

JEE JULY 2021 EXAM

Application No	210310378245
Candidate Name	ABHISHEK
Roll No	DL01001898
Test Date	20/07/2021
Test Time	9:00 AM - 12:00 PM
Subject	B TECH

Section : Physics Section A

Q.1 A butterfly is flying with a velocity $4\sqrt{2}$ m/s in North-East direction. Wind is slowly blowing at 1 m/s from North to South. The resultant displacement of the butterfly in 3 seconds is :

Options

1. 20 m
2. 3 m
3. $12\sqrt{2}$ m
4. 15 m

Question Type : MCQ

Question ID : 86435117203

Option 1 ID : 86435158196

Option 2 ID : 86435158195

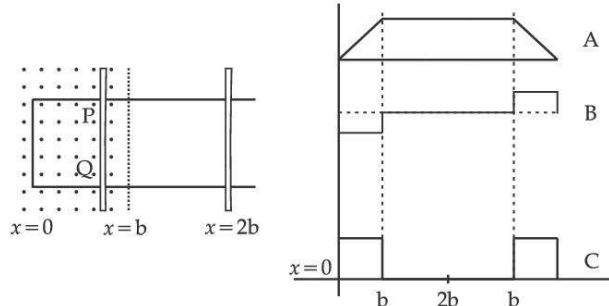
Option 3 ID : 86435158194

Option 4 ID : 86435158193

Status : Answered

Chosen Option : 1

- Q.2** The arm PQ of a rectangular conductor is moving from $x=0$ to $x=2b$ outwards and then inwards from $x=2b$ to $x=0$ as shown in the figure. A uniform magnetic field perpendicular to the plane is acting from $x=0$ to $x=b$. Identify the graph showing the variation of different quantities with distance.



- Options**
1. A-Flux, B-Power dissipated, C-EMF
 2. A-Flux, B-EMF, C-Power dissipated
 3. A-Power dissipated, B-Flux, C-EMF
 4. A-EMF, B-Power dissipated, C-Flux

Question Type : MCQ
 Question ID : 86435117206
 Option 1 ID : 86435158206
 Option 2 ID : 86435158207
 Option 3 ID : 86435158208
 Option 4 ID : 86435158205
 Status : Answered
 Chosen Option : 2

- Q.3** A deuteron and an alpha particle having equal kinetic energy enter perpendicularly into a magnetic field. Let r_d and r_α be their respective radii of circular path. The value of $\frac{r_d}{r_\alpha}$ is equal to :

- Options**
1. 2
 2. 1
 3. $\sqrt{2}$
 4. $\frac{1}{\sqrt{2}}$

Question Type : MCQ
 Question ID : 86435117207
 Option 1 ID : 86435158212
 Option 2 ID : 86435158210
 Option 3 ID : 86435158211
 Option 4 ID : 86435158209
 Status : Answered
 Chosen Option : 1

- Q.4** AC voltage $V(t) = 20 \sin \omega t$ of frequency 50 Hz is applied to a parallel plate capacitor. The separation between the plates is 2 mm and the area is 1 m^2 . The amplitude of the oscillating displacement current for the applied AC voltage is _____.
[Take $\epsilon_0 = 8.85 \times 10^{-12} \text{ F/m}$]

- Options**
1. $21.14 \mu\text{A}$
 2. $27.79 \mu\text{A}$
 3. $55.58 \mu\text{A}$
 4. $83.37 \mu\text{A}$

Question Type : **MCQ**

Question ID : **86435117211**

Option 1 ID : **86435158228**

Option 2 ID : **86435158225**

Option 3 ID : **86435158226**

Option 4 ID : **86435158227**

Status : **Not Answered**

Chosen Option : --

- Q.5** The radiation corresponding to $3 \rightarrow 2$ transition of a hydrogen atom falls on a gold surface to generate photoelectrons. These electrons are passed through a magnetic field of $5 \times 10^{-4} \text{ T}$. Assume that the radius of the largest circular path followed by these electrons is 7 mm, the work function of the metal is : (Mass of electron = $9.1 \times 10^{-31} \text{ kg}$)

- Options**
1. 1.88 eV
 2. 0.82 eV
 3. 1.36 eV
 4. 0.16 eV

Question Type : **MCQ**

Question ID : **86435117215**

Option 1 ID : **86435158241**

Option 2 ID : **86435158243**

Option 3 ID : **86435158244**

Option 4 ID : **86435158242**

Status : **Answered**

Chosen Option : **4**

Q.6 A radioactive material decays by simultaneous emissions of two particles with half lives of 1400 years and 700 years respectively. What will be the time after which one third of the material remains ? (Take $\ln 3 = 1.1$)

Options 1. 340 years

2. 740 years

3. 1110 years

4. 700 years

Question Type : **MCQ**

Question ID : **86435117214**

Option 1 ID : **86435158240**

Option 2 ID : **86435158238**

Option 3 ID : **86435158239**

Option 4 ID : **86435158237**

Status : **Answered**

Chosen Option : **3**

Q.7 If \vec{A} and \vec{B} are two vectors satisfying the relation $\vec{A} \cdot \vec{B} = |\vec{A} \times \vec{B}|$. Then the value of $|\vec{A} - \vec{B}|$ will be :

Options

1. $\sqrt{A^2 + B^2 - \sqrt{2}AB}$

2. $\sqrt{A^2 + B^2 + 2AB}$

3. $\sqrt{A^2 + B^2 + \sqrt{2}AB}$

4. $\sqrt{A^2 + B^2}$

Question Type : **MCQ**

Question ID : **86435117219**

Option 1 ID : **86435158258**

Option 2 ID : **86435158260**

Option 3 ID : **86435158259**

Option 4 ID : **86435158257**

Status : **Answered**

Chosen Option : **1**

- Q.8** The entropy of any system is given by

$$S = \alpha^2 \beta \ln \left[\frac{\mu k R}{J \beta^2} + 3 \right]$$

where α and β are the constants. μ , J , k and R are no. of moles, mechanical equivalent of heat, Boltzmann constant and gas constant respectively. [Take $S = \frac{dQ}{T}$]

Choose the incorrect option from the following :

- Options** 1. S and α have different dimensions.

2. α and J have the same dimensions.

3. S , β , k and μR have the same dimensions.

4. α and k have the same dimensions.

Question Type : MCQ

Question ID : 86435117213

Option 1 ID : 86435158236

Option 2 ID : 86435158233

Option 3 ID : 86435158235

Option 4 ID : 86435158234

Status : Answered

Chosen Option : 2

- Q.9** Consider a mixture of gas molecule of types A, B and C having masses $m_A < m_B < m_C$. The ratio of their root mean square speeds at normal temperature and pressure is :

- Options** 1. $v_A = v_B = v_C = 0$

2. $\frac{1}{v_A} > \frac{1}{v_B} > \frac{1}{v_C}$

3. $v_A = v_B \neq v_C$

4. $\frac{1}{v_A} < \frac{1}{v_B} < \frac{1}{v_C}$

Question Type : MCQ

Question ID : 86435117208

Option 1 ID : 86435158216

Option 2 ID : 86435158213

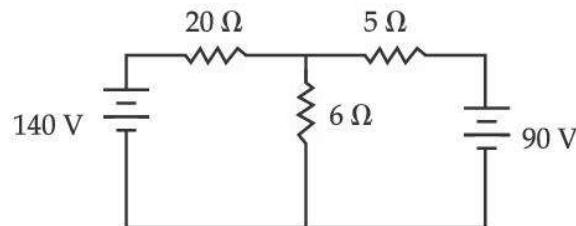
Option 3 ID : 86435158215

Option 4 ID : 86435158214

Status : Answered

Chosen Option : 4

Q.10



The value of current in the $6\ \Omega$ resistance is :

- Options
1. 10 A
 2. 8 A
 3. 4 A
 4. 6 A

Question Type : MCQ

Question ID : 86435117210

Option 1 ID : 86435158223

Option 2 ID : 86435158224

Option 3 ID : 86435158222

Option 4 ID : 86435158221

Status : Not Answered

Chosen Option : --

Q.11 A nucleus of mass M emits γ -ray photon of frequency ' ν '. The loss of internal energy by the nucleus is :

[Take ' c ' as the speed of electromagnetic wave]

- Options
1. $h\nu$

$$2. h\nu \left[1 - \frac{h\nu}{2Mc^2} \right]$$

$$3. 0$$

$$4. h\nu \left[1 + \frac{h\nu}{2Mc^2} \right]$$

Question Type : MCQ

Question ID : 86435117201

Option 1 ID : 86435158186

Option 2 ID : 86435158188

Option 3 ID : 86435158185

Option 4 ID : 86435158187

Status : Answered

Chosen Option : 4

- Q.12** The value of tension in a long thin metal wire has been changed from T_1 to T_2 . The lengths of the metal wire at two different values of tension T_1 and T_2 are l_1 and l_2 respectively. The actual length of the metal wire is :

Options

1. $\frac{T_1 l_1 - T_2 l_2}{T_1 - T_2}$
2. $\frac{T_1 l_2 - T_2 l_1}{T_1 - T_2}$
3. $\sqrt{T_1 T_2 l_1 l_2}$
4. $\frac{l_1 + l_2}{2}$

Question Type : MCQ

Question ID : 86435117202

Option 1 ID : 86435158192

Option 2 ID : 86435158191

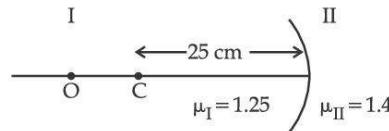
Option 3 ID : 86435158190

Option 4 ID : 86435158189

Status : Answered

Chosen Option : 2

- Q.13** Region I and II are separated by a spherical surface of radius 25 cm. An object is kept in region I at a distance of 40 cm from the surface. The distance of the image from the surface is :



- Options**
1. 37.58 cm
 2. 9.52 cm
 3. 55.44 cm
 4. 18.23 cm

Question Type : MCQ

Question ID : 86435117217

Option 1 ID : 86435158249

Option 2 ID : 86435158251

Option 3 ID : 86435158250

Option 4 ID : 86435158252

Status : Answered

Chosen Option : 3

- Q.14** The amount of heat needed to raise the temperature of 4 moles of a rigid diatomic gas from 0°C to 50°C when no work is done is _____. (R is the universal gas constant)

Options 1. 750 R

2. 175 R

3. 250 R

4. 500 R

Question Type : **MCQ**

Question ID : **86435117209**

Option 1 ID : **86435158218**

Option 2 ID : **86435158219**

Option 3 ID : **86435158217**

Option 4 ID : **86435158220**

Status : **Answered**

Chosen Option : **4**

- Q.15** A current of 5 A is passing through a non-linear magnesium wire of cross-section 0.04 m^2 .

At every point the direction of current density is at an angle of 60° with the unit vector of area of cross-section. The magnitude of electric field at every point of the conductor is :

(Resistivity of magnesium $\rho = 44 \times 10^{-8} \Omega\text{m}$)

Options 1. $11 \times 10^{-7} \text{ V/m}$

2. $11 \times 10^{-2} \text{ V/m}$

3. $11 \times 10^{-3} \text{ V/m}$

4. $11 \times 10^{-5} \text{ V/m}$

Question Type : **MCQ**

Question ID : **86435117204**

Option 1 ID : **86435158198**

Option 2 ID : **86435158200**

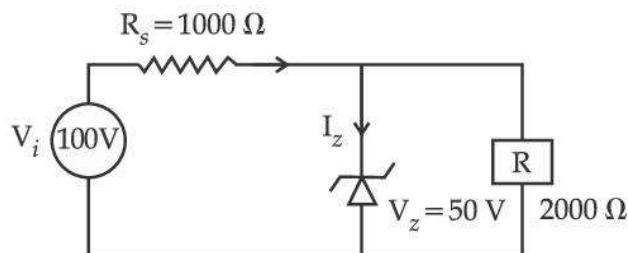
Option 3 ID : **86435158199**

Option 4 ID : **86435158197**

Status : **Not Answered**

Chosen Option : **--**

Q.16 For the circuit shown below, calculate the value of I_z :

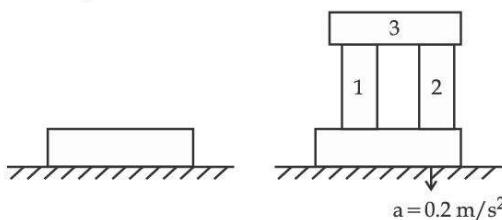


- Options
1. 0.05 A
 2. 0.1 A
 3. 25 mA
 4. 0.15 A

Question Type : MCQ
 Question ID : 86435117200
 Option 1 ID : 86435158182
 Option 2 ID : 86435158181
 Option 3 ID : 86435158184
 Option 4 ID : 86435158183
 Status : Answered
 Chosen Option : 3

Q.17 A steel block of 10 kg rests on a horizontal floor as shown. When three iron cylinders are placed on it as shown, the block and cylinders go down with an acceleration 0.2 m/s^2 . The normal reaction R' by the floor if mass of the iron cylinders are equal and of 20 kg each, is _____ N.

[Take $g = 10 \text{ m/s}^2$ and $\mu_s = 0.2$]



- Options
1. 686
 2. 714
 3. 716
 4. 684

Question Type : MCQ
 Question ID : 86435117216
 Option 1 ID : 86435158246
 Option 2 ID : 86435158248
 Option 3 ID : 86435158245
 Option 4 ID : 86435158247
 Status : Answered
 Chosen Option : 2

- Q.18** The normal reaction 'N' for a vehicle of 800 kg mass, negotiating a turn on a 30° banked road at maximum possible speed without skidding is _____ $\times 10^3$ kg m/s 2 .
 [Given $\cos 30^\circ = 0.87$, $\mu_s = 0.2$]

Options

1. 12.4
2. 7.2
3. 6.96
4. 10.2

Question Type : MCQ

Question ID : 86435117218

Option 1 ID : 86435158256

Option 2 ID : 86435158254

Option 3 ID : 86435158253

Option 4 ID : 86435158255

Status : Not Answered

Chosen Option : --

- Q.19** A certain charge Q is divided into two parts q and $(Q - q)$. How should the charges Q and q be divided so that q and $(Q - q)$ placed at a certain distance apart experience maximum electrostatic repulsion ?

Options

1. $Q = 3q$
2. $Q = 2q$
3. $Q = \frac{q}{2}$
4. $Q = 4q$

Question Type : MCQ

Question ID : 86435117212

Option 1 ID : 86435158230

Option 2 ID : 86435158229

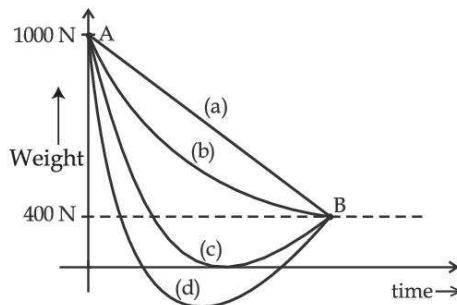
Option 3 ID : 86435158232

Option 4 ID : 86435158231

Status : Answered

Chosen Option : 2

- Q.20** A person whose mass is 100 kg travels from Earth to Mars in a spaceship. Neglect all other objects in sky and take acceleration due to gravity on the surface of the Earth and Mars as 10 m/s^2 and 4 m/s^2 respectively. Identify from the below figures, the curve that fits best for the weight of the passenger as a function of time.

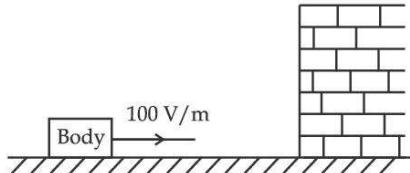


- Options**
1. (c)
 2. (a)
 3. (b)
 4. (d)

Question Type : MCQ
 Question ID : 86435117205
 Option 1 ID : 86435158203
 Option 2 ID : 86435158201
 Option 3 ID : 86435158202
 Option 4 ID : 86435158204
 Status : Answered
 Chosen Option : 3

Section : Physics Section B

- Q.1** A body having specific charge $8 \mu\text{C/g}$ is resting on a frictionless plane at a distance 10 cm from the wall (as shown in the figure). It starts moving towards the wall when a uniform electric field of 100 V/m is applied horizontally towards the wall. If the collision of the body with the wall is perfectly elastic, then the time period of the motion will be _____ s.



Given 4
 Answer :

Question Type : SA
 Question ID : 86435117223
 Status : Answered

- Q.2** The amplitude of wave disturbance propagating in the positive x -direction is given by

$y = \frac{1}{(1+x)^2}$ at time $t=0$ and $y = \frac{1}{1+(x-2)^2}$ at $t=1$ s, where x and y are in metres. The shape of wave does not change during the propagation. The velocity of the wave will be _____ m/s.

Given --

Answer :

Question Type : **SA**

Question ID : **86435117225**

Status : **Not Answered**

- Q.3** The frequency of a car horn encountered a change from 400 Hz to 500 Hz, when the car approaches a vertical wall. If the speed of sound is 330 m/s. Then the speed of car is _____ km/h.

Given --

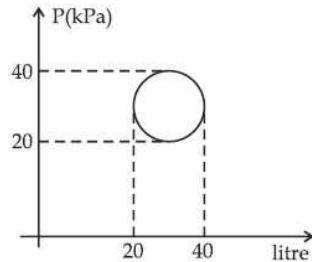
Answer :

Question Type : **SA**

Question ID : **86435117224**

Status : **Not Answered**

- Q.4** In the reported figure, heat energy absorbed by a system in going through a cyclic process is _____ π J.



Given 400

Answer :

Question Type : **SA**

Question ID : **86435117226**

Status : **Answered**

- Q.5** A carrier wave $V_c(t) = 160 \sin(2\pi \times 10^6 t)$ volts is made to vary between $V_{\max} = 200$ V and $V_{\min} = 120$ V by a message signal $V_m(t) = A_m \sin(2\pi \times 10^3 t)$ volts. The peak voltage A_m of the modulating signal is _____.

Given --

Answer :

Question Type : **SA**

Question ID : **86435117220**

Status : **Not Answered**

- Q.6** An object viewed from a near point distance of 25 cm, using a microscopic lens with magnification '6', gives an unresolved image. A resolved image is observed at infinite distance with a total magnification double the earlier using an eyepiece along with the given lens and a tube of length 0.6 m, if the focal length of the eyepiece is equal to _____ cm.

Given --

Answer :

Question Type : **SA**

Question ID : **86435117221**

Status : **Not Answered**

- Q.7** A circular disc reaches from top to bottom of an inclined plane of length 'L'. When it slips down the plane, it takes time ' t_1 '. When it rolls down the plane, it takes time t_2 . The value of $\frac{t_2}{t_1}$ is $\sqrt{\frac{3}{x}}$. The value of x will be _____.

Given 2

Answer :

Question Type : **SA**

Question ID : **86435117227**

Status : **Answered**

- Q.8** In an LCR series circuit, an inductor 30 mH and a resistor 1Ω are connected to an AC source of angular frequency 300 rad/s. The value of capacitance for which, the current leads the voltage by 45° is $\frac{1}{x} \times 10^{-3}$ F. Then the value of x is _____.

Given --

Answer :

Question Type : **SA**

Question ID : **86435117222**

Status : **Not Answered**

- Q.9** A rod of mass M and length L is lying on a horizontal frictionless surface. A particle of mass ' m ' travelling along the surface hits at one end of the rod with a velocity ' u ' in a direction perpendicular to the rod. The collision is completely elastic. After collision, particle comes to rest. The ratio of masses $\left(\frac{m}{M}\right)$ is $\frac{1}{x}$. The value of ' x ' will be _____.

Given 5

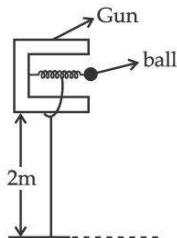
Answer :

Question Type : **SA**

Question ID : **86435117228**

Status : **Answered**

- Q.10** In a spring gun having spring constant 100 N/m a small ball 'B' of mass 100 g is put in its barrel (as shown in figure) by compressing the spring through 0.05 m. There should be a box placed at a distance 'd' on the ground so that the ball falls in it. If the ball leaves the gun horizontally at a height of 2 m above the ground. The value of d is _____ m. ($g = 10 \text{ m/s}^2$).



Given 4

Answer :

Question Type : **SA**

Question ID : **86435117229**

Status : **Answered**

Section : Chemistry Section A

- Q.1** A s-block element (M) reacts with oxygen to form an oxide of the formula MO_2 . The oxide is pale yellow in colour and paramagnetic. The element (M) is :

Options

1. Mg
2. Na
3. Ca
4. K

Question Type : **MCQ**

Question ID : **86435117236**

Option 1 ID : **86435158296**

Option 2 ID : **86435158295**

Option 3 ID : **86435158298**

Option 4 ID : **86435158297**

Status : **Answered**

Chosen Option : **3**

Q.2 Identify the incorrect statement from the following :

Options 1.

1. Amylose is a branched chain polymer of glucose
2. Glycogen is called as animal starch
3. Starch is a polymer of α -D glucose
4. β -Glycosidic linkage makes cellulose polymer

Question Type : MCQ

Question ID : 86435117248

Option 1 ID : 86435158344

Option 2 ID : 86435158346

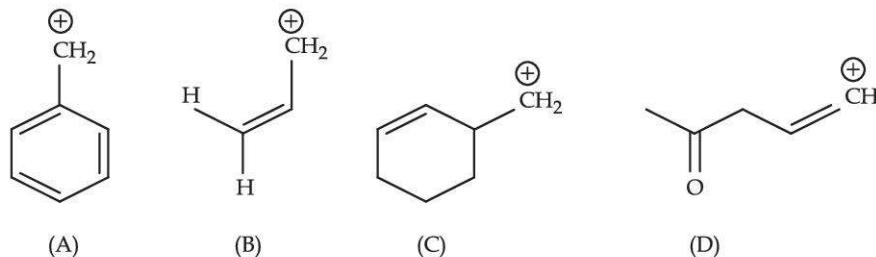
Option 3 ID : 86435158343

Option 4 ID : 86435158345

Status : Answered

Chosen Option : 4

Q.3



Among the given species the Resonance stabilised carbocations are :

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

Question Type : MCQ

Question ID : 86435117242

Option 1 ID : 86435158319

Option 2 ID : 86435158322

Option 3 ID : 86435158320

Option 4 ID : 86435158321

Status : Answered

Chosen Option : 4

Q.4 The species given below that does NOT show disproportionation reaction is :

Options

1. BrO_4^-
2. BrO^-
3. BrO_3^-
4. BrO_2^-

Question Type : **MCQ**

Question ID : **86435117231**

Option 1 ID : **86435158278**

Option 2 ID : **86435158275**

Option 3 ID : **86435158277**

Option 4 ID : **86435158276**

Status : **Answered**

Chosen Option : **2**

Q.5 The conditions given below are in the context of observing Tyndall effect in colloidal solutions :

- (A) The diameter of the colloidal particles is comparable to the wavelength of light used.
- (B) The diameter of the colloidal particles is much smaller than the wavelength of light used.
- (C) The diameter of the colloidal particles is much larger than the wavelength of light used.
- (D) The refractive indices of the dispersed phase and the dispersion medium are comparable.
- (E) The dispersed phase has a very different refractive index from the dispersion medium.

Choose the most appropriate conditions from the options given below.

Options

1. (A) and (E) only
2. (A) and (D) only
3. (C) and (D) only
4. (B) and (E) only

Question Type : **MCQ**

Question ID : **86435117232**

Option 1 ID : **86435158281**

Option 2 ID : **86435158279**

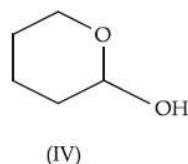
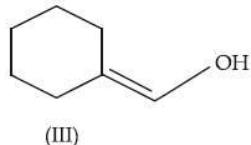
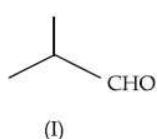
Option 3 ID : **86435158282**

Option 4 ID : **86435158280**

Status : **Answered**

Chosen Option : **3**

Q.6



Which among the above compound/s does/do not form Silver mirror when treated with Tollen's reagent ?

Options

1. Only (II)
2. Only (IV)
3. (I), (III) and (IV) only
4. (III) and (IV) only

Question Type : MCQ

Question ID : 86435117245

Option 1 ID : 86435158333

Option 2 ID : 86435158334

Option 3 ID : 86435158331

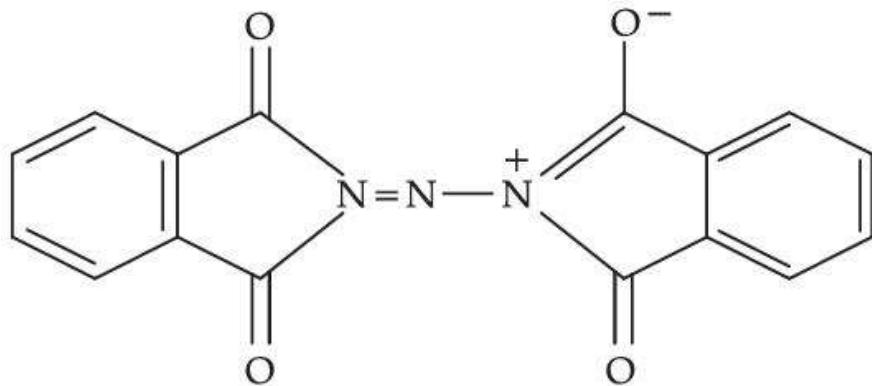
Option 4 ID : 86435158332

Status : Not Answered

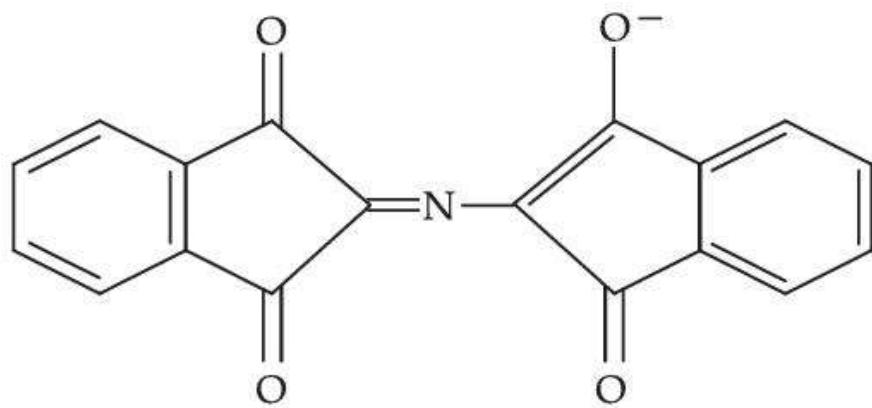
Chosen Option : --

Q.7 The correct structure of Rhumann's Purple, the compound formed in the reaction of ninhydrin with proteins is :

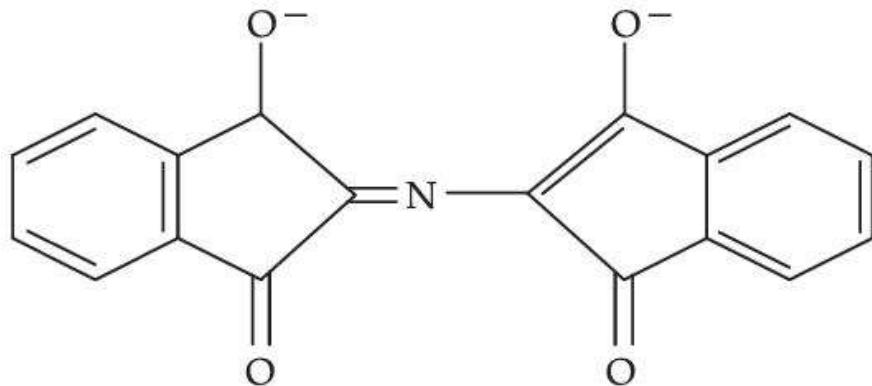
Options 1.



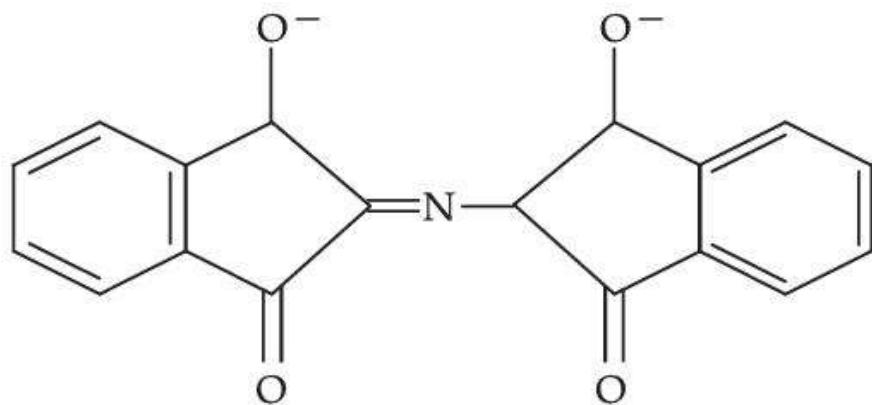
2.



3.



4.



Question Type : MCQ

Question ID : 86435117249

Option 1 ID : 86435158347

Option 2 ID : **86435158348**Option 3 ID : **86435158349**Option 4 ID : **86435158350**Status : **Answered**Chosen Option : **1**

Q.8 An inorganic Compound 'X' on treatment with concentrated H_2SO_4 produces brown fumes and gives dark brown ring with $FeSO_4$ in presence of concentrated H_2SO_4 . Also Compound 'X' gives precipitate 'Y', when its solution in dilute HCl is treated with H_2S gas. The precipitate 'Y' on treatment with concentrated HNO_3 followed by excess of NH_4OH further gives deep blue coloured solution, Compound 'X' is :

Options

1. $Pb(NO_3)_2$
2. $Co(NO_3)_2$
3. $Pb(NO_3)_2$
4. $Cu(NO_3)_2$

Question Type : **MCQ**Question ID : **86435117241**Option 1 ID : **86435158318**Option 2 ID : **86435158316**Option 3 ID : **86435158315**Option 4 ID : **86435158317**Status : **Answered**Chosen Option : **3**

Q.9 The metal that can be purified economically by fractional distillation method is :

Options

1. Ni
2. Fe
3. Cu
4. Zn

Question Type : **MCQ**Question ID : **86435117234**Option 1 ID : **86435158288**Option 2 ID : **86435158287**Option 3 ID : **86435158289**Option 4 ID : **86435158290**Status : **Not Answered**Chosen Option : **--**

- Q.10** Compound A is converted to B on reaction with CHCl_3 and KOH. The compound B is toxic and can be decomposed by C. A, B and C respectively are :

Options 1.

1. secondary amine, nitrile compound, conc. NaOH
2. primary amine, isonitrile compound, conc. HCl
3. secondary amine, isonitrile compound, conc. NaOH
4. primary amine, nitrile compound, conc. HCl

Question Type : MCQ

Question ID : 86435117246

Option 1 ID : 86435158336

Option 2 ID : 86435158337

Option 3 ID : 86435158338

Option 4 ID : 86435158335

Status : Not Answered

Chosen Option : --

- Q.11** The set in which compounds have different nature is :

Options

1. NaOH and $\text{Ca}(\text{OH})_2$
2. $\text{B}(\text{OH})_3$ and $\text{Al}(\text{OH})_3$
3. $\text{Be}(\text{OH})_2$ and $\text{Al}(\text{OH})_3$
4. $\text{B}(\text{OH})_3$ and H_3PO_3

Question Type : MCQ

Question ID : 86435117233

Option 1 ID : 86435158283

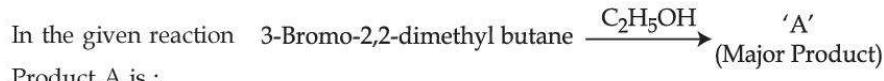
Option 2 ID : 86435158286

Option 3 ID : 86435158284

Option 4 ID : 86435158285

Status : Answered

Chosen Option : 4

Q.12

Product A is :

- Options
1. 2-Ethoxy-3,3-dimethyl butane.
 2. 2-Ethoxy-2,3-dimethyl butane.
 3. 2-Hydroxy-3,3-dimethyl butane,
 4. 1-Ethoxy-3,3-dimethyl butane.

Question Type : MCQ

Question ID : 86435117244

Option 1 ID : 86435158327

Option 2 ID : 86435158330

Option 3 ID : 86435158329

Option 4 ID : 86435158328

Status : Answered

Chosen Option : 2

Q.13 According to the valence bond theory the hybridization of central metal atom is dsp^2 for which one of the following compounds ?

Options

1. $\text{K}_2[\text{Ni}(\text{CN})_4]$
2. $[\text{Ni}(\text{CO})_4]$
3. $\text{NiCl}_2 \cdot 6\text{H}_2\text{O}$
4. $\text{Na}_2[\text{NiCl}_4]$

Question Type : MCQ

Question ID : 86435117238

Option 1 ID : 86435158305

Option 2 ID : 86435158306

Option 3 ID : 86435158303

Option 4 ID : 86435158304

Status : Answered

Chosen Option : 3

- Q.14** Given below are two statements : One is labelled as **Assertion A** and the other is labelled as **Reason R**.

Assertion A : The dihedral angles in H_2O_2 in gaseous phase is 90.2° and in solid phase is 111.5° .

Reason R : The change in dihedral angle in solid and gaseous phase is due to the difference in the intermolecular forces.

Choose the most appropriate answer from the options given below for **A** and **R**.

Options 1.

Both **A** and **R** are correct but **R** is not the correct explanation of **A**.

2. **A** is not correct but **R** is correct.

3.

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

4. **A** is correct but **R** is not correct.

Question Type : MCQ

Question ID : 86435117235

Option 1 ID : 86435158292

Option 2 ID : 86435158294

Option 3 ID : 86435158291

Option 4 ID : 86435158293

Status : Answered

Chosen Option : 2

- Q.15** Green Chemistry in day-to-day life is in the use of :

Options 1.

Large amount of water alone for washing clothes

2. Liquified CO_2 for dry cleaning of clothes

3. Chlorine for bleaching of paper

4. Tetrachloroethene for laundry

Question Type : MCQ

Question ID : 86435117240

Option 1 ID : 86435158314

Option 2 ID : 86435158311

Option 3 ID : 86435158312

Option 4 ID : 86435158313

Status : Answered

Chosen Option : 4

- Q.16** Given below are two statements. One is labelled as **Assertion A** and the other is labelled as **Reason R**.

Assertion A : Sharp glass edge becomes smooth on heating it upto its melting point.

Reason R : The viscosity of glass decreases on melting.

Choose the most appropriate answer from the options given below.

Options 1.

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

2. **A** is false but **R** is true.

3. **A** is true but **R** is false.

4.

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

Question Type : **MCQ**

Question ID : **86435117230**

Option 1 ID : **86435158272**

Option 2 ID : **86435158274**

Option 3 ID : **86435158273**

Option 4 ID : **86435158271**

Status : **Answered**

Chosen Option : **1**

- Q.17** Orlon fibres are made up of :

Options

1. Polyamide

2. Polyacrylonitrile

3. Polyesters

4. Cellulose

Question Type : **MCQ**

Question ID : **86435117247**

Option 1 ID : **86435158341**

Option 2 ID : **86435158342**

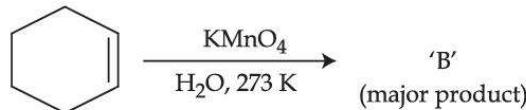
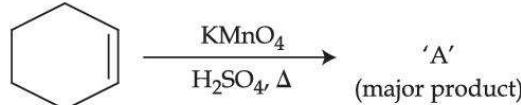
Option 3 ID : **86435158339**

Option 4 ID : **86435158340**

Status : **Not Answered**

Chosen Option : --

Q.18



For above chemical reactions, identify the correct statement from the following.

Options 1.

- Both compound 'A' and compound 'B' are dicarboxylic acids.
- Compound 'A' is dicarboxylic acid and compound 'B' is diol.
- Both compound 'A' and compound 'B' are diols.
- Compound 'A' is diol and compound 'B' is dicarboxylic acid.

Question Type : MCQ

Question ID : 86435117243

Option 1 ID : 86435158324

Option 2 ID : 86435158326

Option 3 ID : 86435158325

Option 4 ID : 86435158323

Status : Not Answered

Chosen Option : --

Q.19 The correct order of intensity of colors of the compounds is :

Options

- $[\text{NiCl}_4]^{2-} > [\text{Ni}(\text{CN})_4]^{2-} > [\text{Ni}(\text{H}_2\text{O})_6]^{2+}$
- $[\text{Ni}(\text{H}_2\text{O})_6]^{2+} > [\text{NiCl}_4]^{2-} > [\text{Ni}(\text{CN})_4]^{2-}$
- $[\text{Ni}(\text{CN})_4]^{2-} > [\text{NiCl}_4]^{2-} > [\text{Ni}(\text{H}_2\text{O})_6]^{2+}$
- $[\text{NiCl}_4]^{2-} > [\text{Ni}(\text{H}_2\text{O})_6]^{2+} > [\text{Ni}(\text{CN})_4]^{2-}$

Question Type : MCQ

Question ID : 86435117239

Option 1 ID : 86435158307

Option 2 ID : 86435158308

Option 3 ID : 86435158310

Option 4 ID : 86435158309

Status : Not Answered

Chosen Option : --

Q.20 Chemical nature of the nitrogen oxide compound obtained from a reaction of concentrated nitric acid and P_4O_{10} (in 4 : 1 ratio) is :

Options

1. amphoteric
2. acidic
3. basic
4. neutral

Question Type : MCQ

Question ID : 86435117237

Option 1 ID : 86435158301

Option 2 ID : 86435158300

Option 3 ID : 86435158299

Option 4 ID : 86435158302

Status : Answered

Chosen Option : 2

Section : Chemistry Section B

Q.1 The Azimuthal quantum number for the valence electrons of Ga^+ ion is _____.
(Atomic number of Ga = 31)

Given 4

Answer :

Question Type : SA

Question ID : 86435117251

Status : Answered

Q.2 The number of nitrogen atoms in a semicarbazone molecule of acetone is _____.
Given --

Answer :

Question Type : SA

Question ID : 86435117259

Status : Not Answered

Q.3 $2SO_2(g) + O_2(g) \rightleftharpoons 2SO_3(g)$

In an equilibrium mixture, the partial pressures are

$P_{SO_3} = 43$ kPa ; $P_{O_2} = 530$ Pa and

$P_{SO_2} = 45$ kPa. The equilibrium constant $K_p = \text{_____} \times 10^{-2}$. (Nearest integer)

Given 2

Answer :

Question Type : SA

Question ID : 86435117255

Status : Answered

- Q.4** 250 mL of 0.5 M NaOH was added to 500 mL of 1 M HCl. The number of unreacted HCl molecules in the solution after complete reaction is _____ $\times 10^{21}$. (Nearest integer)
 $(N_A = 6.022 \times 10^{23})$

Given 225

Answer :

Question Type : **SA**

Question ID : **86435117250**

Status : **Answered**

- Q.5** The inactivation rate of a viral preparation is proportional to the amount of virus. In the first minute after preparation, 10% of the virus is inactivated. The rate constant for viral inactivation is _____ $\times 10^{-3}$ min $^{-1}$. (Nearest integer)
[Use : $\ln 10 = 2.303$; $\log_{10} 3 = 0.477$;
property of logarithm : $\log x^y = y \log x$]

Given --

Answer :

Question Type : **SA**

Question ID : **86435117256**

Status : **Not Answered**

- Q.6** At 20°C, the vapour pressure of benzene is 70 torr and that of methyl benzene is 20 torr. The mole fraction of benzene in the vapor phase at 20°C above an equimolar mixture of benzene and methyl benzene is _____ $\times 10^{-2}$. (Nearest integer)

Given --

Answer :

Question Type : **SA**

Question ID : **86435117254**

Status : **Not Answered**

- Q.7** An average person needs about 10000 kJ energy per day. The amount of glucose (molar mass = 180.0 g mol $^{-1}$) needed to meet this energy requirement is _____ g.
(Nearest integer)
(Use : $\Delta_c H(\text{glucose}) = -2700 \text{ kJ mol}^{-1}$)

Given 4

Answer :

Question Type : **SA**

Question ID : **86435117253**

Status : **Answered**

- Q.8** To synthesise 1.0 mole of 2-methylpropan-2-ol from Ethylethanoate _____ equivalents of CH₃MgBr reagent will be required. (Integer value)

Given --

Answer :

Question Type : **SA**

Question ID : **86435117258**

Status : **Not Answered**

- Q.9** The spin-only magnetic moment value for the complex $[\text{Co}(\text{CN})_6]^{4-}$ is _____ BM.
 [At. no. of Co = 27]

Given --
 Answer :

Question Type : **SA**
 Question ID : **86435117257**
 Status : **Not Answered**

- Q.10** The number of lone pairs of electrons on the central I atom in I_3^- is _____.

Given 2
 Answer :

Question Type : **SA**
 Question ID : **86435117252**
 Status : **Answered**

Section : Mathematics Section A

- Q.1** Words with or without meaning are to be formed using all the letters of the word EXAMINATION. The probability that the letter M appears at the fourth position in any such word is :

Options

1. $\frac{1}{66}$
2. $\frac{2}{11}$
3. $\frac{1}{11}$
4. $\frac{1}{9}$

Question Type : **MCQ**
 Question ID : **86435117262**
 Option 1 ID : **86435158371**
 Option 2 ID : **86435158369**
 Option 3 ID : **86435158370**
 Option 4 ID : **86435158372**
 Status : **Answered**
 Chosen Option : **3**

Q.2

If in a triangle ABC, AB=5 units, $\angle B = \cos^{-1}\left(\frac{3}{5}\right)$ and radius of circumcircle of ΔABC is 5 units, then the area (in sq. units) of ΔABC is :

Options

1. $10 + 6\sqrt{2}$
2. $8 + 2\sqrt{2}$
3. $4 + 2\sqrt{3}$
4. $6 + 8\sqrt{3}$

Question Type : **MCQ**Question ID : **86435117278**Option 1 ID : **86435158436**Option 2 ID : **86435158435**Option 3 ID : **86435158434**Option 4 ID : **86435158433**Status : **Not Answered**

Chosen Option : --

Q.3 The probability of selecting integers $a \in [-5, 30]$ such that $x^2 + 2(a+4)x - 5a + 64 > 0$, for all $x \in \mathbb{R}$, is :

Options

1. $\frac{1}{6}$
2. $\frac{1}{4}$
3. $\frac{2}{9}$
4. $\frac{7}{36}$

Question Type : **MCQ**Question ID : **86435117275**Option 1 ID : **86435158421**Option 2 ID : **86435158424**Option 3 ID : **86435158423**Option 4 ID : **86435158422**Status : **Answered**Chosen Option : **1**

Q.4 Let $y=y(x)$ be the solution of the differential equation

$$e^x \sqrt{1 - y^2} dx + \left(\frac{y}{x}\right) dy = 0, y(1) = -1.$$

Then the value of $(y(3))^2$ is equal to :

Options

1. $1 - 4e^3$
2. $1 - 4e^6$
3. $1 + 4e^3$
4. $1 + 4e^6$

Question Type : MCQ

Question ID : 86435117266

Option 1 ID : 86435158388

Option 2 ID : 86435158386

Option 3 ID : 86435158387

Option 4 ID : 86435158385

Status : Not Answered

Chosen Option : --

Q.5 The coefficient of x^{256} in the expansion of $(1-x)^{101} (x^2+x+1)^{100}$ is :

Options

1. $-100C_{15}$
2. $100C_{15}$
3. $100C_{16}$
4. $-100C_{16}$

Question Type : MCQ

Question ID : 86435117273

Option 1 ID : 86435158413

Option 2 ID : 86435158414

Option 3 ID : 86435158415

Option 4 ID : 86435158416

Status : Not Answered

Chosen Option : --

Q.6

The value of the integral $\int_{-1}^1 \log_e (\sqrt{1-x} + \sqrt{1+x}) dx$ is equal to :

Options

1. $2\log_e 2 + \frac{\pi}{4} - 1$
2. $\frac{1}{2}\log_e 2 + \frac{\pi}{4} - \frac{3}{2}$
3. $\log_e 2 + \frac{\pi}{2} - 1$
4. $2\log_e 2 + \frac{\pi}{2} - \frac{1}{2}$

Question Type : **MCQ**Question ID : **86435117264**Option 1 ID : **86435158377**Option 2 ID : **86435158379**Option 3 ID : **86435158378**Option 4 ID : **86435158380**Status : **Answered**Chosen Option : **4****Q.7**

If α and β are the distinct roots of the equation $x^2 + (3)^{1/4}x + 3^{1/2} = 0$, then the value of $\alpha^{96}(\alpha^{12}-1) + \beta^{96}(\beta^{12}-1)$ is equal to :

Options

1. 52×3^{24}
2. 56×3^{25}
3. 28×3^{25}
4. 56×3^{24}

Question Type : **MCQ**Question ID : **86435117276**Option 1 ID : **86435158427**Option 2 ID : **86435158425**Option 3 ID : **86435158426**Option 4 ID : **86435158428**Status : **Not Answered**Chosen Option : **--**

Q.8 Let $A = [a_{ij}]$ be a 3×3 matrix, where

$$a_{ij} = \begin{cases} 1 & , \text{ if } i = j \\ -x & , \text{ if } |i - j| = 1 \\ 2x + 1, & \text{otherwise.} \end{cases}$$

Let a function $f: \mathbb{R} \rightarrow \mathbb{R}$ be defined as $f(x) = \det(A)$. Then the sum of maximum and minimum values of f on \mathbb{R} is equal to :

Options

1. $\frac{88}{27}$
2. $-\frac{20}{27}$
3. $\frac{20}{27}$
4. $-\frac{88}{27}$

Question Type : MCQ

Question ID : 86435117270

Option 1 ID : 86435158402

Option 2 ID : 86435158404

Option 3 ID : 86435158403

Option 4 ID : 86435158401

Status : Not Answered

Chosen Option : --

Q.9 The Boolean expression $(p \wedge \sim q) \Rightarrow (q \vee \sim p)$ is equivalent to :

Options

1. $p \Rightarrow q$
2. $q \Rightarrow p$
3. $p \Rightarrow \sim q$
4. $\sim q \Rightarrow p$

Question Type : MCQ

Question ID : 86435117268

Option 1 ID : 86435158393

Option 2 ID : 86435158394

Option 3 ID : 86435158395

Option 4 ID : 86435158396

Status : Answered

Chosen Option : 1

- Q.10** Let $y=y(x)$ be the solution of the differential equation

$$x \tan\left(\frac{y}{x}\right) dy = \left(y \tan\left(\frac{y}{x}\right) - x\right) dx, \quad -1 \leq x \leq 1, \quad y\left(\frac{1}{2}\right) = \frac{\pi}{6}.$$

Then the area of the region bounded by the curves $x=0$, $x = \frac{1}{\sqrt{2}}$ and $y=y(x)$ in the upper half plane is :

Options

1. $\frac{1}{12} (\pi - 3)$
2. $\frac{1}{4} (\pi - 2)$
3. $\frac{1}{8} (\pi - 1)$
4. $\frac{1}{6} (\pi - 1)$

Question Type : **MCQ**

Question ID : **86435117263**

Option 1 ID : **86435158376**

Option 2 ID : **86435158374**

Option 3 ID : **86435158373**

Option 4 ID : **86435158375**

Status : **Not Answered**

Chosen Option : --

- Q.11** Let $\vec{a} = 2\hat{i} + \hat{j} - 2\hat{k}$ and $\vec{b} = \hat{i} + \hat{j}$. If \vec{c} is a vector such that $\vec{a} \cdot \vec{c} = |\vec{c}|$, $|\vec{c} - \vec{a}| = 2\sqrt{2}$ and the angle between $(\vec{a} \times \vec{b})$ and \vec{c} is $\frac{\pi}{6}$, then the value of $|(\vec{a} \times \vec{b}) \times \vec{c}|$ is :

Options 1. 3

2. $\frac{3}{2}$

3. $\frac{2}{3}$

4. 4

Question Type : MCQ

Question ID : 86435117277

Option 1 ID : 86435158431

Option 2 ID : 86435158429

Option 3 ID : 86435158430

Option 4 ID : 86435158432

Status : Not Answered

Chosen Option : --

- Q.12** Let $A = \begin{bmatrix} 2 & 3 \\ a & 0 \end{bmatrix}$, $a \in \mathbb{R}$ be written as $P+Q$ where P is a symmetric matrix and Q is skew symmetric matrix. If $\det(Q)=9$, then the modulus of the sum of all possible values of determinant of P is equal to :

Options 1. 24
2. 18
3. 36
4. 45

Question Type : MCQ

Question ID : 86435117269

Option 1 ID : 86435158399

Option 2 ID : 86435158397

Option 3 ID : 86435158398

Option 4 ID : 86435158400

Status : Answered

Chosen Option : 3

Q.13 Let a function $f: \mathbf{R} \rightarrow \mathbf{R}$ be defined as

$$f(x) = \begin{cases} \sin x - e^x & \text{if } x \leq 0 \\ a + [-x] & \text{if } 0 < x < 1 \\ 2x - b & \text{if } x \geq 1 \end{cases}$$

where $[x]$ is the greatest integer less than or equal to x . If f is continuous on \mathbf{R} , then $(a+b)$ is equal to :

Options

1. 3
2. 2
3. 4
4. 5

Question Type : MCQ

Question ID : 86435117271

Option 1 ID : 86435158406

Option 2 ID : 86435158405

Option 3 ID : 86435158407

Option 4 ID : 86435158408

Status : Answered

Chosen Option : 1

Q.14 Let 'a' be a real number such that the function $f(x) = ax^2 + 6x - 15$, $x \in \mathbf{R}$ is increasing in

$(-\infty, \frac{3}{4})$ and decreasing in $(\frac{3}{4}, \infty)$. Then the function $g(x) = ax^2 - 6x + 15$, $x \in \mathbf{R}$ has a :

Options

1. local maximum at $x = \frac{3}{4}$
2. local minimum at $x = \frac{3}{4}$
3. local minimum at $x = -\frac{3}{4}$
4. local maximum at $x = -\frac{3}{4}$

Question Type : MCQ

Question ID : 86435117272

Option 1 ID : 86435158409

Option 2 ID : 86435158410

Option 3 ID : 86435158412

Option 4 ID : 86435158411

Status : Answered

Chosen Option : 2

Q.15 The number of real roots of the equation

$$\tan^{-1} \sqrt{x(x+1)} + \sin^{-1} \sqrt{x^2 + x + 1} = \frac{\pi}{4} \text{ is :}$$

Options

1. 0
2. 4
3. 2
4. 1

Question Type : **MCQ**

Question ID : **86435117267**

Option 1 ID : **86435158389**

Option 2 ID : **86435158392**

Option 3 ID : **86435158391**

Option 4 ID : **86435158390**

Status : **Answered**

Chosen Option : **4**

Q.16 The mean of 6 distinct observations is 6.5 and their variance is 10.25. If 4 out of 6 observations are 2, 4, 5 and 7, then the remaining two observations are :

Options

1. 3, 18
2. 8, 13
3. 1, 20
4. 10, 11

Question Type : **MCQ**

Question ID : **86435117261**

Option 1 ID : **86435158365**

Option 2 ID : **86435158366**

Option 3 ID : **86435158368**

Option 4 ID : **86435158367**

Status : **Not Answered**

Chosen Option : --

- Q.17** Let $[x]$ denote the greatest integer $\leq x$, where $x \in \mathbb{R}$. If the domain of the real valued function

$$f(x) = \sqrt{\frac{[x] - 2}{[x] - 3}}$$

is $(-\infty, a) \cup [b, c) \cup [4, \infty)$, $a < b < c$, then the value of $a + b + c$ is :

Options 1. 8

2. - 2

3. 1

4. - 3

Question Type : **MCQ**

Question ID : **86435117274**

Option 1 ID : **86435158420**

Option 2 ID : **86435158418**

Option 3 ID : **86435158417**

Option 4 ID : **86435158419**

Status : **Not Answered**

Chosen Option : --

- Q.18** Let a be a positive real number such that

$$\int_0^a e^x - [x] dx = 10e - 9$$

where $[x]$ is the greatest integer less than or equal to x . Then a is equal to :

Options 1. $10 - \log_e(1 + e)$

2. $10 + \log_e(1 + e)$

3. $10 + \log_e 3$

4. $10 + \log_e 2$

Question Type : **MCQ**

Question ID : **86435117265**

Option 1 ID : **86435158384**

Option 2 ID : **86435158383**

Option 3 ID : **86435158381**

Option 4 ID : **86435158382**

Status : **Not Answered**

Chosen Option : --

- Q.19** Let the tangent to the parabola $S : y^2 = 2x$ at the point $P(2, 2)$ meet the x -axis at Q and normal at it meet the parabola S at the point R . Then the area (in sq. units) of the triangle PQR is equal to :

Options

1. $\frac{25}{2}$
2. 25
3. $\frac{35}{2}$
4. $\frac{15}{2}$

Question Type : MCQ

Question ID : 86435117260

Option 1 ID : 86435158364

Option 2 ID : 86435158362

Option 3 ID : 86435158363

Option 4 ID : 86435158361

Status : Not Answered

Chosen Option : --

Q.20

If z and ω are two complex numbers such that $|z\omega|=1$ and $\arg(z) - \arg(\omega) = \frac{3\pi}{2}$, then

$$\arg\left(\frac{1 - 2\bar{z}\omega}{1 + 3\bar{z}\omega}\right) \text{ is :}$$

(Here $\arg(z)$ denotes the principal argument of complex number z)

Options

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

Question Type : MCQ

Question ID : 86435117279

Option 1 ID : 86435158438

Option 2 ID : 86435158437

Option 3 ID : 86435158440

Option 4 ID : 86435158439

Status : Not Answered

Chosen Option : --

Section : Mathematics Section B

Q.1 Let P be a plane passing through the points $(1, 0, 1)$, $(1, -2, 1)$ and $(0, 1, -2)$. Let a vector

$\vec{a} = \alpha \hat{i} + \beta \hat{j} + \gamma \hat{k}$ be such that \vec{a} is parallel to the plane P, perpendicular to $(\hat{i} + 2\hat{j} + 3\hat{k})$

and $\vec{a} \cdot (\hat{i} + \hat{j} + 2\hat{k}) = 2$, then $(\alpha - \beta + \gamma)^2$ equals _____.

Given 4

Answer :

Question Type : **SA**

Question ID : **86435117282**

Status : **Answered**

Q.2 There are 15 players in a cricket team, out of which 6 are bowlers, 7 are batsmen and 2 are wicketkeepers. The number of ways, a team of 11 players be selected from them so as to include at least 4 bowlers, 5 batsmen and 1 wicketkeeper, is _____.

Given 1

Answer :

Question Type : **SA**

Question ID : **86435117288**

Status : **Answered**

Q.3 Let T be the tangent to the ellipse E : $x^2 + 4y^2 = 5$ at the point P(1, 1). If the area of the region

bounded by the tangent T, ellipse E, lines $x=1$ and $x=\sqrt{5}$ is $\alpha\sqrt{5} + \beta + \gamma \cos^{-1}\left(\frac{1}{\sqrt{5}}\right)$, then
 $|\alpha + \beta + \gamma|$ is equal to _____.

Given 1

Answer :

Question Type : **SA**

Question ID : **86435117283**

Status : **Answered**

Q.4

The number of rational terms in the binomial expansion of $(4^{\frac{1}{4}} + 5^{\frac{1}{6}})^{120}$ is _____.

Given 40

Answer :

Question Type : **SA**

Question ID : **86435117284**

Status : **Answered**

Q.5

If the value of $\lim_{x \rightarrow 0} (2 - \cos x \sqrt{\cos 2x})^{\left(\frac{x+2}{x^2}\right)}$ is equal to e^a , then a is equal to _____.

Given 0

Answer :

Question Type : **SA**

Question ID : **86435117289**

Status : **Answered**

- Q.6** Let $y=mx+c$, $m > 0$ be the focal chord of $y^2 = -64x$, which is tangent to $(x+10)^2 + y^2 = 4$.
Then, the value of $4\sqrt{2}(m+c)$ is equal to _____.

Given--
Answer :

Question Type : **SA**
Question ID : **86435117286**
Status : **Not Answered**

- Q.7** Let $A = \begin{pmatrix} 1 & -1 & 0 \\ 0 & 1 & -1 \\ 0 & 0 & 1 \end{pmatrix}$ and $B = 7A^{20} - 20A^7 + 2I$, where I is an identity matrix of order 3×3 .

If $B = [b_{ij}]$, then b_{13} is equal to _____.

Given--
Answer :

Question Type : **SA**
Question ID : **86435117287**
Status : **Not Answered**

- Q.8** Let a, b, c, d be in arithmetic progression with common difference λ . If

$$\begin{vmatrix} x+a-c & x+b & x+a \\ x-1 & x+c & x+b \\ x-b+d & x+d & x+c \end{vmatrix} = 2,$$

then value of λ^2 is equal to _____.

Given--
Answer :

Question Type : **SA**
Question ID : **86435117280**
Status : **Not Answered**

- Q.9** Let $\vec{a}, \vec{b}, \vec{c}$ be three mutually perpendicular vectors of the same magnitude and equally inclined at an angle θ , with the vector $\vec{a} + \vec{b} + \vec{c}$. Then $36 \cos^2 2\theta$ is equal to _____.

Given--
Answer :

Question Type : **SA**
Question ID : **86435117285**
Status : **Not Answered**

- Q.10** If the shortest distance between the lines $\vec{r}_1 = \alpha \hat{i} + 2\hat{j} + 2\hat{k} + \lambda(\hat{i} - 2\hat{j} + 2\hat{k})$, $\lambda \in \mathbb{R}$,
 $\alpha > 0$ and $\vec{r}_2 = -4\hat{i} - \hat{k} + \mu(3\hat{i} - 2\hat{j} - 2\hat{k})$, $\mu \in \mathbb{R}$ is 9, then α is equal to _____.

Given--
Answer :

Question Type : **SA**
Question ID : **86435117281**
Status : **Not Answered**

