_{19}$ and $^{40}\text{Ca}_{20}$
 - ☒ 3. $^3\text{He}_2$ and $^4\text{He}_2$
 - ☒ 4. $^{24}\text{Mg}_{12}$ and $^{25}\text{Mg}_{12}$

Question ID : 264330108105

Status : Answered

Chosen Option : 2



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Q.64 Which of the following represents a Simple Harmonic Motion?

- Ans
- ☒ 1. Ball bouncing between two walls
 - ☒ 2. Earth spinning about its axis
 - ☒ 3. Wave moving through a string fixed at both ends
 - ☒ 4. Particle moving in circle with uniform speed

Question ID : 264330108272
Status : Answered
Chosen Option : 1

Q.65 Which of the following is SI unit of inductance?

- Ans
- ☒ 1. Henry
 - ☒ 2. Ohm
 - ☒ 3. Ampere
 - ☒ 4. Webers/meter

Question ID : 264330108394
Status : Answered
Chosen Option : 1

Q.66 What is the energy radiated by 100 KW transmitter in 3 hours?

- Ans
- ☒ 1. 1.08×10^9 J
 - ☒ 2. 108 J
 - ☒ 3. 1.08×10^{12} J
 - ☒ 4. 10.8×10^{10} J

Question ID : 264330108368
Status : Answered
Chosen Option : 1

Q.67 A body radiates heat at the rate of $3 \text{ cal/m}^2\text{s}^{-1}$, when its temperature is 227°C . What will be the heat radiated by the same body, when its temperature is 727°C ?

- Ans
- ☒ 1. $48 \text{ cal/m}^2\text{s}^{-1}$
 - ☒ 2. $38 \text{ cal/m}^2\text{s}^{-1}$
 - ☒ 3. $18 \text{ cal/m}^2\text{s}^{-1}$
 - ☒ 4. $28 \text{ cal/m}^2\text{s}^{-1}$

Question ID : 264330108270
Status : Answered
Chosen Option : 1

Q.68

Evaluate: $\lim_{n \rightarrow \infty} \left[\frac{1}{n^2} + \frac{2}{n^2} + \dots + \frac{n}{n^2} \right]$

- Ans
- ☒ 1. 1
 - ☒ 2. $\frac{1}{2}$
 - ☒ 3. $-\frac{1}{2}$
 - ☒ 4. 0

Question ID : 264330108024
Status : Answered
Chosen Option : 2

Q.69

Which of the following is NOT an example of capillary action?

- Ans
- ☒ 1. Small insect walks on the surface water.
 - ☒ 2. The root hairs of a plant draw water from earth.
 - ☒ 3. Oil reaches end of wick.
 - ☒ 4. Water is retained in sponge.

Question ID : 264330108152
Status : Answered
Chosen Option : 1

Q.70

The electronic transition in the H atom that emits maximum-energy is _____.

- Ans
- ☒ 1. $4 \rightarrow 3$
 - ☒ 2. $3 \rightarrow 2$
 - ☒ 3. $2 \rightarrow 1$
 - ☒ 4. $1 \rightarrow 4$

Question ID : 264330108306
Status : Answered
Chosen Option : 4

Q.71

A hollow shaft has external radius 'R', internal radius 'r' and maximum allowable shear stress 'τ'. What will be the maximum torque transmitted by it?

- Ans
- ☒ 1. $\frac{\pi}{2} (R^3 - r^3) \tau$
 - ☒ 2. $\frac{\pi}{2R} (R^4 - r^4) \tau$
 - ☒ 3. $\frac{\pi}{16R} (R^3 - r^3) \tau$
 - ☒ 4. $\frac{\pi}{4R} (R^4 - r^4) \tau$

Question ID : 264330108356
Status : Answered
Chosen Option : 3

Q.72

The two equation of Simple Harmonic Motion are a $Y_1 = 12 \sin\left(50t + \frac{\pi}{2}\right)$ and $Y_2 = 12 \sin\left(50t + \frac{\pi}{3}\right)$. Find the phase difference between two motions.

Ans

- ☒ 1. $\frac{\pi}{3}$
- ☒ 2. $\frac{\pi}{2}$
- ☒ 3. $\frac{\pi}{8}$
- ☒ 4. $\frac{\pi}{6}$

Question ID : 264330107976
Status : Answered
Chosen Option : 4

Q.73

Which of the following is a second order differential equation?

Ans

- ☒ 1. $y''' + (y'')^2 + y = 0$
- ☒ 2. $y' y'' + y = \sin x$
- ☒ 3. $y' = y^2$
- ☒ 4. $(y')^2 + x = y^2$

Question ID : 264330108226
Status : Answered
Chosen Option : 1

Q.74

In young's double-slit experiment, a student observes 8 fringes in a certain segment of screen when a monochromatic light of 600 nm wavelength is used. If wavelength of light is changed to 400 nm, then the number of fringes he would observe in same segment of screen is _____.

Ans

- ☒ 1. 9
- ☒ 2. 6
- ☒ 3. 12
- ☒ 4. 8

Question ID : 264330108279
Status : Answered
Chosen Option : 3

Q.75

2 coherent sources of light interfere and produce fringe pattern on a screen. For central maximum, the phase difference between 2 waves will be _____.

Ans

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

Question ID : 264330108282
Status : Answered
Chosen Option : 3

Q.76 A spherical surface has a charge of $40\mu\text{C}$. What is the net electric flux?

- Ans**
- ☐ 1. $40\mu/3\epsilon_0 \text{ Vm}$
 - ☐ 2. $40/\epsilon_0 \text{ Vm}$
 - ☐ 3. $40\mu/2\epsilon_0 \text{ Vm}$
 - ☒ 4. $40\mu/\epsilon_0 \text{ Vm}$

Question ID : 264330108097
Status : Answered
Chosen Option : 3

Q.77 The wavelengths of 2 photons are 2000 Angstrom and 4000 Angstrom respectively. What is ratio of their energies?

- Ans**
- ☐ 1. 1:4
 - ☐ 2. 1:1
 - ☐ 3. 1:2
 - ☒ 4. 2:1

Question ID : 264330108403
Status : Answered
Chosen Option : 4

Q.78 If $x > m, y > n, z > r$ ($x, y, z > 0$) such that $\begin{bmatrix} x & n & r \\ m & y & r \\ m & n & z \end{bmatrix} = 0$, then what is the value of $\frac{x}{(x-m)} + \frac{y}{y-n} + \frac{z}{z-r}$?

- Ans**
- ☐ 1. 10
 - ☐ 2. 8
 - ☒ 3. 2
 - ☐ 4. 16

Question ID : 264330108334
Status : Answered
Chosen Option : 2

Q.79 An electric current of 10A is drawn by a filament of an electric bulb for 1 minute. What is the amount of electric charge that flows through the circuit?

- Ans**
- ☐ 1. 10 C
 - ☐ 2. 5 C
 - ☐ 3. 300 C
 - ☒ 4. 600 C

Question ID : 264330108399
Status : Answered
Chosen Option : 4

Q.80 A full-wave diode rectifier is applied with a voltage from a 120 V – 0 – 120 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. 33.3 V
 - ☒ 2. 49.1 V
 - ☒ 3. 25.5 V
 - ☒ 4. 98.2 V

Question ID : 264330108117
Status : Answered
Chosen Option : 2

Q.81 If temperature of source is 227°C and efficiency of Camot engine is 30 percent, then what is the temperature of sink?

- Ans**
- ☒ 1. 77°C
 - ☒ 2. 45°C
 - ☒ 3. 30°C
 - ☒ 4. 57°C

Question ID : 264330108165
Status : Answered
Chosen Option : 1

Q.82 What is the order of the differential equation given by $dy/dx + 4y = \sin x$?

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

Question ID : 264330108220
Status : Answered
Chosen Option : 1

Q.83 Which of the following metal has the highest work function?

- Ans**
- ☒ 1. Cesium
 - ☒ 2. Gold
 - ☒ 3. Platinum
 - ☒ 4. Silver

Question ID : 264330108114
Status : Answered
Chosen Option : 1

Q.84 Which of the following metal has the lowest work function?

- Ans**
- ☒ 1. Gold
 - ☒ 2. Platinum
 - ☒ 3. Silver
 - ☒ 4. Cesium

Question ID : 264330108014
Status : Answered
Chosen Option : 2

Q.85 If $a_{ij} = \frac{1}{2}|i - 3j|$, then what is the value of a_{21} ?

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

Question ID : 264330108428
Status : Answered
Chosen Option : 1

Q.86 The equation $y^2 = cx$ is a general solution of _____.

- Ans
- ✗ 1. $y' = \frac{2x}{y}$
 - ✓ 2. $y' = \frac{y}{2x}$
 - ✗ 3. $y' = \frac{x}{2y}$
 - ✗ 4. $y' = \frac{2y}{x}$

Question ID : 264330108221
Status : Answered
Chosen Option : 1

Q.87 Based on type, the classification of differential equation are _____.

- Ans
- ✗ 1. first order and second order
 - ✓ 2. ordinary and partial
 - ✗ 3. linear and non-linear
 - ✗ 4. homogeneous and non-homogeneous

Question ID : 264330108219
Status : Answered
Chosen Option : 3

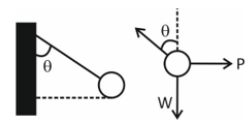
Q.88 According to Kepler's law of orbit, where is the sun located in the planet's orbit?

- Ans
- ✗ 1. Anywhere along semi – major axis
 - ✗ 2. At the centre
 - ✗ 3. At both foci
 - ✓ 4. At one of the foci

Question ID : 264330108051
Status : Answered
Chosen Option : 1

Q.89 A metal sphere is hung by a string fixed to a wall. The sphere is pushed away from wall by a stick. Which of the following statement is incorrect?

The forces acting on the sphere are shown in the diagrams below:



- Ans
- ☒ 1. $P = W \tan \theta$
 - ☒ 2. $\vec{T} + \vec{P} + \vec{W} = 0$
 - ☒ 3. $T = P + W$
 - ☒ 4. $T^2 = P^2 + W^2$

Question ID : 264330108346
Status : Answered
Chosen Option : 3

Q.90 For a pure substance present in vapour state, what is the value of latent heat of vaporization? Use the given data below. ($R = 0.287 \text{ KJ}$)

Pressure	2 atm	4 atm
Temperature (Saturation)	100°C	220°C

- Ans
- ☒ 1. 360.44 KJ
 - ☒ 2. 304.84 KJ
 - ☒ 3. 400.05 KJ
 - ☒ 4. 428.15 KJ

Question ID : 264330108366
Status : Answered
Chosen Option : 2

Q.91 The number of value of k for which the system of equations $kx + (k + 3)y = 3k - 1$; $(k + 1)x + 8y = 4k$ has infinitely many solutions, is _____.

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

Question ID : 264330108135
Status : Answered
Chosen Option : 4

Q.92 What is the value of $\lim_{x \rightarrow 0} \left(\frac{\sqrt{1 - \cos 2x}}{\sqrt{2} x} \right)$?

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

Question ID : 264330108027
Status : Answered
Chosen Option : 3

Q.93 If the value of 'g' at the surface of moon is one sixth of that at the earth's surface, then the time period of pendulum at moon is how much times to that at earth?

- Ans**
- ☒ 1. $\sqrt{6}$ times
 - ☐ 2. 1/6 times
 - ☐ 3. 6 times
 - ☐ 4. $\frac{1}{\sqrt{6}}$ times

Question ID : 264330108378
Status : Answered
Chosen Option : 4

Q.94 A 10 V reference source is designed from a 20 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. 30 mA
 - ☐ 2. 40 mA
 - ☐ 3. 10 mA
 - ☒ 4. 20 mA

Question ID : 264330108216
Status : Answered
Chosen Option : 2

Q.95 What is the value of $\lim_{x \rightarrow 0} \left(\frac{\tan x}{x} \right)$?

- Ans**
- ☒ 1. 1
 - ☐ 2. ∞
 - ☐ 3. -1
 - ☐ 4. 0

Question ID : 264330108420
Status : Answered
Chosen Option : 1

Q.96 The radius of an atomic nucleus is the order of _____.

- Ans**
- ☐ 1. 10^{-8} cm
 - ☒ 2. 10^{-13} cm
 - ☐ 3. 10^{-15} cm
 - ☐ 4. 10^{-10} cm

Question ID : 264330108013
Status : Answered
Chosen Option : 3

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<div><div>Q.97</div><div>In a concave mirror, when object is at C, the size of image would have been _____.</div></div> <div><div>Ans</div><div><div><div>✓</div><div>1.</div><div>same</div></div><div><div>✗</div><div>2.</div><div>small</div></div><div><div>✗</div><div>3.</div><div>greatly enlarged</div></div><div><div>✗</div><div>4.</div><div>amplified</div></div></div></div> <div><div>Question ID : 264330107988</div><div>Status : Answered</div><div>Chosen Option : 1</div></div>
<div><div>Q.98</div><div>Calculate the de-Broglie wavelength of an α-particle emitted from radium having an energy of 4.8 MeV.</div></div> <div><div>Ans</div><div><div><div>✗</div><div>1.</div><div>6.18×10^{-13} cm</div></div><div><div>✗</div><div>2.</div><div>6.98×10^{-13} cm</div></div><div><div>✗</div><div>3.</div><div>4.12×10^{-11} cm</div></div><div><div>✓</div><div>4.</div><div>6.58×10^{-13} cm</div></div></div></div> <div><div>Question ID : 264330108404</div><div>Status : Answered</div><div>Chosen Option : 3</div></div>
<div><div>Q.99</div><div>Which of the following is the best insulator of electricity?</div></div> <div><div>Ans</div><div><div><div>✗</div><div>1.</div><div>Paper</div></div><div><div>✗</div><div>2.</div><div>Graphite</div></div><div><div>✓</div><div>3.</div><div>Ebonite</div></div><div><div>✗</div><div>4.</div><div>Carbon</div></div></div></div> <div><div>Question ID : 264330108190</div><div>Status : Answered</div><div>Chosen Option : 3</div></div>
<div><div>Q.100</div><div>What should be the internal resistance of an ammeter?</div></div> <div><div>Ans</div><div><div><div>✓</div><div>1.</div><div>Finite low</div></div><div><div>✗</div><div>2.</div><div>Infinite</div></div><div><div>✗</div><div>3.</div><div>Zero</div></div><div><div>✗</div><div>4.</div><div>Finite high</div></div></div></div> <div><div>Question ID : 264330108091</div><div>Status : Answered</div><div>Chosen Option : 1</div></div>