

Competishun

52/6, Opposite Metro Mas Hospital, Shipra Path, Mansarovar

Date: 23/09/2024

Time: 3 hours

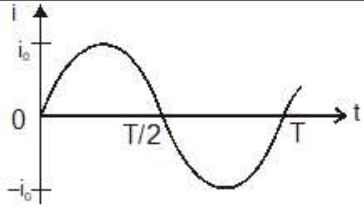
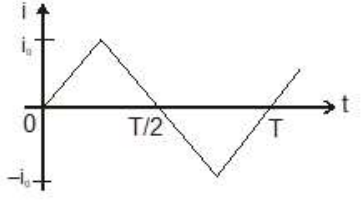
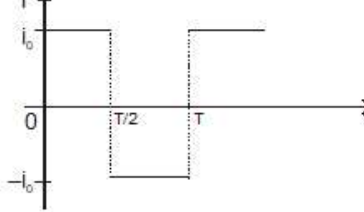
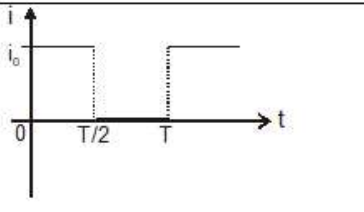
Max. Marks:

PRAKHAR-1_(24-25)_ACT-4_PAPER-2

Physics

MTC-SCQ

Q1 In Column I, variation of current i with time t is given in figures. In column II root mean square current i_{rms} , and average current is given. Match the column I with corresponding quantities given in Column II

| Column I | | Column II | |
|----------|---|-----------|--|
| p |  | 1 | $i_{\text{rms}} = \frac{i_0}{\sqrt{3}}$ |
| q |  | 2 | Average current for positive half cycle is i_0 |
| r |  | 3 | Average current for positive half cycle is $\frac{i_0}{2}$ |
| s |  | 4 | Full cycle average current is zero. |

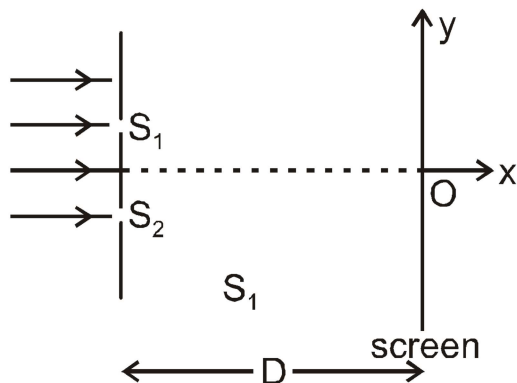
a) P→4 Q→1,2,4 R→2,4 S→2

b) P→3 Q→2,1 R→4,1,3 S→1

c) P→2,1 Q→4 R→3,2 S→4

d) P→4 Q→2,1 R→4,2 S→3

- Q2** A monochromatic parallel beam of light of wavelength λ is incident normally on the plane containing slits S_1 and S_2 . The slits are of unequal width such that intensity due to one slit on screen is four times that only due to the other slit. The screen is placed along y-axis as shown. The distance between slits is d and that between screen and slit is D . Match the statements in column-I with results in column-II.

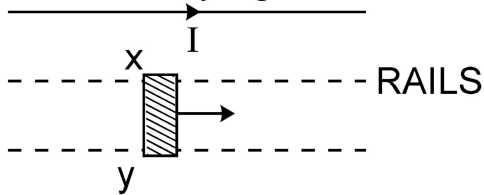


| Column I | | Column II | |
|----------|---|-----------|-----------------------|
| p | The distance between two points on screen having equal intensities, such that intensity at those points is $\frac{1}{9}$ th of maximum intensity | 1 | $\frac{D\lambda}{3d}$ |
| q | The distance between two points on screen having equal intensities, such that intensity at those points is $\frac{3}{9}$ th of maximum intensity. | 2 | $\frac{D\lambda}{d}$ |
| r | The distance between two points on screen having equal intensities, such that intensity at those points is $\frac{5}{9}$ th of maximum intensity | 3 | $\frac{2D\lambda}{d}$ |
| s | The distance between two points on screen having equal intensities, such that intensity at those points is $\frac{7}{9}$ th of maximum intensity. | 4 | $\frac{3D\lambda}{d}$ |

- a) $P \rightarrow 3, 4$ $Q \rightarrow 1, 4$ $R \rightarrow 1, 3, 4$ $S \rightarrow 2, 1$
 b) $P \rightarrow 1, 3, 4$ $Q \rightarrow 1$ $R \rightarrow 4$ $S \rightarrow 4, 3$
 c) $P \rightarrow 1$ $Q \rightarrow 1, 3, 2$ $R \rightarrow 2, 4$ $S \rightarrow 2, 4$
 d) $P \rightarrow 1, 3, 4$ $Q \rightarrow 1, 2, 3, 4$ $R \rightarrow 2, 3, 4$ $S \rightarrow 1, 2, 3, 4$

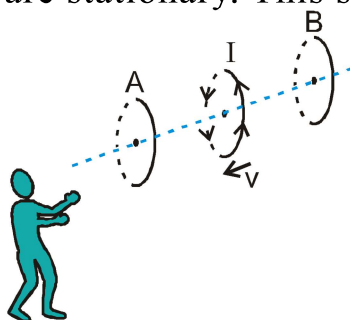
Multiple Choice Question

- Q3** A metallic bar 'xy' is held on two parallel rails & moved parallel to a long straight current carrying conductor in the same plane as shown. Then :



- a) electron density will be more at end x compare to y.
 - b) electron density will be more at end y compare to x.
 - c) the direction of induced current is from y to x.
 - d) no induced current flows through xy.
- Q4** Pick up the correct statements :
- a) The changing (with time) magnetic field need not be in existence at the location of induced electric field.
 - b) A uniform magnetic field increasing at constant rate, induces an electric field which is constant and non conservative.
 - c) Non zero force exerted by uniform and constant magnetic field on a moving charged particle does no work but always changes momentum of the particle.
 - d) All the above statements are wrong.

- Q5** Three coaxial circular wire loops and an stationary observer are positioned as show in figure. From the observers point of view, a current I flows counter clockwise in t middle loop, which is moving towards the observer with a velocity v . Loops A and B are stationary. This same observer would notice that.

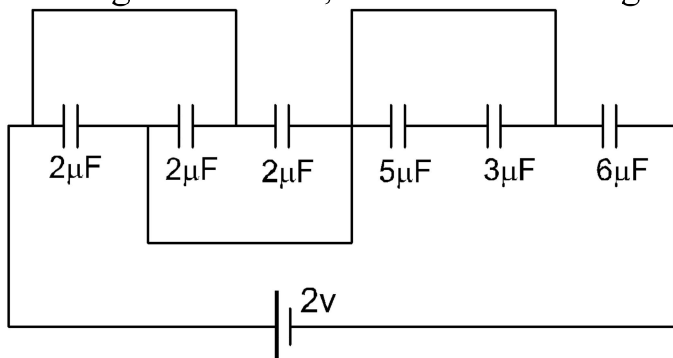


- a) A clockwise current is induced in loop A .
 b) A counter clockwise current is induced in loop A .
 c) A clockwise current is induced in B.
 d) A counter clockwise current is induced in loop B.
- Q6** In series LCR circuit voltage drop across resistance is 8 V and voltage across induc to is 6 V across capacitor is 12 volt. Then select incorrect alternative/s :
- a) Voltage of the source will be leading current in the circuit
 b) Voltage drop across each element will be less than the applied voltage
 c) Power factor of circuit will be 4/3
 d) Source voltage is 26 volt

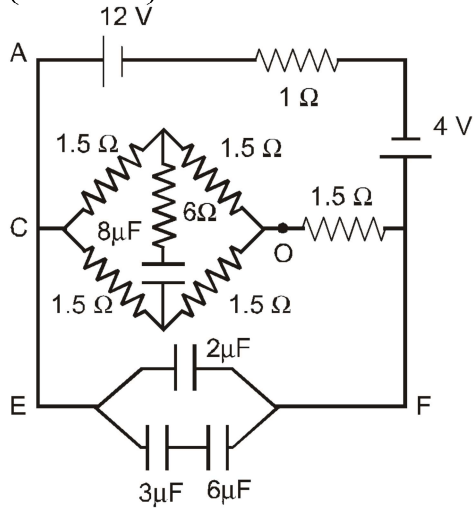
Numerical

- Q7** The Ra^{226} nucleus undergoes α -decay according to equation $\text{Ra}_{88}^{226} \rightarrow \text{Rn}_{86}^{222} + \text{He}_2^4$. If the value of reaction is $Q = x$ MeV then find the value of $[X]$. Where $[X]$ represents the greatest integer of x .
 (Given:
 $(\text{Ra}_{88}^{226}) = 226.025406\text{u}$, $m(\text{Rn}_{86}^{222})$
 $= 222.017574\text{u}$, $m(\text{He}_2^4) = 4.002603 \text{ u}$
- Q8** An ionisation counter is used to investigate the disintegration rate of a certain radioactive sample. At the start of the experiment, the counter gives 141 pulses in 2 After 3 days it gives 100 pulses in 20s. Its half life is (in days).

- Q9** Seawater at a frequency $f = 9 \times 10^2$ Hz, has permittivity $\epsilon = 80 \epsilon_0$ and resistivity $r = 0.25 \Omega\text{m}$. Imagine a parallel plate capacitor is immersed in seawater and is driven by an alternating voltage source $V(t) = V_0 \sin(2\pi ft)$. Then the conduction current density becomes 10^x times the displacement current density after time $t = \frac{1}{800}$ s. The value of x is _____.
- (Given : $\frac{1}{4\pi\epsilon_0} = 9 \times 10^9 \text{ Nm}^2\text{C}^{-2}$)
- Q10** If the highest frequency modulating a carrier is 5 kHz, then the number of AM broadcast stations accommodated in a 90 kHz bandwidth are
- Q11** The amplitude of upper and lower side bands of A.M. wave where a carrier signal with frequency 11.21 MHz, peak voltage 15 V is amplitude modulated by a 7.7 kHz sine wave of 5V amplitude are $\frac{a}{10}$ V and $\frac{b}{10}$ V respectively. Then the value of $\frac{a}{b}$ is _____.
- Q12** In a vernier callipers, each cm on the main scale is divided into 20 equal parts. If the vernier scale division coincides with ninth main scale division. Then the value of vernier constant will be $\times 10^{-2}$ mm.
- Q13** The maximum error in the measurement of resistance, current and time for which current flows in an electrical circuit are 1%, 2% and 3% respectively. The maximum percentage error in the detection of the dissipated heat will be :
- Q14** A steel rod with $y = 2.0 \times 10^{11} \text{ Nm}^{-2}$ and $\alpha = 10^{-5} \text{ }^\circ\text{C}^{-1}$ of length 4 m and area of cross-section 10 cm^2 is heated from 0°C to 400°C without being allowed to extend. The tension produced in the rod is $x \times 10^5 \text{ N}$ where the value of x is
- Q15** A calorimeter of water equivalent 20 g contains 180 g of water at 25°C . 'm' grams of steam at 100°C is mixed in it till the temperature of the mixture is 31°C . The value of 'm' is close to (Latent heat of water = 540 cal g^{-1} , specific heat of water = $1 \text{ cal g}^{-1} \text{ }^\circ\text{C}^{-1}$)
- Q16** In the given circuit, find out the charge (in μC) on the capacitor of capacity $6\mu\text{F}$.



- Q17** In the given circuit, the potential difference across the $6\mu\text{F}$ capacitor in steady state (in volts) is



- Q18** A machine converts mechanical energy into electrical energy. A body of mass $m = 1\text{ kg}$ is allowed to fall from rest in the machine through a height $h = 1\text{ m}$ under gravity $g = 10\text{ m/s}^2$. The body comes out of the machine with kinetic energy $\frac{mgh}{4}$. The machine uses 50% of the loss of the mechanical energy of the body in transferring charge $Q = 3\text{ Coul.}$ from one plate of an initially uncharged capacitor to another plate. The capacitance of the capacitor, in Farad is :

Chemistry

MTC-SCQ

Q19 Matching List Type

| LIST-I | | LIST-II | |
|--------|-------------------------------|---------|--|
| P | P ₄ | 1 | disproportionates with NaOH |
| Q | Hg | 2 | releases a gas with dil. HCl |
| R | B ₂ H ₆ | 3 | dissolves in aqua regia |
| S | GaAs | 4 | can ignite spontaneous in air (pyrophoric) |

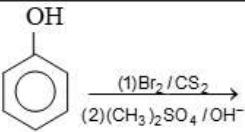
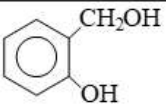
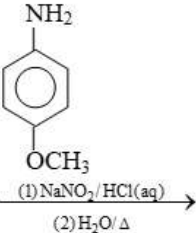

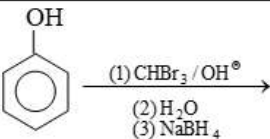
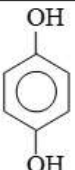
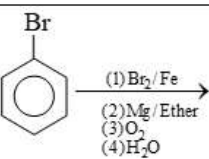

a) P → 4 Q → 1 R → 3 S → 2

c) P → 3 Q → 4 R → 2 S → 1

b) P → 1 Q → 2 R → 4 S → 3

d) P → 1 Q → 3 R → 4 S → 2

Q20 Matching List Type

| LIST-I (Reactants) | LIST-II (Major products) |
|--|--|
| <p>p</p>  | <p>1</p>  |
| <p>q</p>  | <p>2</p>  |
| <p>r</p>  | <p>3</p>  |
| <p>s</p>  | <p>4</p>  |

a) P → 2 Q → 3 R → 1 S → 4

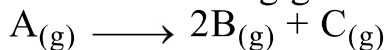
c) P → 4 Q → 2 R → 3 S → 1

b) P → 4 Q → 2 R → 1 S → 3

d) P → 2 Q → 4 R → 3 S → 1

Multiple Choice Question

Q21 In the following gaseous first order reaction :



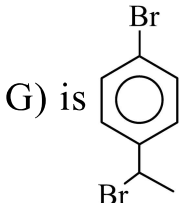
Initial pressure was found to be 400 mm of Hg and it changes to 1000 mm of Hg af 20 min. Then $-(P_{A_0}$ and P_{A_t} are pressure of A initially and at time t respectively)

a) Half life for A is 10 min.

b) Slope of curve between $\ln \frac{P_{A_0}}{P_{A_t}}$ v/s time (min) is 0.0693 min^{-1}

c) Partial pressure of C at 30 min is 350 mm of Hg

d) Total pressure at 30 min is 1050 mm of Hg

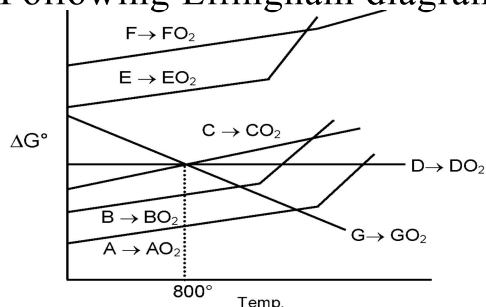
- Q22** Potassium manganate can be converted into potassium permanganate by oxidation—
a) with chlorine **b)** with ozone
c) with carbon monoxide **d)** Electrolytically
- Q23** Amino acid contains an acidic group —COOH as well as a basic group —NH_2 the structure of alanine is $\text{NH}_3^+ \text{—CH}(\text{CH}_3)\text{—COO}^-$, which of the following statements is/are incorrect about it?
a) It is an acidic amino acid
b) It is an essential amino acid
c) The isoelectric point (p^I) of alanine is 6.02
d) It is an optically active amino acid
- Q24** An aromatic compound G ($\text{C}_8\text{H}_8\text{Br}_2$) on treatment with NaOH/DMSO gives H ($\text{C}_8\text{H}_9\text{BrO}$). On heating 'G' with potassium tert-butoxide I ($\text{C}_8\text{H}_7\text{Br}$) is formed. With one equivalent of methyl magnesium bromide in ether p-bromoisopropylbenzene is formed which observations is/are correct about these reactions.
a) (I) is an optically inactive aromatic compound readily discharge colour of Baeyer's reagent.
b) (H) is chiral alcohol
c) 
d) (I) readily gives nucleophilic substitution reaction than compound (G).

Numerical

- Q25** When a graph is plotted between $\log x/m$ and $\log P$, it is straight line with an angle 45° and intercept 0.3010 on y-axis. If initial pressure is 0.3 atm, what will be the amount of gas (in gm) adsorbed per 10 gm of adsorbent (x = mass of adsorbate, m = mass of adsorbent, $\log 2 = 0.3010$) ?
- Q26** The ratio of number of nuclei of ${}_1\text{H}^3$ to ${}_1\text{H}^1$ in a sample of water is $3 \times 10^{-18} : 1$. Tritium undergoes decay to He having $t_{1/2} = 12.3$ years. Ratio of number of nuclei of ${}_1\text{H}^1$ to ${}_1\text{H}^3$ in 10 g of such a sample is $p \times 10^{-20}$ after 24.6 year. Determine value of $p/14$.
- Q27** Total number of anions which can give precipitate with Ag^+ ion are -
 CO_3^{2-} , S^{2-} , $\text{S}_2\text{O}_3^{2-}$, NO_3^- , $\text{C}_2\text{O}_4^{2-}$, BO_3^{3-} , CH_3COO^- , I^- , Br^-

- Q28** 0.45 g of pure crystal of $\text{Na}_2\text{C}_2\text{O}_4 \cdot x\text{H}_2\text{O}$ was dissolved in water and diluted to 100 mL. A 25 mL portion of this solution required 10 mL of a 0.05 M H_2SO_4 solution to reach the end point. The value of x in the salt is?
- Q29** 0.0125 mole of sucrose is dissolved in 100 gm of water and it undergoes inversion according to following equation $\text{C}_{12}\text{H}_{22}\text{O}_{11} + \text{H}_2\text{O} \longrightarrow \text{C}_6\text{H}_{12}\text{O}_6(\text{glucose}) + \text{C}_6\text{H}_{12}\text{O}_6(\text{fructose})$. If elevation in boiling point of solution is 0.104°C . Calculate $(1/10)^{\text{th}}$ of mole percentage of sugar inverted (K_b for $\text{H}_2\text{O} = 0.52 \text{ K/m}$).

- Q30** Following Ellingham diagram for element A to G are given below-



Total number of reducing agents that can be used for reduction of EO_2 oxide at 800 is –

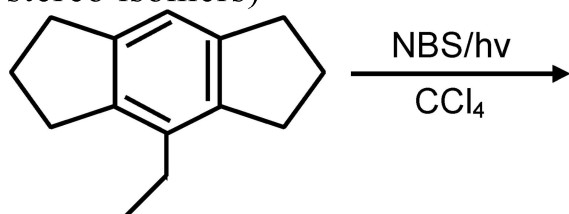
- Q31** A reaction between substances A and B is represented stoichiometrically by $\text{A} + \text{B} \rightarrow \text{C}$. Observations on the rate of this reaction are obtained in three separate experiments as follows:

| S. N. | Initial concentration $[\text{A}]_0, \text{M}$ | Initial concentration $[\text{B}]_0, \text{M}$ | Duration of Experiment (in hrs) | Final Concentration $[\text{A}]_f, \text{M}$ |
|-------|--|--|---------------------------------|--|
| (1) | 0.1000 | 1.0 | 0.50 | 0.0975 |
| (2) | 0.1000 | 2.0 | 0.50 | 0.0900 |
| (3) | 0.0500 | 1.0 | 2.00 | 0.0450 |

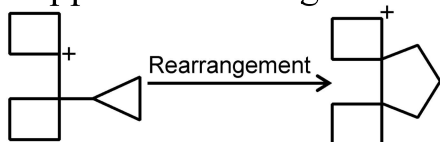
The value of the rate constant is $P \times 10^{-2} \text{ M}^{-2}\text{hr}^{-1}$. Value of P is -

- Q32** Number of organometallic compounds in the following are – $[\text{PtCl}_3(\eta^2\text{-C}_2\text{H}_4)]^-$, $[\text{Ni}(\text{CO})_4]$, $\text{Al}_2(\text{CH}_3)_6$, $(\text{C}_2\text{H}_5)_3\text{B}$, $(\text{CH}_3)_2\text{CuLi}$, Na_2CO_3 , $[\text{Fe}(\eta^5\text{-C}_5\text{H}_5)_2]$, CH_3MgX , $(\text{CH}_3\text{COO})_2\text{Pb}$

- Q33** Find the number of monobromoderivatives in the following given reaction (including stereo isomers)

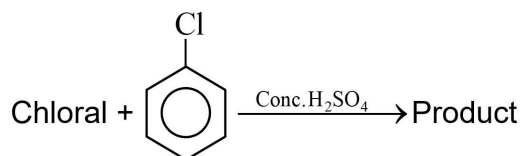


- Q34** Suppose following rearrangement is taking place –



Minimum number of 1-2 shift required for above conversion is –

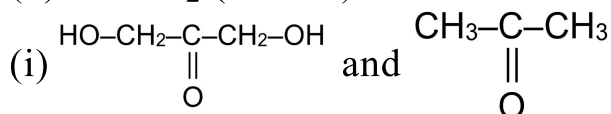
- Q35**



Product is insecticide and was used in II world war to control malaria. The number chlorine atoms in one molecule of insecticide is –

- Q36** How many of the following pairs can be distinguished by ammonical silver nitrate solution?

- (a) Acetic acid and acetaldehyde
- (b) Phenol and benzaldehyde
- (c) Propyne and propene
- (d) Methanol and ethanol
- (e) Formaldehyde and benzaldehyde
- (f) Benzaldehyde and acetone
- (g) Glucose and fructose
- (h) Ph-NH₂ (aniline) and Ph-NH-OH



Mathematics

MTC-SCQ

Q37 Match List I with List II and select the correct answer using the code given below the lists :

| List – I | | List – II | |
|----------|---|------------|---|
| P | Number of solutions satisfying the equation $\frac{1}{\sin x} - \frac{1}{\sin 2x} = \frac{2}{\sin 4x}$ in $[0, 4\pi]$, is | (1) | 2 |
| Q | If \vec{a} and \vec{b} are any two unit vectors then the least value of $\frac{2}{ \vec{a} - \vec{b} ^2} + \frac{2}{ \vec{a} + \vec{b} ^2}$ is | (2) | 3 |
| R | If the locus of the point $(h, 2k - 3)$, where (h, k) lies on the curve $x^2 - y^2 = 16$, is a conic C with eccentricity e then e^2 is equal to | (3) | 4 |
| S | If m denotes the slope of the common tangent to $y = x^2 - x + 1$ and $y = x^2 - 3x + 1$ then $ m $ equals to | (4) | 5 |

a) $P \rightarrow 3, Q \rightarrow 1, R \rightarrow 4, S \rightarrow 1$

b) $P \rightarrow 2, Q \rightarrow 4, R \rightarrow 1, S \rightarrow 1$

c) $P \rightarrow 4, Q \rightarrow 3, R \rightarrow 2, S \rightarrow 1$

d) $P \rightarrow 1, Q \rightarrow 3, R \rightarrow 1, S \rightarrow 4$

Q38 Match List I with List II and select the correct answer using the code given below the lists :

| List – I | | List – II | |
|----------|---|------------|----|
| P | $\int_0^4 (x^5 - 10x^4 + 40x^3 - 80x^2 + 80x - 31 + x - 2 + (x - 2)^{2011} \sec(x - 2)) dx$ is equals | (1) | 1 |
| Q | If $x^3 - 3x + \frac{a}{2} = 0$ has three real & distinct roots then the sum of positive integral value of a is equal to | (2) | 10 |
| R | If $\cos^{-1}\left(\frac{6x}{1+9x^2}\right) = -\frac{\pi}{2} + 2\tan^{-1}3x$, then least integral value of x is equal to | (3) | 6 |
| S | If $\lim_{x \rightarrow \infty} (8x^3 + mx^2)^{1/3} - nx$ exists and is equal to 1, then value of m – n is equal to | (4) | 8 |

- a) $P \rightarrow 1, Q \rightarrow 2, R \rightarrow 3, S \rightarrow 4$
 c) $P \rightarrow 4, Q \rightarrow 3, R \rightarrow 1, S \rightarrow 2$

- b) $P \rightarrow 2, Q \rightarrow 1, R \rightarrow 4, S \rightarrow 3$
 d) $P \rightarrow 3, Q \rightarrow 4, R \rightarrow 2, S \rightarrow 1$

Multiple Choice Question

Q39 Let $f : \mathbb{R} \rightarrow \mathbb{R}$, $g : \mathbb{R} \rightarrow \mathbb{R}$ and $h : \mathbb{R} \rightarrow \mathbb{R}$ be derivable functions such that $f(x) = x^3 + 4x + 3$, $g(f(x)) = x$ and $h(g(g(x))) = x$, for all $x \in \mathbb{R}$, then

- a) $h(0) = 32$ b) $h(g(1)) = 8$ c) $h'(0) = 124$ d) $h'(1) = 1372$

Q40 The abscissa of the point on the curve $\sqrt{xy} = a + x$, the tangent at which cuts off equal intercepts from the coordinate axes is -

- a) $-\frac{a}{\sqrt{2}}$
 b) $\frac{a}{\sqrt{2}}$
 c) $-a\sqrt{2}$
 d) $a\sqrt{2}$

- Q41** Area enclosed between the curves $|y| = 1 - x^2$ and $x^2 + y^2 = 1$ is
- enclosed area is symmetric with respect to coordinate axis
 - $\pi - \frac{8}{3}$ sq. unit
 - $2\pi - \frac{8}{3}$ sq. unit
 - enclosed area is symmetric about $y = 2$ line
- Q42** If the circle $x^2 + y^2 = 1$ cuts the rectangular hyperbola $xy = 1$ in four points $(x_i ; y_i)$ 1, 2, 3, 4 then -
- $x_1 x_2 x_3 x_4 = -1$
 - $y_1 y_2 y_3 y_4 = 1$
 - $x_1 + x_2 + x_3 + x_4 = 0$
 - $y_1 + y_2 + y_3 + y_4 = 0$

Numerical

- Q43** $\int \frac{x \sec^2 x - \tan x}{\tan^2 x} dx = f(x) + c$, such that $\lim_{x \rightarrow 0} f(x) = -1$, then find the value of $\left| \lim_{x \rightarrow 0} \left[\frac{5}{f(x)} \right] \right|$.
(where $[.]$ denotes greatest integer function)
- Q44** Let f be a twice differentiable function such that $f''(x) + f'(x) = 2e^{-x}$ and $f(0) = 0$, $f'(0) = -2$. Find the area of region enclosed by $y = f(x)$ and x -axis.
- Q45** If $\vec{a}, \vec{b}, \vec{c}$ and $\vec{\ell}, \vec{m}, \vec{n}$ are two sets of unit vectors such that $[\vec{a} \vec{b} \vec{c}] = 1$ and $\vec{\ell}$ make equal angles of 60° with vectors \vec{a} and \vec{b} and acute angle with vector \vec{c} , \vec{m} is equally inclined to \vec{b} and \vec{c} at an angle of 45° and \vec{n} is equally inclined to all three vectors \vec{b} and \vec{c} . If the volume of parallopiped formed by vectors $\vec{\ell}, \vec{m}, \vec{n}$ is V and $\frac{1}{V} = k\sqrt{6}(\sqrt{2} + 1)$, then find the value of k .
- Q46** Find the number of values of θ in $[0, 2\pi]$ for which the system of equations $(3\cos\theta) - (\sin\theta)y + z = 0$, $(3\sin\theta)x + (\cos\theta)y + z = 0$ and $x + y - 2z = 0$ has atleast two solutions.
- Q47** Let $f: \mathbb{R}^+ \rightarrow \mathbb{R}$, $f(x) = e^{3x-3} + \ln x + \tan^{-1}(x-1)$ and g be the inverse function of f .
If $\lim_{x \rightarrow 1} \frac{x^5 - 5g(x)g'(x)}{\sin(x-1)} = \frac{p}{q}$, where p, q are coprime, then find the value of $(p - 5q)$.

Q48 Let $f(x) = \begin{cases} \int_0^x |y + |y-1|| dy & x > 1 \\ x & x \leq 1 \end{cases}$. If the area enclosed by $y = f(x)$ and tangent to it at $(1, f(1))$ from $x = 0$ to $x = 3$ is $\frac{a}{b}$ where $a, b \in \mathbb{N}$ then find least value of $|a -$

Q49 A curve is parametrically represented as $x = 4t^3 + 3$ and $y = 4 + 3t^4$, if $\frac{\left(\frac{dx}{dy}\right)^n}{\frac{d^2x}{dy^2}} = k$ where k is a real constant then find the value of $\frac{|nk|}{12}$.

Q50 If two circles $(x - 1)^2 + (y - 3)^2 = r^2$ and $x^2 + y^2 - 8x + 2y + 8 = 0$ intersect in two distinct points then $2 < r < k$. then k is.

Q51 If $f(x) = \begin{cases} (\cot x)^{\cos x} \cdot (\cos x)^{\cot x} & , \quad x \neq \frac{\pi}{2} \\ k & , \quad x = \frac{\pi}{2} \end{cases}$ is continuous at $x = \frac{\pi}{2}$, then k is equal to

Q52 Let $|z| = 2$ & $w = \frac{z+1}{z-1}$ where $z, w \in \mathbb{C}$. If M and m are greatest and least modulus value of w then find $\left[\frac{M}{m}\right]$, where $[] \rightarrow$ greatest integer function.

Q53 If the planes $x - cy - bz = 0$, $cx - y + az = 0$ and $bx + ay - z = 0$ pass through a straight line, then find the value of $a^2 + b^2 + c^2 + 2abc$.

Q54 Maximum value of the expression $\frac{10x^{12}}{x^{24} + 2x^{12} + 3x^{16} + 3x^8 + 1}$ is equal to

Answer Key

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|------|---------|---------|------|---------|------|------------|----|----|---------|----|
| Que. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Ans. | A | D | B, D | A, B, C | A, D | A, B, C, D | 4 | 6 | 6 | 9 |
| Que. | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| Ans. | 1 | 5 | 8 | 8 | 2 | 6 | 2 | 3 | D | B |
| Que. | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 |
| Ans. | A, B, C | A, B, D | A, B | A, B, C | 6 | 5 | 8 | 5 | 6 | 5 |
| Que. | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
| Ans. | 5 | 7 | 7 | 2 | 5 | 6 | A | C | B, C, D | A, |
| Que. | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| Ans. | A, B | B, C, D | 6 | 2 | 2 | 0 | 3 | 5 | 5 | 8 |
| Que. | 51 | 52 | 53 | 54 | | | | | | |
| Ans. | 1 | 9 | 1 | 1 | | | | | | |