Department of Higher Education Ministry of Education Government of India

Question

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Type

Candidate Details

Application Number:

Candidate's Name:

Claimed Answer Key List

B TECH - Physics Section A

B TECH - Physics Section A

B TECH - Physics Section A

B TECH - Physics Section A

BTECH - Physics Section A

B TECH - Physics Section A

BTECH - Physics Section B

B TECH - Physics Section **B**

BTECH - Chemistry Section A

BTECH - Chemistry Section A Objective

BTECH - Chemistry Section A Objective

B TECH - Chemistry Section A Objective

BTECH - Chemistry Section A Objective

B TECH - Chemistry Section A Objective

BTECH - Chemistry Section B Numerical

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B TECH - Chemistry Section B

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BTECH - Chemistry Section B

BTECH - Mathematics

B TECH - Mathematics

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Section A

Section B

Disclaimer:

Father's Name:

Paper

Session 1

QuestionID

3666942481

राष्ट्रीय परीक्षा एजेंसी **National Testing Agency**

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Correct Option(s)/

Answers

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Submit Your Claims

3666947812

IEE(Main) 2023

Roll Number:

Date of Birth:

Mother's Name:

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Challenges regarding Answer Key

JEE 2023 Session-1 24th Jan to 1st Feb 2023

Application No	
Candidate Name	
Roll No	
Test Date	01/02/2023
Test Time	9:00 AM - 12:00 PM
Subject	В ТЕСН

Section: Physics Section A

Q.1 Match List I with List II:

List I	List II	
A. Intrinsic semiconductor	I. Fermi-level near the valence band	
B. n-type semiconductor	 Fermi-level in the middle of valence and conduction band. 	
C. p-type semiconductor	III. Fermi-level near the conduction band	
D. Metals	IV. Fermi-level inside the conduction band	

Choose the *correct* answer from the options given below:

Options 1. A-I, B-II, C-III, D-IV

2. A-III, B-I, C-II, D-IV

3. A-II, B-I, C-III, D-IV

4 A-II, B-III, C-I, D-IV

Question Type : MCQ

Question ID : 3666942483

Option 1 ID : **3666947821**

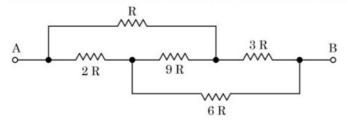
Option 2 ID: 3666947822

Option 3 ID: 3666947820 Option 4 ID: 3666947819

Status: Answered

02/02/2023, 21:53

Q.2 The equivalent resistance between A and B of the network shown in figure:



Options

- 1. $11\frac{2}{3}$ R
- 2. 14 R
- 3. 21 R

Question Type : MCQ

Question ID: 3666942491

Option 1 ID: 3666947852

Option 2 ID: 3666947854

Option 3 ID: 3666947851

Option 4 ID: 3666947853 Status: Answered

Chosen Option: 4

Q.3 The average kinetic energy of a molecule of the gas is

Options 1. proportional to absolute temperature

- 2. proportional to volume
- 3. proportional to pressure
- 4. dependent on the nature of the gas

Question Type : $\boldsymbol{\mathsf{MCQ}}$

Question ID: 3666942500

Option 1 ID: 3666947887

Option 2 ID: 3666947890

Option 3 ID: 3666947888

Option 4 ID: 3666947889

Status: Not Answered

Q.4 A child stands on the edge of the cliff 10 m above the ground and throws a stone horizontally with an initial speed of 5 ms-1. Neglecting the air resistance, the speed with which the stone hits the ground will be ____ ms-1 (given, $g = 10 \text{ ms}^{-2}$).

Options 1. 20

25

3. 15

4. 30

Question Type : MCQ

Question ID: 3666942490 Option 1 ID: 3666947847 Option 2 ID: 3666947849 Option 3 ID: 3666947848 Option 4 ID: 3666947850 Status: Not Answered

Chosen Option: --

Q.5 A block of mass 5 kg is placed at rest on a table of rough surface. Now, if a force of 30N is applied in the direction parallel to surface of the table, the block slides through a distance of 50 m in an interval of time 10s. Coefficient of kinetic friction is (given, $g = 10 \text{ ms}^{-2}$):

Options 1.0.25

2. 0.60

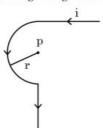
3. 0.50

4. 0.75

Question Type : MCQ

Question ID: 3666942495 Option 1 ID: 3666947868 Option 2 ID: 3666947869 Option 3 ID: 3666947867 Option 4 ID: 3666947870 Status: Answered

- 02/02/2023, 21:53
 - Q.6 Find the magnetic field at the point P in figure. The curved portion is a semicircle connected to two long straight wires.



Options

1.
$$\frac{\mu_0 i}{2r} \left(1 + \frac{2}{\pi} \right)$$

$$2. \ \frac{\mu_0 i}{2r} \left(\frac{1}{2} + \frac{1}{\pi} \right)$$

$$3. \ \frac{\mu_0 i}{2r} \left(1 + \frac{1}{\pi} \right)$$

$$4. \ \frac{\mu_0 i}{2r} \left(\frac{1}{2} + \frac{1}{2\pi} \right)$$

Question Type: MCQ

Question ID: 3666942489

Option 1 ID: 3666947843

Option 2 ID: 3666947845

Option 3 ID: 3666947844

Option 4 ID: 3666947846 Status : Answered

Chosen Option: 3

Q.7 The mass of proton, neutron and helium nucleus are respectively 1.0073 u, 1.0087 u and 4.0015 u. The binding energy of helium nucleus is:

Options 1. 14.2 MeV

56.8 MeV

28.4 MeV

4. 7.1 MeV

Question Type : MCQ

Question ID: 3666942484

Option 1 ID: 3666947824

Option 2 ID: 3666947826

Option 3 ID: 3666947825

Option 4 ID: 3666947823

Status: Answered

Q.8 Which of the following frequencies does not belong to FM broadcast.

Options 1. 99 MHz

- 2. 64 MHz
- 3. 106 MHz
- 4. 89 MHz

Question Type : MCQ

Question ID: 3666942482

Option 1 ID: 3666947818

Option 2 ID: 3666947817

Option 3 ID: 3666947815

Option 4 ID: 3666947816

Status : **Answered** Chosen Option: 4

Q.9 Match List I with List II:

List I	List II
A. AC generator	I. Presence of both L and C
B. Transformer	II. Electromagnetic Induction
C. Resonance phenomenon to occur	III. Quality factor
D. Sharpness of resonance	IV. Mutual Induction

Choose the correct answer from the options given below:

Options 1. A-II, B-IV, C-I, D-III

- 2. A-IV, B-II, C-I, D-III
- 3. A-II, B-I, C-III, D-IV
- A-IV, B-III, C-I, D-II

Question Type : MCQ

Question ID: 3666942488

Option 1 ID: 3666947841

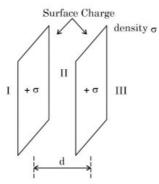
Option 2 ID: 3666947839

Option 3 ID: 3666947840

Option 4 ID: 3666947842

Status : **Answered**

Q.10 Let σ be the uniform surface charge density of two infinite thin plane sheets shown in figure. Then the electric fields in three different region E_I, E_{II} and



1.
$$\vec{E}_I = \frac{\sigma}{2\epsilon_0}\hat{n}, \vec{E}_{II} = 0, \vec{E}_{III} = \frac{\sigma}{2\epsilon_0}\hat{n}$$

2.
$$\vec{E}_I = 0, \vec{E}_{II} = \frac{\sigma}{\epsilon_0} \hat{n}, E_{III} = 0$$

з.
$$\vec{E}_I = \frac{2\sigma}{\epsilon_0} \hat{n}, \vec{E}_{II} = 0, \vec{E}_{III} = \frac{2\sigma}{\epsilon_0} \hat{n}$$

4.
$$\vec{E}_I = -\frac{\sigma}{\epsilon_0}\hat{n}, \vec{E}_{II} = 0, \vec{E}_{III} = \frac{\sigma}{\epsilon_0}\hat{n}$$

Question Type: MCQ

Question ID: 3666942492 Option 1 ID: 3666947857 Option 2 ID: 3666947855 Option 3 ID: 3666947858 Option 4 ID: 3666947856

Status: Answered

Chosen Option: 1

Q.11 A proton moving with one tenth of velocity of light has a certain de Broglie wavelength of λ. An alpha particle having certain kinetic energy has the same de-Brogle wavelength \(\lambda \). The ratio of kinetic energy of proton and that of alpha particle is:

Options 1.1:4

2. 2:1

3. 4:1

4. 1:2

Question Type: MCQ

Question ID: 3666942485 Option 1 ID: 3666947830

Option 2 ID: 3666947827 Option 3 ID: 3666947829

Option 4 ID: 3666947828 Status: Answered

Q.12 Given below are two statements:

> Statement I: Acceleration due to gravity is different at different places

> > on the surface of earth.

Statement II: Acceleration due to gravity increases as we go down below

the earth's surface.

In the light of the above statements, choose the correct answer from the options given below

Options 1. Both Statement I and Statement II are true

2. Statement I is false but Statement II is true

3. Both Statement I and Statement II are false

4. Statement I is true but Statement II is false

Question Type: MCQ

Question ID: 3666942497 Option 1 ID: 3666947875 Option 2 ID: 3666947878 Option 3 ID: 3666947876

Option 4 ID: 3666947877 Status: Answered

Chosen Option: 2

Q.13 A steel wire with mass per unit length 7.0×10⁻³ kg m⁻¹ is under tension of 70 N. The speed of transverse waves in the wire will be:

Options 1. $200\,\pi\,$ m/s

2. 50 m/s

3. 100 m/s

4. 10 m/s

Question Type : MCQ

Question ID: 3666942493

Option 1 ID: 3666947862

Option 2 ID: 3666947860

Option 3 ID: 3666947861

Option 4 ID: 3666947859

Status: Answered

Q.14 Match List I with List II:

List I	List II	
A. Microwaves	I. Radio active decay of the nucleus	
B. Gamma rays	II. Rapid acceleration and deceleration of electron in aerials	
C. Radio waves	III. Inner shell electrons	
D. X-rays	IV. Klystron valve	

Choose the *correct* answer from the options given below:

Options 1. A-IV, B-I, C-II, D-III

- 2. A-I, B-II, C-III, D-IV
- 3. A-I, B-III, C-IV, D-II
- 4. A-IV, B-III, C-II, D-I

Question Type : MCQ

Question ID: 3666942487

Option 1 ID: 3666947835

Option 2 ID: 3666947836

Option 3 ID: 3666947838 Option 4 ID: 3666947837

Status: Answered

Chosen Option: 3

Q.15 A mercury drop of radius 10-3 m is broken into 125 equal size droplets. Surface tension of mercury is 0.45 Nm⁻¹. The gain in surface energy is:

Options 1. 17.5×10^{-5} J

- 2. $2.26 \times 10^{-5} \text{J}$
- 3. 28×10⁻⁵J
- 4. $5 \times 10^{-5} \text{J}$

Question Type : MCQ

Question ID: 3666942498

Option 1 ID: 3666947882

Option 2 ID: 3666947879

Option 3 ID: 3666947881

Option 4 ID: 3666947880

Status: Answered

Q.16 'n' polarizing sheets are arranged such that each makes an angle 45° with the preceeding sheet. An unpolarized light of intensity I is incident into this arrangement. The output intensity is found to be $\frac{1}{64}$. The value of n will be:

Options 1. 3

- 2. 4
- 3. 5
- 4. 6

Question Type : MCQ

Question ID: 3666942486 Option 1 ID: 3666947833 Option 2 ID: 3666947834 Option 3 ID: 3666947831 Option 4 ID: 3666947832

Status: Answered

Chosen Option: 2

Q.17 An object moves with speed v_1, v_2 and v_3 along a line segment AB, BC and CD respectively as shown in figure. Where AB=BC and AD=3AB, then average speed of the object will be:



Options

1.
$$\frac{3v_1v_2v_3}{(v_1v_2 + v_2v_3 + v_3v_1)}$$

2.
$$\frac{(v_1 + v_2 + v_3)}{3v_1v_2v_3}$$

2.
$$\frac{(v_1 + v_2 + v_3)}{3v_1v_2v_3}$$
3.
$$\frac{v_1v_2v_3}{3(v_1v_2 + v_2v_3 + v_3v_1)}$$

4.
$$\frac{(v_1+v_2+v_3)}{3}$$

Question Type: MCQ

Question ID: 3666942494 Option 1 ID: 3666947863

Option 2 ID: 3666947866

Option 3 ID: 3666947865 Option 4 ID: 3666947864

Status: Answered

- 02/02/2023, 21:53
 - Q.18

 $\left(P + \frac{a}{V^2}\right)(V - b) = RT$ represents the equation of state of some gases. Where

P is the pressure, V is the volume, T is the temperature and a,b,R are the constants. The physical quantity, which has dimensional formula as that of , will be:

Options 1. Bulk modulus

- 2. Modulus of rigidity
- 3. Compressibility
- 4. Energy density

Question Type: MCQ

Question ID: 3666942481 Option 1 ID: 3666947811 Option 2 ID: 3666947814 Option 3 ID: 3666947812

Option 4 ID: 3666947813 Status: Answered

Chosen Option: 1

Q.19 If earth has a mass nine times and radius twice to that of a planet P. Then $\frac{v_e}{3}\sqrt{x} \text{ ms}^{-1}$ will be the minimum velocity required by a rocket to pull out of gravitational force of P, where v_e is escape velocity on earth. The value of x is

Options 1. 1

- 2. 2
- 3. 18
- 4. 3

Question Type: MCQ

Question ID: 3666942496 Option 1 ID: 3666947871 Option 2 ID: 3666947872 Option 3 ID: 3666947874 Option 4 ID: 3666947873

Status: Answered

Q.20 A sample of gas at temperature T is adiabatically expanded to double its volume. The work done by the gas in the process is given, $\gamma = \frac{3}{2}$:

Options 1.
$$W = \frac{R}{T} \left[2 - \sqrt{2} \right]$$

$$2. \quad W = \frac{T}{R} \left[\sqrt{2} - 2 \right]$$

3.
$$W = RT \left[2 - \sqrt{2} \right]$$

4.
$$W = TR \left\lceil \sqrt{2} - 2 \right\rceil$$

Question Type: MCQ

Question ID: 3666942499 Option 1 ID: 3666947884 Option 2 ID: 3666947885 Option 3 ID: 3666947883

Option 4 ID: 3666947886 Status: Not Answered

Chosen Option: --

Section: Physics Section B

Q.21 A light of energy 12.75 eV is incident on a hydrogen atom in its ground state. The atom absorbs the radiation and reaches to one of its excited states. The angular momentum of the atom in the excited state is $\frac{x}{-} \times 10^{-17} \text{ eVs}$. The value of x is _____ (use $h = 4.14 \times 10^{-15} \text{ eVs}, c = 3 \times 10^8 \text{ ms}^{-1}$).

Given --Answer:

Question Type: SA

Question ID: 3666942503 Status: Not Answered

Q.22 A charge particle of 2 μC accelerated by a potential difference of 100V enters a region of uniform magnetic field of magnitude 4 mT at right angle to the direction of field. The charge particle completes semicircle of radius 3 cm inside magnetic field. The mass of the charge particle is $___ \times 10^{-18}$ kg.

Given --Answer:

Question Type: SA

Question ID: 3666942506 Status: Not Answered

Q.23 A certain pressure 'P' is applied to 1 litre of water and 2 litre of a liquid separately. Water gets compressed to 0.01% whereas the liquid gets compressed to 0.03%. The ratio of Bulk modulus of water to that of the liquid is $\frac{3}{2}$. The value of x is _____

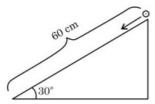
Given --Answer:

Question Type: SA

Question ID: 3666942509 Status: Not Answered

Q.24	A solid cylinder is released from rest from the top of an inclined plane of	of
	inclination 30° and length 60 cm. If the cylinder rolls without slipping, it	s
	speed upon reaching the bottom of the inclined plane is ms ⁻¹ .	

(Given $g = 10 \text{ ms}^{-2}$)



Given --Answer:

> Question Type: SA Question ID: 3666942508 Status: Not Answered

Q.25 A small particle moves to position $5\hat{i}-2\hat{j}+\hat{k}$ from its initial position $2\hat{i}+3\hat{j}-4\hat{k}$ under the action of force $5\hat{i}+2\hat{j}+7\hat{k}$ N. The value of work done will be _____ J.

Given --Answer:

> Question Type: SA Question ID: 3666942507 Status: Not Answered

Q.26 A series LCR circuit is connected to an ac source of 220V, 50Hz. The circuit contain a resistance R = 100 Ω and an inductor of inductive reactance $X_{L} = 79.6\,\Omega.$ The capacitance of the capacitor needed to maximize the average rate at which energy is supplied will be _

Given --Answer:

> Question Type: SA Question ID: 3666942505 Status: Not Answered

Q.27 Two equal positive point charges are separated by a distance 2a. The distance of a point from the centre of the line joining two charges on the equatorial line (perpendicular bisector) at which force experienced by a test charge q becomes maximum is $\frac{a}{\sqrt{x}}$. The value of x is _____.

Given --Answer:

> Question Type : SA Question ID: 3666942501 Status: Not Answered

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A thin cylindrical rod of length 10 cm is placed horizontally on the principle axis of a concave mirror of focal length 20 cm. The rod is placed in a such a way that mid point of the rod is at 40 cm from the pole of mirror. The length of the image formed by the mirror will be $\frac{x}{3}$ cm. The value of x is _____.

Given --Answer:

> Question Type : SA Question ID: 3666942504 Status: Not Answered

Q.29 In an experiment to find emf of a cell using potentiometer, the length of null point for a cell of emf 1.5 V is found to be 60 cm. If this cell is replaced by another cell of emf E, the length-of null point increases by 40 cm. The value

of E is $\frac{x}{10}V$. The value of x is ______.

Given --Answer:

> Question Type: SA Question ID: 3666942502 Status: Not Answered

Q.30 The amplitude of a particle executing SHM is 3 cm. The displacement at which its kinetic energy will be 25% more than the potential energy is:

Given --Answer:

> Question Type: SA Question ID: 3666942510 Status: Not Answered

Section: Chemistry Section A

Highest oxidation state of Mn is exhibited in Mn₂O₇. The correct statements about Mn₂O₇ are

- Mn is tetrahedrally surrounded by oxygen atoms. (A)
- (B) Mn is octahedrally surrounded by oxygen atoms.
- (C) Contains Mn-O-Mn bridge.
- (D) Contains Mn-Mn bond.

Choose the correct answer from the options given below:

Options

- A and D only
- 2. B and D only
- 3. B and C only
- 4. A and C only

Question Type: MCQ

Question ID: 3666942519 Option 1 ID: 3666947933 Option 2 ID: 3666947936 Option 3 ID: 3666947934 Option 4 ID: 3666947935

Status: Answered

Chosen Option: 4

Q.32 A solution of FeCl3 when treated with K4[Fe(CN)6] gives a prussiun blue precipitate due to the formation of

- Options 1. $K[Fe_2(CN)_6]$
 - 2. Fe₄[Fe(CN)₆]₃
 - 3. $Fe_3[Fe(CN)_6]_2$
 - Fe[Fe(CN)₆]

Question Type : $\boldsymbol{\mathsf{MCQ}}$

Question ID: 3666942523

Option 1 ID: 3666947950 Option 2 ID: 3666947952

Option 3 ID: 3666947951

Option 4 ID: 3666947949

Status: Answered

Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R

Assertion A: In an Ellingham diagram, the oxidation of carbon to carbon monoxide shows a negative slope with respect to temperature.

Reason R: CO tends to get decomposed at higher temperature.

In the light of the above statements, choose the correct answer from the options given below

Options 1. A is correct but R is not correct

Both A and R are correct but R is NOT the correct explanation of A

Both A and R are correct and R is the correct explanation of A

4. A is not correct but R is correct

Question Type: MCQ

Question ID: 3666942515 Option 1 ID: 3666947919 Option 2 ID: 3666947918 Option 3 ID: 3666947917 Option 4 ID: 3666947920 Status: Answered

Chosen Option: 1

Q.34

How can photochemical smog be controlled?

Options

- By using tall chimneys.
- By using catalyst.
- 3. By complete combustion of fuel.
- 4. By using catalytic convertors in the automobiles/industry.

Question Type: MCQ

Question ID: 3666942521 Option 1 ID: 3666947943 Option 2 ID: 3666947944 Option 3 ID: 3666947941 Option 4 ID: 3666947942 Status: Answered

Which of the following complex will show largest splitting of d-orbitals?

Options 1. $[F_e(C_2O_4)_3]^{3-}$

- 2. $[F_e(NH_3)_6]^{3+}$
- 3. $[F_eF_6]^{3-}$
- 4. [F_e(CN)₆]³-

Question Type : MCQ

Question ID: 3666942520 Option 1 ID: 3666947938 Option 2 ID: 3666947940 Option 3 ID: 3666947937 Option 4 ID: 3666947939

Status: Not Answered Chosen Option: --

Q.36

Match List I with List II

List I		List II	
(A)	Slaked lime	(I) NaOH	
(B)	Dead burnt plaster	(II) Ca(OH) ₂	
(C)	Caustic soda	(III) Na ₂ CO ₃ .10H ₂ O	
(D)	Washing soda	(IV) CaSO ₄	

Choose the correct answer from the options given below:

Options 1. (A) - III, (B) - IV, (C) - II, (D) - I

- 2. (A) II, (B) IV, (C) I, (D) III
- 3. (A) I, (B) IV, (C) II, (D) III
- 4. (A) III, (B) II, (C) IV, (D) I

Question Type : MCQ

Option 1 ID: 3666947930 Option 2 ID: 3666947931 Option 3 ID: 3666947932 Option 4 ID: 3666947929

Question ID: 3666942518

Status: Answered

02/02/2023, 21:53

Q.37

But-2-yne is reacted separately with one mole of Hydrogen as shown below:

$$\underline{\mathbf{B}} \xleftarrow{\mathrm{Na}}_{\mathrm{liq} \ \mathrm{NH}_{3}} \mathrm{CH}_{3} - \mathbf{C} \equiv \mathbf{C} - \mathrm{CH}_{3} \xrightarrow{\mathrm{Pd/C}} \underline{\mathbf{A}}$$

- A. A is more soluble than B.
- B. The boiling point & melting point of A are higher and lower than B respectively.
- C. A is more polar than B because dipole moment of A is zero.
- D. Br₂ adds easily to B than A.

Identify the incorrect statements from the options given below:

Options $_{
m 1.}$

- A and B only
- 2. B and C only
- 3. B, C & D only
- 4. A, C & D only

Question Type : MCQ

Question ID : 3666942528 Option 1 ID : 3666947969 Option 2 ID : 3666947970 Option 3 ID : 3666947971 Option 4 ID : 3666947972

Status : Not Answered Chosen Option : --

Q.38

Given below are two statements:

Statement I: Chlorine can easily combine with oxygen to form oxides;

and the product has a tendency to explode.

Statement II: Chemical reactivity of an element can be determined by

its reaction with oxygen and halogens.

In the light of the above statements, choose the **correct** answer from the options given below

Options 1.

Statement I is true but Statement II is false

2. Statement I is false but Statement II is true

3. Both the Statements I and II are true

4. Both the Statements I and II are false

Question Type : $\boldsymbol{\mathsf{MCQ}}$

Question ID : 3666942514
Option 1 ID : 3666947915
Option 2 ID : 3666947916
Option 3 ID : 3666947913
Option 4 ID : 3666947914
Status : Answered

02/02/2023, 21:53

Q.39

Match List I with List II

List I Test		List II
		Functional group / Class o Compound
(A)	Molisch's Test	(I) Peptide
(B)	Biuret Test	(II) Carbohydrate
(C)	Carbylamine Test	(III) Primary amine
(D)	Schiff's Test	(IV) Aldehyde

Choose the correct answer from the options given below:

Options 1. (A) - III, (B) - IV, (C) - I, (D) - II

3. (A)
$$- I$$
, (B) $- II$, (C) $- III$, (D) $- IV$

Question Type : MCQ

Question ID: 3666942524 Option 1 ID: 3666947954 Option 2 ID: 3666947953

Option 3 ID: 3666947955 Option 4 ID: 3666947956 Status: Answered

Chosen Option: 4

Q.40

Choose the correct statement(s):

- A. Beryllium oxide is purely acidic in nature.
- B. Beryllium carbonate is kept in the atmosphere of CO₂.
- C. Beryllium sulphate is readily soluble in water.
- D. Beryllium shows anomalous behavior.

Choose the correct answer from the options given below:

Options

- 1. B, C and D only
- 2. A only
- 3. A, B and C only
- 4. A and B only

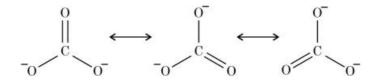
Question Type: MCQ

Question ID: 3666942517 Option 1 ID: 3666947928

Option 2 ID: 3666947925 Option 3 ID: 3666947927

Option 4 ID: 3666947926 Status: Answered

Resonance in carbonate ion (CO₃²⁻) is



Which of the following is true?

Options 1. Each structure exists for equal amount of time.

CO32- has a single structure i.e., resonance hybrid of the above three

3.

It is possible to identify each structure individually by some physical or chemical method.

All these structures are in dynamic equilibrium with each other.

Question Type: MCQ

Question ID: 3666942512

Option 1 ID: 3666947906

Option 2 ID: 3666947907

Option 3 ID: 3666947908

Option 4 ID: 3666947905

Status: Not Answered

Chosen Option : --

Which of the following are the example of double salt?

- A. FeSO₄.(NH₄)₂ SO₄.6H₂O
- B. CuSO₄.4NH₃.H₂O
- C. K₂SO₄.Al₂(SO₄)₃.24H₂O
- D. Fe(CN)2.4KCN

Choose the correct answer

- Options 1. B and D only
 - 2. A and C only
 - 3. A, B and D only
 - 4. A and B only

Question Type : MCQ

Question ID: 3666942522 Option 1 ID: 3666947948

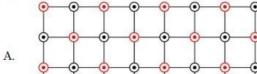
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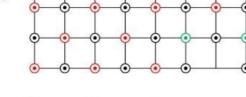
Option 3 ID: 3666947947

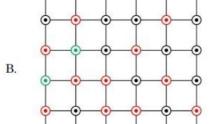
Option 4 ID: 3666947945

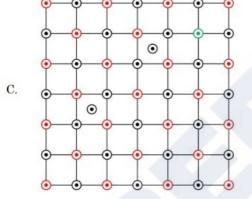
Status : Answered

Q.43 Which of the following represents the lattice structure of $A_{0.95}O$ containing A2+, A3+ and O2- ions?









Options 1. B only

B and C only

3. A and B only

A only

Question Type : $\boldsymbol{\mathsf{MCQ}}$

Question ID: 3666942511 Option 1 ID: 3666947902 Option 2 ID: 3666947904 Option 3 ID: 3666947903 Option 4 ID: 3666947901

Status: Not Answered

Decreasing order of dehydration of the following alcohols is

Options 1. b > d > c > a

2. d > b > c > a

3. b > a > d > c

4. a > d > b > c

Question Type : MCQ

Question ID: 3666942527 Option 1 ID: 3666947966 Option 2 ID: 3666947968 Option 3 ID: 3666947967 Option 4 ID: 3666947965

Status: Answered

The correct representation in six membered pyranose form for the following sugar [X] is

Options

Question Type : MCQ

Question ID: 3666942529

Option 1 ID: 3666947976 Option 2 ID: 3666947973

Option 3 ID: 3666947975

Option 4 ID: 3666947974 Status : Not Answered

Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R

Assertion A: Hydrogen is an environment friendly fuel.

Reason R: Atomic number of hydrogen is 1 and it is a very light element.

In the light of the above statements, choose the correct answer from the options given below

Options

A is false but R is true

Both A and R are true and R is the correct explanation of A

3. A is true but R is false

Both A and R are true but R is NOT the correct explanation of A

Question Type: MCQ Question ID: 3666942516 Option 1 ID: 3666947924

Option 2 ID: 3666947921 Option 3 ID: 3666947923 Option 4 ID: 3666947922

Status: Answered

Chosen Option: 4

Q.47

Given below are two statements: One is labelled as Assertion A and the other is labelled as Reason R

Assertion A: Amongst He, Ne, Ar and Kr;

1g of activated charcoal adsorbs more of Kr.

Reason R: The critical volume V_c (cm³ mol⁻¹) and critical pressure P_c

(atm) is highest for Krypton but the compressibility factor at

critical point Zc is lowest for Krypton.

In the light of the above statements, choose the correct answer from the options given below

Options

A is true but R is false

Both A and R are true and R is the correct explanation of A

3. A is false but R is true

Both A and R are true but R is NOT the correct explanation of A

Question Type: MCQ

Question ID: 3666942513 Option 1 ID: 3666947911 Option 2 ID: 3666947909 Option 3 ID: 3666947912

Option 4 ID: 3666947910

Status: Not Answered

Q.48 Match List I with List II

List I	List II
(A) Tranquilizers	(I) Anti blood clotting
(B) Aspirin	(II) Salvarsan
(C) Antibiotic	(III) antidepressant drugs
(D) Antiseptic	(IV) soframicine

Choose the correct answer from the options given below:

Options

2.
$$(A) - IV$$
, $(B) - II$, $(C) - I$, $(D) - III$

3.
$$(A) - III, (B) - I, (C) - II, (D) - IV$$

4.
$$(A) - II, (B) - I, (C) - III, (D) - IV$$

Question Type : MCQ

Question ID: 3666942530 Option 1 ID: 3666947978 Option 2 ID: 3666947980 Option 3 ID: 3666947977 Option 4 ID: 3666947979

Status : Answered

Chosen Option: 2

Q.49

Identify the incorrect option from the following:

Options

1. CI
$$(i)$$
 NaOH, 623 K, (ii) HCl (ii) HCl (ii) HCl

2.
$$\rightarrow$$
 Br + KOH (alc) \rightarrow OH + KBr

3.
$$\begin{array}{c|c} Cl & O \\ \parallel & \parallel \\ + H_3C - C - Cl & \xrightarrow{anhyd \ AlCl_3} & Cl & O \\ \hline \end{array}$$

$$CH_3 + HCl$$

4.
$$\longrightarrow$$
 Br + KOH (aq) \longrightarrow OH + KBr

Question Type : MCQ

Question ID : 3666942525 Option 1 ID : 3666947958 Option 2 ID : 3666947959 Option 3 ID : 3666947960 Option 4 ID : 3666947957 Status : Answered

Q.50 In the following reaction, 'A' is

$$CH_2OH \xrightarrow{EtO} OEt$$
 $CH_2OH \xrightarrow{EtO} OEt$
 $Major product$

Options

3.
$$\sim$$
 CH₂COOEt

4. NHCOOEt
$$_{\rm CH_2OH}$$

Question Type : MCQ

Question ID: 3666942526 Option 1 ID: 3666947964 Option 2 ID: 3666947961 Option 3 ID: 3666947962 Option 4 ID: 3666947963

Status: Not Answered

Chosen Option : --

Section: Chemistry Section B

Q.51 The density of 3 M solution of NaCl is 1.0 g mL $^{-1}$. Molality of the solution is _____ × 10 $^{-2}$ m. (Nearest integer).

Given: Molar mass of Na and Cl is 23 and 35.5 g mol-1 respectively.

Given --Answer :

Question Type : SA

Question ID : 3666942531 Status : Not Answered

O E3	
U.DZ	

A and B are two substances undergoing radioactive decay in a container. The half life of A is 15 min and that of B is 5 min. If the initial concentration of B is 4 times that of A and they both start decaying at the same time, how much time will it take for the concentration of both of them to be same?

Given --Answer :

Question Type : SA

Question ID : 3666942537

Status : Not Answered

Q.53

Number of isomeric compounds with molecular formula $C_9H_{10}O$ which (i) do not dissolve in NaOH (ii) do not dissolve in HCl. (iii) do not give orange precipitate with 2,4-DNP (iv) on hydrogenation give identical compound with molecular formula $C_9H_{12}O$ is ______.

Given --Answer :

Question Type : SA

Question ID : 3666942540

Status : Not Answered

Q.54

25 mL of an aqueous solution of KCl was found to require 20 mL of 1 M AgNO₃ solution when titrated using K₂CrO₄ as an indicator. What is the depression in freezing point of KCl solution of the given concentration?

_____(Nearest integer).

(Given: $K_f = 2.0 \text{ K kg mol}^{-1}$)

Assume 1) 100% ionization and

2) density of the aqueous solution as 1 g mL-1

Given --Answer :

Question Type : **SA**Question ID : **3666942534**Status : **Not Answered**

At 25°C, the enthalpy of the following processes are given:

 $H_2(g) + O_2(g)$ \rightarrow 2OH(g) $\Delta H^{\circ} = 78 \text{ kJ mol}^{-1}$

 $H_2(g) + \frac{1}{2}O_2(g)$ \rightarrow $H_2O(g)$ $\Delta H^{\circ} = -242 \text{ kJ mol}^{-1}$

 $H_2(g)$ \rightarrow 2H(g) $\Delta H^{\circ} = 436 \text{ kJ mol}^{-1}$

 $\frac{1}{2}O_2(g)$ \rightarrow O(g) $\Delta H^{\circ} = 249 \text{ kJ mol}^{-1}$

What would be the value of X for the following reaction? _____(Nearest integer)

 $H_2O(g) \rightarrow H(g)+OH(g) \Delta H^\circ = X kJ mol^{-1}$

Given --Answer :

Question Type : SA

Question ID : 3666942533 Status : Not Answered

Q.56

Electrons in a cathode ray tube have been emitted with a velocity of $1000~\text{m}~\text{s}^{-1}$. The number of following statements which is/are <u>true</u> about the emitted radiation is ______.

Given : h = 6×10^{-34} J s, $m_e = 9 \times 10^{-31}$ kg.

- (A) The deBroglie wavelength of the electron emitted is 666.67 nm.
- (B) The characteristic of electrons emitted depend upon the material of the electrodes of the cathode ray tube.
- (C) The cathode rays start from cathode and move towards anode.
- (D) The nature of the emitted electrons depends on the nature of the gas present in cathode ray tube.

Given --Answer :

Question Type : SA

Question ID : 3666942532 Status : Not Answered

Q.57

The total number of chiral compound/s from the following is _____

Given --Answer :

Question Type : SA

Question ID : **3666942539**Status : **Not Answered**

Sum of oxidation states of bromine in bromic acid and perbromic acid is

Given --

Answer:

Question Type: SA

Question ID: 3666942538 Status: Not Answered

Q.59

(i)
$$X(g) \rightleftharpoons Y(g) + Z(g)$$
 $K_{p1} = 3$

(ii)
$$A(g) \rightleftharpoons 2B(g)$$
 $K_{p2} = 1$

If the degree of dissociation and initial concentration of both the reactants X(g) and A(g) are equal, then the ratio of the total pressure at equilibrium

$$\left(\frac{p_1}{p_2}\right)$$
 is equal to x:1. The value of x is ______ (Nearest integer)

Given --Answer:

Question Type: SA

Question ID: 3666942535 Status: Not Answered

Q.60

At what pH, given half cell MnO₄⁻ (0.1 M) | Mn²⁺ (0.001 M) will have electrode potential of 1.282 V? ___ (Nearest Integer)

Given
$$E^{o}_{MnO_{4}|Mn^{2r}} = 1.54V$$
, $\frac{2.303RT}{F} = 0.059V$

Given --Answer:

Question Type: SA

Question ID: 3666942536 Status: Not Answered

Section: Mathematics Section A

Let S be the set of all solutions of the equation $\cos^{-1}(2x) - 2\cos^{-1}(\sqrt{1-x^2}) = \pi$,

 $x \in \left[-\frac{1}{2}, \frac{1}{2} \right]$. Then $\sum_{x \in \mathbb{Z}} 2 \sin^{-1}(x^2 - 1)$ is equal to

- $2. \quad \pi 2\sin^{-1}\left(\frac{\sqrt{3}}{4}\right)$
- 4. $\pi \sin^{-1}\left(\frac{\sqrt{3}}{4}\right)$

Question Type: MCQ

Question ID: 3666942559

Option 1 ID: 3666948064

Option 2 ID: 3666948066 Option 3 ID: 3666948063

Option 4 ID: 3666948065

Status: Answered

Chosen Option: 2

Q.62

If y = y(x) is the solution curve of the differential equation

$$\frac{dy}{dx} + y \tan x = x \sec x, \ 0 \le x \le \frac{\pi}{3}, \ y(0) = 1,$$

then
$$y\left(\frac{\pi}{6}\right)$$
 is equal to

1.
$$\frac{\pi}{12} - \frac{\sqrt{3}}{2} \log_e \left(\frac{2}{e\sqrt{3}}\right)$$

$$2. \quad \frac{\pi}{12} - \frac{\sqrt{3}}{2} \quad \log_e \left(\frac{2\sqrt{3}}{e} \right)$$

3.
$$\frac{\pi}{12} + \frac{\sqrt{3}}{2} \log_e \left(\frac{2}{e\sqrt{3}} \right)$$

4.
$$\frac{\pi}{12} + \frac{\sqrt{3}}{2} \log_e \left(\frac{2\sqrt{3}}{e} \right)$$

Question Type: MCQ

Question ID: 3666942554

Option 1 ID: 3666948043

Option 2 ID: 3666948044

Option 3 ID: 3666948045

Option 4 ID: 3666948046

Status: Not Answered

The sum to 10 terms of the series

 $\frac{1}{1+1^2+1^4} + \frac{2}{1+2^2+2^4} + \frac{3}{1+3^2+3^4} + \dots$ is

- Options 1. $\frac{55}{111}$

 - 4. $\frac{56}{111}$

Question Type : MCQ

Question ID: 3666942548

Option 1 ID: 3666948019

Option 2 ID: 3666948021

Option 3 ID: 3666948022 Option 4 ID: 3666948020

Status: Not Answered

Chosen Option: --

Q.64 The value of

 $\frac{1}{1!50!} + \frac{1}{3!48!} + \frac{1}{5!46!} + \dots + \frac{1}{49!2!} + \frac{1}{51!1!}$ is:

Options

Question Type : MCQ

Question ID: 3666942547

Option 1 ID: 3666948018

Option 2 ID: 3666948015

Option 3 ID: 3666948016

Option 4 ID: 3666948017

Status: Not Answered

Q.65 If the orthocentre of the triangle, whose vertices are (1, 2), (2, 3) and (3, 1) is (α, β) , then the quadratic equation whose roots are $\alpha + 4\beta$ and $4\alpha + \beta$, is

Options 1. $x^2 - 20x + 99 = 0$

- 2. $x^2 22x + 120 = 0$
- 3. $x^2 18x + 80 = 0$
- 4. $x^2 19x + 90 = 0$

Question Type : MCQ

Question ID: 3666942553

Option 1 ID: 3666948040

Option 2 ID: 3666948039

Option 3 ID: 3666948041

Option 4 ID: 3666948042

Status: Not Answered

Chosen Option : --

Q.66 The negation of the expression $q \lor ((\sim q) \land p)$ is equivalent to

Options 1. $(\sim p) \vee q$

- 2. $(\sim p) \land (\sim q)$
- 3. $(\sim p) \lor (\sim q)$
- 4. $p \wedge (\sim q)$

Question Type: MCQ

Question ID : 3666942560 Option 1 ID : 3666948070 Option 2 ID : 3666948067 Option 3 ID : 3666948068 Option 4 ID : 3666948069

Status : Not Answered Chosen Option : --

Q.67 Let $f(x) = 2x + \tan^{-1} x$ and $g(x) = \log_e(\sqrt{1 + x^2} + x), x \in [0, 3]$.

Then

Options 1. $\min f'(x) = 1 + \max g'(x)$

- 2. there exists $\hat{x} \in [0,3]$ such that $f'(\hat{x}) < g'(\hat{x})$
- 3. $\max f(x) > \max g(x)$
- 4. there exist $0 < x_1 < x_2 < 3$ such that $f(x) < g(x), \forall x \in (x_1, x_2)$

Question Type : $\boldsymbol{\mathsf{MCQ}}$

Question ID : 3666942549
Option 1 ID : 3666948024
Option 2 ID : 3666948026
Option 3 ID : 3666948023
Option 4 ID : 3666948025
Status : Answered

Q.68 The area enclosed by the closed curve C given by the differential equation

 $\frac{dy}{dx} + \frac{x+a}{y-2} = 0$, y(1) = 0 is 4π .

Let P and Q be the points of intersection of the curve C and the y-axis. If normals at P and Q on the curve C intersect x-axis at points R and S respectively, then the length of the line segment RS is

Options

Question Type : MCQ

Question ID: 3666942551

Option 1 ID: 3666948033

Option 2 ID: 3666948031

Option 3 ID: 3666948034

Option 4 ID: 3666948032

Status: Not Answered

Chosen Option: --

Let $S = \left\{ x : x \in \mathbb{R} \text{ and } (\sqrt{3} + \sqrt{2})^{x^2 - 4} + (\sqrt{3} - \sqrt{2})^{x^2 - 4} = 10 \right\}.$ Q.69

Then n(S) is equal to

Options $_1$. $_0$

- 2. 6
- 3. 2
- 4. 4

Question Type: MCQ

Question ID: 3666942543

Option 1 ID: 3666947999

Option 2 ID: 3666948002

Option 3 ID: 3666948001

Option 4 ID: 3666948000

Status: Answered

Q.70 Let the image of the point P(2,-1,3) in the plane x+2y-z=0 be Q. Then the distance of the plane 3x + 2y + z + 29 = 0 from the point Q is

Options

- 1. $\frac{22\sqrt{2}}{7}$
- 3√14
- 3. $\frac{24\sqrt{2}}{7}$
- 4. 2√14

Question Type : MCQ

Question ID: 3666942555 Option 1 ID: 3666948047 Option 2 ID: 3666948049

Option 3 ID: 3666948048 Option 4 ID: 3666948050

Status: Answered

Chosen Option: 1

Q.71

$$\lim_{n\to\infty}\biggl[\frac{1}{1+n}+\frac{1}{2+n}+\frac{1}{3+n}+\ldots+\frac{1}{2n}\biggr] \text{ is equal to}$$

Options

- 3. $\log_e\left(\frac{2}{3}\right)$
- 4. 0

Question Type : MCQ

Question ID: 3666942550 Option 1 ID: 3666948029 Option 2 ID: 3666948030

Option 3 ID: 3666948028 Option 4 ID: 3666948027

Status: Answered

Let
$$f(x) = \begin{vmatrix} 1 + \sin^2 x & \cos^2 x & \sin 2x \\ \sin^2 x & 1 + \cos^2 x & \sin 2x \\ \sin^2 x & \cos^2 x & 1 + \sin 2x \end{vmatrix}$$
, $x \in \left[\frac{\pi}{6}, \frac{\pi}{3}\right]$. If α and β

respectively are the maximum and the minimum values of f, then

Options

1.
$$\alpha^2 + \beta^2 = \frac{9}{2}$$

$$2. \quad \alpha^2 - \beta^2 = 4\sqrt{3}$$

3.
$$\beta^2 + 2\sqrt{\alpha} = \frac{19}{4}$$

4.
$$\beta^2 - 2\sqrt{\alpha} = \frac{19}{4}$$

Question Type: MCQ

Question ID: 3666942544 Option 1 ID: 3666948005

Option 2 ID: 3666948003 Option 3 ID: 3666948006 Option 4 ID: 3666948004

Status: Not Answered

Chosen Option: --

Q.73 The combined equation of the two lines ax + by + c = 0 and a'x + b'y + c' = 0can be written as (ax+by+c)(a'x+b'y+c')=0.

The equation of the angle bisectors of the lines represented by the equation $2x^2 + xy - 3y^2 = 0$ is

Options 1.
$$x^2 - y^2 - 10xy = 0$$

$$2. \quad 3x^2 + xy - 2y^2 = 0$$

$$3x^2 + 5xy + 2y^2 = 0$$

4.
$$x^2 - y^2 + 10xy = 0$$

Question Type: MCQ

Question ID: 3666942552

Option 1 ID: 3666948037

Option 2 ID: 3666948036

Option 3 ID: 3666948035

Option 4 ID: 3666948038

Status: Answered

Q.74 Let R be a relation on \mathbb{R} , given by

 $R = \{(a, b): 3a - 3b + \sqrt{7} \text{ is an irrational number } \}.$

Then R is

Options 1. reflexive and transitive but not symmetric

- 2. an equivalence relation
- 3. reflexive but neither symmetric nor transitive
- 4. reflexive and symmetric but not transitive

Question Type: MCQ

Question ID: 3666942541 Option 1 ID: 3666947993 Option 2 ID: 3666947994 Option 3 ID: 3666947991

Option 4 ID: 3666947992 Status: Answered

Chosen Option: 2

Q.75 The mean and variance of 5 observations are 5 and 8 respectively. If 3 observations are 1, 3, 5, then the sum of cubes of the remaining two observations is

Options $_{1}$ 1456

2. 1072

3. 1216

4. 1792

Question Type: MCQ

Question ID: 3666942558

Option 1 ID: 3666948060 Option 2 ID: 3666948062

Option 3 ID: 3666948061

Option 4 ID: 3666948059

Status: Not Answered

Chosen Option: --

In a binomial distribution B(n, p), the sum and the product of the mean and the variance are 5 and 6 respectively, then 6(n+p-q) is equal to

Options 1. 50

2. 51

52

4. 53

Question Type: MCQ

Question ID: 3666942545

Option 1 ID: 3666948007

Option 2 ID: 3666948008

Option 3 ID: 3666948009

Option 4 ID: 3666948010

Status: Not Answered

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Q.77

The shortest distance between the lines

$$\frac{x-5}{1} = \frac{y-2}{2} = \frac{z-4}{-3}$$
 and $\frac{x+3}{1} = \frac{y+5}{4} = \frac{z-1}{-5}$ is

- Options 1. $5\sqrt{3}$

Question Type : MCQ

Question ID: 3666942556 Option 1 ID: 3666948052

Option 2 ID: 3666948051

Option 3 ID: 3666948054 Option 4 ID: 3666948053

Status: Answered

Chosen Option: 1

Q.78 Let S denote the set of all real values of λ such that the system of equations

$$\lambda x + y + z = 1$$

$$x + \lambda y + z = 1$$

$$x + y + \lambda z = 1$$

is inconsistent, then $\sum_{\lambda \in S} (|\lambda|^2 + |\lambda|)$ is equal to

Options 1. 12

Question Type : MCQ

Question ID: 3666942546

Option 1 ID: 3666948011

Option 2 ID: 3666948012

Option 3 ID: 3666948014

Option 4 ID: 3666948013

Status: Not Answered

For a triangle ABC, the value of $\cos 2A + \cos 2B + \cos 2C$ is least. If its inradius is 3 and incentre is M, then which of the following is NOT correct?

Options 1.

- $\sin 2A + \sin 2B + \sin 2C = \sin A + \sin B + \sin C$
- 2. perimeter of $\triangle ABC$ is $18\sqrt{3}$
- 3. $\overrightarrow{MA} \cdot \overrightarrow{MB} = -18$
- 4. area of $\triangle ABC$ is $\frac{27\sqrt{3}}{2}$

Question Type : MCQ

Question ID: 3666942557
Option 1 ID: 3666948058
Option 2 ID: 3666948057
Option 3 ID: 3666948056
Option 4 ID: 3666948055
Status: Not Answered

Chosen Option : --

Q.80 If the center and radius of the circle $\left|\frac{z-2}{z-3}\right|=2$ are respectively (α,β) and γ , then $3(\alpha+\beta+\gamma)$ is equal to

Options 1. 9

- 2. 10
- 3. 11
- 4. 12

Question Type : $\boldsymbol{\mathsf{MCQ}}$

Question ID: 3666942542 Option 1 ID: 3666947998 Option 2 ID: 3666947995 Option 3 ID: 3666947997 Option 4 ID: 3666947996

Status : Not Answered

Chosen Option: --

Section: Mathematics Section B

Q.81 The number of words, with or without meaning, that can be formed using all the letters of the word ASSASSINATION so that the vowels occur together,

Given --Answer :

Question Type : SA

Question ID : **3666942562** Status : **Not Answered**

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Q.82 Let $\vec{v} = \alpha \hat{i} + 2 \hat{j} - 3 \hat{k}$, $\vec{w} = 2\alpha \hat{i} + \hat{j} - \hat{k}$ and \vec{u} be a vector such that $|\vec{u}| = \alpha > 0$. If the minimum value of the scalar triple product $[\vec{u} \ \vec{v} \ \vec{w}]$ is $-\alpha \sqrt{3401}$, and $|\vec{u} \cdot \hat{i}|^2 = \frac{m}{n}$ where m and n are coprime natural numbers, then m+n is equal to ______.

Given --Answer :

Question Type : **SA**Question ID : **3666942570**

Status: Not Answered

Q.83 If $f(x) = x^2 + g'(1)x + g''(2)$ and $g(x) = f(1)x^2 + xf'(x) + f''(x)$, then the value of f(4) - g(4) is equal to _____.

Given --Answer :

Question Type : SA

Question ID : 3666942561

Status : Not Answered

Q.84 If $\int_{0}^{1} (x^{21} + x^{14} + x^{7})(2x^{14} + 3x^{7} + 6)^{1/7} dx = \frac{1}{l} (11)^{m/n}$ where $l, m, n \in \mathbb{N}$, m and n are coprime then l+m+n is equal to ______.

Given --Answer :

Question Type : **SA**Question ID : **3666942565**Status : **Not Answered**

Q.85 Let $a_1 = 8, a_2, a_3, ..., a_n$ be an A.P. If the sum of its first four terms is 50 and the sum of its last four terms is 170, then the product of its middle two terms is _____.

Given --Answer :

Question Type : SA

Question ID : 3666942566

Status : Not Answered

Q.86 The remainder, when $19^{200} + 23^{200}$ is divided by 49, is _____.

Given --Answer :

Question Type : SA

Question ID : 3666942564

Status : Not Answered

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Let A be the area bounded by the curve y = x |x-3|, the x-axis and the ordinates x = -1 and x = 2. Then 12 A is equal to _____

Given -

Answer:

Question Type : **SA**Question ID : **3666942567**

Status: Not Answered

Q.88

A(2,6,2), $B(-4,0,\lambda)$, C(2,3,-1) and D(4,5,0), $\left|\lambda\right| \le 5$ are the vertices of a quadrilateral ABCD. If its area is 18 square units, then $5-6\lambda$ is equal to

Given --Answer :

Question Type : SA

Question ID : **3666942569** Status : **Not Answered**

Q.89

The number of 3-digit numbers, that are divisible by either 2 or 3 but not divisible by 7, is ______.

Given --Answer :

Question Type : SA

Question ID : 3666942563 Status : Not Answered

Q.90

Let $f: \mathbb{R} \to \mathbb{R}$ be a differentiable function such that $f'(x) + f(x) = \int_0^2 f(t) dt$.

If $f(0) = e^{-2}$, then 2f(0) - f(2) is equal to _____

Given --Answer :

Question Type : SA

Question ID : **3666942568**Status : **Not Answered**