MATHS

BOOKS - SAI MATHS (TELUGU ENGLISH)

EAMCET-2019 (TS) SHIFT-1

Maths

1. If [x] denotes the greatest integer function , then the domain of the function $f(x) = \sqrt{\frac{x - [x]}{\log(x^2 - x)}}$ is ,

A. $(1, \infty)$

B. $(1, \infty) - Z$

C. $R - \left[\frac{1 - \sqrt{5}}{2}, \frac{1 + \sqrt{5}}{2}\right]$

D. $\left[\frac{1 - \sqrt{5}}{2}, \frac{\sqrt{5} + 1}{2}\right]$

Answer: C

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2. Assertion (A): If |x| < 1 , then $\sum_{n=0}^{\infty}(-1)^n x^{n+1} = \frac{x}{x+1}$

Reason(R) : If |x|<1 , then $(1+x)^{-1} = 1 - x + x^2 - x^3 + \ldots$

Which is one of the following is true ?

A. (A) and (R) are true , (R) is correct explanation of (A)

B. (A) and (R) are true but (R) is not a correct explanation of (A)

C. (A) is true , but (R) is false

D. (A) is false , but (R) is true

Answer: A

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3. If $A = \begin{bmatrix} 1 & 2 & 3 \\ 1 & 3 & 5 \\ 2 & 1 & 6 \end{bmatrix}$, then $(Adj(AdjA))^{-1}$=

A. $\frac{1}{6}\begin{bmatrix} 8 & -6 & 3 \\ 5 & 1 & -2 \\ -5 & 3 & 1 \end{bmatrix}$

B. $\frac{1}{6}\begin{bmatrix} 13 & -9 & 1 \\ 4 & 0 & -2 \\ -5 & 3 & 1 \end{bmatrix}$

C. $\frac{1}{36}\begin{bmatrix} 13 & -9 & 1 \\ 4 & 0 & -2 \\ -5 & 3 & 1 \end{bmatrix}$

D. $\frac{1}{12}\begin{bmatrix} 4 & -3 & 2 \\ 3 & 4 & 2 \\ -5 & 4 & 1 \end{bmatrix}$

Answer: C

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4. If $\begin{vmatrix} x^2+3x & x+1 & x-3 \\ x-1 & 2-x & x+4 \\ x-3 & x-3 & 3x \end{vmatrix} = a_0 + a_1x + a_2x^2 + a_3x^3 + a_4x^4$,

then $(a_1 + a_3) + 2(a_0 + a_2 + a_4)$ =

A. -1

B. 0

C. 1

D. -29

Answer: A

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5. Let AX=D be a system of three linear non homogeneous equations.

If |A|=0 and rank (A) = rank ([AD])=α, then

A. AX=D will have infinite number of solutions when α=3

B. AX=D will have unique solution when α lt 3

C. AX=D will have inifinite number of solution when α lt 3

D. AX=D will have no solution when α lt 3

Answer: C

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6. If $x + iy = (1+i)^6 - (1-i)^6$, then which one of the following is true ?

A. x+y=16

B. x+y=-16

C. x+y=-8

D. x+y=8

Answer: B

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7. $i^2 + i^3 + \ldots\ldots + i^{4000}$ =

A. 1

B. 0

C. i

D. $-i$

Answer: D

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8. If $1, \omega$ and ω^2 are the cube roots of unity , then (a+b+c) $\left(a+b\omega+c\omega^2\right)\left(a+b\omega^2+c\omega\right)$=

A. $a^3+b^3+c^3$

B. $a^3+b^3+c^3-3abc$

C. $(a+b+c)^3-3abc$

D. $a^3+b^3+c^3+3abc$

Answer: B

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9. If $a_k = \cos\alpha_k + I\sin\alpha_k$, k=1,2,3 and a_1, a_2, a_3 are the roots of the equation $x^3 + bx + c = 0$, then the real part of b =

A. -1

B. 1

C. 0

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

Answer: C

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10. The set of all values of 'a' for which the expression $\frac{ax^2 - 2x + 3}{2x - 3x^2 + a}$ assumes all real values for real values of x is

A. [2,3]

B. R-(R,3)

C. ϕ

D. [1,5]

Answer: C

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11. if both the roots the equation $x^2 - 4ax + 1 - 3a + 4a^2 = 0$ exceed 1, then 'a' lies in the interval

A. $\left[-\infty, \frac{7 - \sqrt{17}}{8}\right]$

B. $\left[\frac{7 + \sqrt{17}}{8}, \infty\right]$

C. $\left[\frac{7-\sqrt{17}}{8}, \frac{1}{2}\right]$

D. $\left[\frac{1}{2}, \frac{7+\sqrt{17}}{8}\right]$

Answer: B

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12. If the cubic equation $x^3 - ax^2 + ax - 1 = 0$ is identical with the cubic equation whose roots are the squares of the roots of the given cubic equation, the the non zero real values of 'a' is

A. $\frac{1}{2}$

B. 2

C. 3

D. $\frac{7}{2}$

Answer: C

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13. If α, β, γ are the roots of the equation $x^3 + px^2 + qx + r = 0$, then $(\alpha + \beta)(\beta + \gamma)(\gamma + \alpha)$ =

A. p-qr

B. r-pq

C. q-rp

D. r+pq

Answer: B

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14. Let x denote the number of ways of arranging m boys and m girls in a row so that no two boys sit together . If y and z give the number of ways of arranging m boys and m girls in a row and around a

circular table respectively so that boys and girls sit alternately , then x:y:z, =

A. m+1 : m: m-1

B. $3:2:1$

C. m-1 : m-2

D. (m+1)m : 2m : 1

Answer: D

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15. The number of even numbers greater than 1000000 that can be formed using all the digits 1,2,0,2,4, 2 and 4 is ,

A. 120

B. 240

C. 310

D. 480

Answer: C

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16. The greatest integer less than or equal to $\left(\sqrt{3}+2\right)^5$ is ,

A. 721

B. 722

C. 723

D. 724

Answer: C

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17. The sixth term in the expansion of $\left(3-\sqrt{\frac{17}{4}+3\sqrt{2}}\right)^{10}$ is a ,

A. positive rational number

B. negative rational number

C. positive irrational number

D. negative irrational number

Answer: D

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18. Let

$$\frac{1}{\left(x^2-3\right)^2}=\frac{A_1}{x-\sqrt{3}}+\frac{A_2}{\left(x-\sqrt{3}\right)^2}+\frac{A_3}{x+\sqrt{3}}+\frac{A_4}{\left(x+\sqrt{3}\right)^2}.$$

Then consider the following statements :

(i)All the A_i are not distinct

(ii)There exist a pair A_p or A_q such that $A_p^2=A_q^2(p\neq q)$

(iii) $\sum_{i=1}^{4} A_i = \frac{1}{6}$

(iv) $\sum_{i=1}^{4} A_i = 1$

Which one of the following is true ?

A. Only statement (iii) is false

B. Both the statements (ii) and (iv) are false

C. Only statement (iv) is false

D. Both the statements (I) and (iii) are false .

Answer: C

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19. The period of cos (x+8x + 27x +.....+ $n^3 x$) is ,

A. $\frac{2\pi}{n}$

B. $\frac{2\pi}{n^2(n+1)^2}$

C. $\frac{8\pi}{n^2(n+1)^2}$

D. $\frac{8\pi}{n^3(n+1)^2}$

Answer: C

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20. $\sin^2(3^\circ) + \sin^2(6^\circ) + \sin^2(9^\circ)$ + ... + $\sin^2(84^\circ) + \sin^2(87^\circ) + \sin^2(90^\circ)$ =

A. $\frac{31}{2}$

B. $\frac{39}{2}$

C. $\frac{59}{2}$

D. 36

Answer: A

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21. $\cos\frac{\pi}{7} - \cos\frac{2\pi}{7} + \cos\frac{3\pi}{7} - \cos\frac{4\pi}{7} + \cos\frac{5\pi}{7} - \cos\frac{6\pi}{7} =$

A. 0

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

C. $\frac{3}{4}$

D. 1

Answer: D

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22. The number of integral values of k for which the equation 7cos x + 5sin x = 2k + 1 has a solution is ,

A. 4

B. 6

C. 8

D. 10

Answer: C

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23. $\sec\left(\frac{\tan^{-1} y}{2}\right) =$

A. $\sqrt{\frac{4+y^2}{2}}$

B. $\sqrt{\frac{4-y^2}{2}}$

C. $\frac{\sqrt{4+y^2}}{2}$

D. $\frac{\sqrt{4-y^2}}{2}$

Answer: C

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24. The number of roots of the equation $\sqrt{2} + e^{\cosh^{-1} x} - e^{\sinh^{-1} x} = 0$ is ,

A. 0

B. 1

C. 2

D. 3

Answer: B

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25. A wire of length 44 cm is bent into an arc of a circle of radius 12 cm. The angle (in degrees) subtended by the arc at the centre of the circle is ,

A. $\left(\frac{11}{3}\right)^{\circ}$

B. $\left(\frac{660}{\pi}\right)^{\circ}$

C. 150°

D. $\left(\frac{5}{3}\right)^{\circ}$

Answer: B

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26. In any triangle ABC , If a:b:c=2:3:4 , then R :r =

A. $8:3$

B. $16:9$

C. $5:16$

D. $16:5$

Answer: D

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27. Let the position bartors of two points A and B be $\bar{a}+\bar{b}+\bar{c}$ and $\bar{a}-2\bar{b}+3\bar{c}$ respectively. If the points P and Q divide AB in the ratio 1:3 internally and externally respectively , then $3\left|\overline{AB}\right|$ =

A. $4\left|\overline{PQ}\right|$

B. $3\left|\overline{PQ}\right|$

C. $\frac{1}{2}\left|\overline{PQ}\right|$

D. $2\left|\overline{PQ}\right|$

Answer: A

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28. If $\bar{a}$, $\bar{b}$ and $\bar{c}$ are three non-collinear points and $k\bar{a}+2\bar{b}+3\bar{c}$ is a point in the plane of $\bar{a}$, $\bar{b}$, $\bar{c}$ then k=

A. 4

B. 5

C. -5

D. -4

Answer: D

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29. If the vector $\bar{a} = 3\bar{j} + 4\bar{k}$ is the sum of two vectors $\bar{a}_1$ and $\bar{a}_2$, vector $\bar{a}_1$ is parallel to $\bar{b} = \bar{i} + \bar{j}$ and vector $\bar{a}_2$ is perpendicular to $\bar{b}$, then $\bar{a}_1$ =

A. $\frac{1}{2}(\bar{i} + \bar{j})$

B. $\frac{1}{3}(\bar{i} + \bar{j})$

C. $\frac{2}{3}(\bar{i} + \bar{j})$

D. $\frac{3}{2}(\bar{i} + \bar{j})$

Answer: D

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30. The angle between the line of intersection of the two planes $\bar{r}.\left(2\bar{i}+2\bar{j}-3\bar{k}\right)=5, \bar{r}.\left(3\bar{i}+3\bar{j}-5\bar{k}\right)=3$ and the line $\bar{r}=3\bar{i}+2\bar{j}+\bar{k}+t\left(5\bar{i}+5\bar{j}-7\bar{k}\right)$ is

A. $\cos^{-1}\left(\frac{-1}{\sqrt{28}}\right)$

B. $\cos^{-1}\left(\frac{41}{\sqrt{17}\sqrt{99}}\right)$

C. $\frac{\pi}{2}$

D. $\frac{\pi}{3}$

Answer: C

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31. Let $\bar{x} = \bar{i} + \bar{j}$ and $\bar{y} = 3\bar{i} - 2\bar{k}$. Then the vector $\bar{r}$ of magnitude $\sqrt{21}$ satisfying

$\bar{r} \times \bar{x} = \bar{y} \times \bar{x}$ and $\bar{r} \times \bar{y} = \bar{x} \times \bar{y}$ is

A. $-\bar{i} + 4\bar{j} - 2\bar{k}$

B. $-\bar{i} - 4\bar{j} - 2\bar{k}$

C. $4\bar{i} + \bar{j} - 2\bar{k}$

D. $4\bar{i} - \bar{j} - 2\bar{k}$

Answer: C

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32. The acute angle between $=\bar{r}.\left(-\bar{i} + 3\bar{k}\right) + \lambda\left(2\bar{i} + 3\bar{j} + 6\bar{k}\right)$ and $\bar{r}\left(10\bar{i} + 2\bar{j} - 11\bar{k}\right) = 3$ is ,

A. $\sin^{-1}\left(\frac{8}{21}\right)$

B. $\cos^{-1}\left(\frac{8}{21}\right)$

C. $\sin^{-1}\left(\frac{5}{21}\right)$

D. $\cos^{-1}\left(\frac{5}{21}\right)$

Answer: A

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33. In a data with 15 number of observations

$x_1, x_2, x_3, \ldots, x_{15}$, $\sum_{i=1}^{15} x_i^2 = 3600$ and $\sum_{i=1}^{15} x_i$ =175.

if the value of one observation 20 was found wrong and was replaced by its correct value 40, then the corrected variance of that data is ,

A. 151

B. 149

C. 145

D. 144

Answer: A

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34. If the coefficient of variation and variance of a frequency distribution are 7.2 and 3.24 respectively , then its mean is ,

A. 45

B. 25

C. 20

D. 16

Answer: B

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35. If five dice are thrown simultaneously , then the probability that atleast three of them show the same numbered face is ,

A. $\frac{16}{6^4}$

B. $\frac{452}{6^5}$

C. $\frac{276}{6^4}$

D. $\frac{123}{6^5}$

Answer: C

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36. If two unbiased dice are rolled simultaneously until a sum of the number appeared on these dice is either 7 or 11 , then the porbability that 7 comes before 11, is

A. $\frac{3}{8}$

B. $\frac{3}{4}$

C. $\frac{5}{6}$

D. $\frac{2}{9}$

Answer: B

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37. A box contains 10 mangoes out of which 4 are spoiled . 2 mangoes are taken together at random. If one of them is found to be good , then the probability that the other is also good , is ,

A. $\frac{1}{3}$

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

C. $\frac{8}{15}$

D. $\frac{5}{13}$

Answer: D

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38. Two dice are rolled. If a random variable X is defined as the absolute difference of the two numbers that appear on them, then the mean of X is ,

A. 0

B. $\frac{13}{18}$

C. $\frac{19}{9}$

D. $\frac{35}{18}$

Answer: D

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39. If getting a head on a coin when it is tossed is considered as success, then the probability of having more number of failures when ten fair coins are tossed simultaneously is ,

A. $\frac{105}{2^8}$

B. $\frac{73}{2^7}$

C. $\frac{193}{2^9}$

D. $\frac{638}{2^{10}}$

Answer: C

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40. The set of all points that forms a triangle of area 15 sq. Units with the points (1,-2) and (-5,3) lies on ,

A. 5x+6y+23=0

B. (5x+6y-23)(5x+6y+37)=0

C. $25x^2 + 36y^2 + 24x - 30y - 227 = 0$

D. 5x+6y-37=0

Answer: B

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41. Suppose the new axes X, Y are generated by rotating the coordinate axes x,y about the origin through an angle of 30° in the anticlockwise direction . Then the transformed equation of $x^2 + 2\sqrt{3}xy - y^2 = 2a^2$ with respect to new axes X,Y is,

A. $X^2 - Y^2 = a^2$

B. $X^2 + Y^2 = 2a^2$

C. $X^2 + 2\sqrt{3}XY - Y^2 = 2a^2$

D. $X^2 - Y^2 = 2a^2$

Answer: A

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42. A line L makes intercepts a and b on the coordinates axes . The axes are rotated through an angle θ in the positive direction, keeping the origin fixed . If the line L makes intercepts p and q on the new coordinate axes , then $\frac{1}{a^2}+\frac{1}{b^2}$=

A. $\frac{1}{p^2q^2}$

B. $\frac{1}{p^2}-\frac{1}{q^2}$

C. $\frac{1}{p^2}+\frac{1}{q^2}$

D. $\frac{pq}{p^2+q^2}$

Answer: C

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43. If $m_1, m_2(m_1 > m_2)$ are the slopes of the lines which make an angle of 30° with the line joining the points (1,2) and (3,4) , then $\frac{m_1}{m_2}$ =

A. $2 + \sqrt{3}$

B. $2 - \sqrt{3}$

C. $7 + 4\sqrt{3}$

D. $7 - 4\sqrt{3}$

Answer: C

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44. If A(-2,1), B(0,-2), C(1,2) are the vertices of a triangle ABC , then the perpendicular distance from its circumference of the side BC is ,

A. $\frac{7\sqrt{13}}{22}$

B. $\frac{3\sqrt{17}}{22}$

C. $\frac{5\sqrt{10}}{11}$

D. $\frac{\sqrt{2026}}{22}$

Answer: B

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45. If one of the lines $ax^2 + 2hxy + by^2 = 0$ bisects the angle between the positive coordinate axes , then

A. a+b=2h

B. a-b=2|h|

C. $(a+b)^2 = 4h^2$

D. $(a-b)^2 = 4h^2$

Answer: C

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46. The equation of the pair of perpendicular lines passing through origin and forming an isosceles triangle with the line 2x+3y=6 is

A. $5x^2 - 24xy - 5y^2 = 0$

B. $4x^2 - 12xy - 4y^2 = 0$

C. $6x^2 - 5xy - 6y^2 = 0$

D. $9x^2 + 5xy - 9y^2 = 0$

Answer: A

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47. If one of the diameters of the circle $x^2 + y^2 - 2x - 6y + 6 = 0$ is a chord to the circle with centre (2,1) then the radius of the bigger circle is

A. 6

B. 4

C. 2

D. 3

Answer: D

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48. The line 3x-y+k=0 touches the circle $x^2 + y^2 + 4x - 6y + 3 = 0$. If $k_1, k_2 (k_1 < k - 2)$ are the two values of k, then the equation of the chord of contact of the point (k_1, k_2) with respect to the given circle is

A. 19x+y-18=0

B. x+19y-3=0

C. x+16y-56=0

D. 20x+18y-7=0

Answer: C

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49. If the line ax+by=1 is a tangent to the circle $S_r \equiv x^2 + y^2 - r^2 = 0$, then which one of the following is true ?

A. (a,b) lies on the circle $S_1 = 0$

B. (a,b) lies inside the circle $S_{\frac{1}{2}} = 0$

C. (a,b) lies outside the circle $S_2 = 0$

D. (a,b) lies on the circle S_3 =0

Answer: A

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50. Each of the two orthogonal circles C_1 and C_2 passes through both the points (2,0) and (-2,0). If y=mx+c is a common tangent of these circles , then

A. $c^2 = 4(1 + 2m^2)$

B. $c^2 = 2(1 + 2m^2)$

C. $c^2 = 1 + m^2$

D. $c^2m^2 = 4(1 + m^2)$

Answer: A

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51. The equation of the circle whose diameter is the common chord of the circles $x^2 + y^2 - 3x + y = 0$ and $x^2 + y^2 - x + 2y - 20 = 0$ is

A. $x^2 + y^2 - 3x + 6y + 15 = 0$

B. $x^2 + y^2 - 6x + 4y + 10 = 0$

C. $x^2 + y^2 - 9x + 2y + 20 = 0$

D. $x^2 + y^2 - 9y - 2y + 20 = 0$

Answer: D

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52. Study the following statements.

I. The vertex of the parabola $x = ly^2 + my + n$ is $\left(n - \frac{m^2}{4l}, -\frac{m}{2l}\right)$

II.The focus of the parabola $y = lx^2 + mx + n$ is $\left(n + \frac{1 - m^2}{4l}, -\frac{m}{21}\right)$

III. The pole of the line 1x+my + n=0 with respect to the parabola $x^2 = 4ay$ is $\left(-\frac{2al}{m}, \frac{n}{m}\right)$.

A. All the three statements are true

B. Statements I & II are true but III is false

C. Statement I & III are true but II is false

D. Statement II & III are true but I is false.

Answer: C

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53. Let P represent the point (3,6) on the parabola $y^2 = 12$. For the parabola $y^2 = 12x$ of l_1 is the length of the normal chord drawn at P and l_2 is the length of the focal chord drawn through P , then $\frac{l_1}{l_2}$ =

A. $2\sqrt{2}$

B. 3

C. $4\sqrt{2}$

D. 5

Answer: A

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54. A tangent is drawn at $\left(3\sqrt{3}\cos\theta, \sin\theta\right)\left(0 < \theta < \frac{\pi}{2}\right)$ to the ellipse $\frac{x^2}{27} + \frac{y^2}{1} = 1$. The value of θ for which the sum of the intercepts on the coordinates axes made by this tangent attains the minimum , is

A. $\frac{\pi}{6}$

B. $\frac{\pi}{3}$

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

D. $\frac{2\pi}{4}$

Answer: A

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55. A line perpendicular to the X-axis cuts the circle $x^2 + y^2 = 9$ at A and the ellipse $4x^2 + 9y^2 = 36$ at B such that A and B lies in the same quadrant . If θ is the greatest acute angle between the tangents drawn to the curves at A and B . then tan θ=

A. $\frac{1}{12}$

B. $\frac{1}{2\sqrt{16}}$

C. $\frac{5}{24}$

D. $\frac{5}{4\sqrt{6}}$

Answer: B

View Text Solution

56. if e_1 is the eccentricity of the ellipse $\frac{x^2}{16} + \frac{y^2}{25} = 1$ and e_2 is the eccentricity of a hyperbola passing through the foci of the given

ellipse and $e_1e_2 = 1$, then the equation of such a hyperbola among the following is

A. $\frac{x^2}{9} - \frac{y^2}{16} = 1$

B. $\frac{y^2}{9} - \frac{x^2}{16} = 1$

C. $\frac{x^2}{9} - \frac{y^2}{25} = 1$

D. $\frac{x^2}{25} - \frac{y^2}{9} = 1$

Answer: B

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57. If (1,0,3) ,(2,1,5),(-2,3,6) are the midpoints of the sides of a triangle , then the centroid of the triangle is

A. $\left(\frac{1}{3}, \frac{4}{3}, -\frac{14}{3}\right)$

B. $\left(\frac{1}{3}, \frac{4}{3}, \frac{14}{3}\right)$

C. $\left(\frac{1}{3}, -\frac{4}{3}, \frac{14}{3}\right)$

D. $\left(-\frac{1}{3}, \frac{4}{3}, \frac{14}{3}\right)$

Answer: B

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58. if a plane P passes through the points (1,0,0),(0,1,0) and makes an angle $\frac{\pi}{4}$ with the plane x+y=3 , then the direction ratios of a normal to that plane P is

A. $1, \sqrt{2}, 1$

B. $1, 1, \sqrt{2}$

C. 1,1,2

D. $\sqrt{2}, 1, 1$

Answer: B

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59. A variable plane is at a distance of 6 units from the origin. If it meets the coordinate axes in A ,B and C , then the equation of the locus of the centroid of the $\triangle ABC$ is

A. $\frac{1}{x^2}+\frac{1}{y^2}+\frac{1}{z^2}=\frac{1}{4}$

B. $x^2+y^2+z^2=4$

C. $\frac{1}{x^2}+\frac{1}{y^2}+\frac{1}{z^2}=1$

D. $\frac{1}{x^2}+\frac{1}{y^2}-\frac{1}{z^2}=\frac{1}{4}$

Answer: A

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60. $\lim_{x\to\infty}\left(\frac{2x^2+3x+4}{x^2-3x+5}\right)^{\frac{3|x|+1}{2|x|-1}}=$

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

B. $2\sqrt{2}$

C. 3

D. $\sqrt{2}$

Answer: B

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61. If 'a' is the point of discontinuity of the function f(x)=

$$\begin{cases} \cos 2x & \text{for} -\infty < x < 0 \\ e^{3x} & \text{for } x \leq x < 3 \\ x^2 - 4x + 3 & \text{for } 3 \leq x \leq 6 \\ \frac{\log(15x-89)}{x-6} & \text{for} x > 6 \end{cases}$$ then ,

$$\lim_{x \to a} \frac{x^2 - 9}{x^3 - 5x^2 + 9x - 9} =$$

A. 1

B. 0

C. 6

D. 3

Answer: A

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62. If $y = (x+1)\left(x^2+1\right)\left(x^4+1\right)\left(x^8+1\right)$, then $\lim_{x \to -1} \frac{dy}{dx}$ =

A. 0

B. 2

C. -4

D. 8

Answer: D

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63. f(x) is a twice differentiable function such that f''(x) = α f(x) and f'(x) = g(x) .

If h(x)=$(f(x))^2 + (g(x))^2$ and h(1) =2 , then h(2) =

A. 0

B. 1

C. 2

D. 4

Answer: C

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64. If $y = \sqrt{x + \sqrt{y + \sqrt{x + \sqrt{y + \ldots\infty}}}}$, then $\frac{dy}{dx}$ =

A. $\frac{y^3 - x}{2y^2 - 2xy + 1}$

B. $\frac{x + y^3}{2y^2 - x}$

C. $\frac{y+x}{y^2-2x}$

D. $\frac{y^2-x}{2y^3-2xy-1}$

Answer: D

View Text Solution

65. The tangent of the angle between the curves xy=1 and $x^2+8y=0$ is

A. $\frac{1}{7}$

B. $\frac{2}{7}$

C. $\frac{6}{7}$

D. $\frac{3}{7}$

Answer: C

View Text Solution

66. The slope of the tangent at (1,2) to the curve $x = t^2 - 7t + 7$ and $y = t^2 - 4t - 10$ is

A. $\frac{8}{5}$

B. $\frac{5}{8}$

C. $-\frac{8}{5}$

D. $-\frac{5}{8}$

Answer: A

View Text Solution

67. Consider the function $f(x) = 2x^3 - 3x^2 - x + 1$ and the intervals $I_1 = [-1, 0], I_2 = [0, 1], I_3 = [1, 2], I_4 = [-2, -1]$. Then

A. f(x)=0 has a root in the intervals I_1 and I_4 only

B. f(x)=0 has a root in the intervals I_1 and I_2 only

C. f(x)=0 has a root in every interval except in I_4

D. f(x)=0 has a root in all the four given intervals .

Answer: C

View Text Solution

68. If $f(x) = \int_x^{x+1} e^{-t^2}\, dt$, then the interval in which f(x) is decreasing is

A. $\left(-\frac{1}{2}, \infty\right)$

B. $(-\infty, 2)$

C. $(-\infty, 0)$

D. $(-2, 2)$

Answer: A

View Text Solution

69. If $\int \frac{\cos x + x}{1 + \sin x} dx = f(x) + \int \frac{3\cos\frac{x}{2} - \sin\frac{x}{2}}{\cos\frac{x}{2} + \sin\frac{x}{2}}$ dx+c , then f(x)=

A. $\frac{-2x}{1 + \tan\frac{x}{2}}$

B. $\frac{-x\cos\frac{x}{2}}{\cos\frac{x}{2} + \sin\frac{x}{2}}$

C. $\frac{2x}{1 + \tan\frac{x}{2}}$

D. $\frac{x\cos\frac{x}{2}}{\cos\frac{x}{2} + \sin\frac{x}{2}}$

Answer: A

View Text Solution

70. $\int \frac{\sqrt{\cos 2x}}{\sin x} dx =$

A.

$$\frac{1}{2\sqrt{2}}\log\left|\frac{\sqrt{2}+\sqrt{1-\tan^2 x}}{\sqrt{2}-\sqrt{1-\tan^2 x}}\right|-\frac{1}{2}\log\left|\frac{1-\sqrt{1-\tan^2 x}}{1+\sqrt{1-\tan^2 x}}\right|+c$$

B. $$\frac{1}{2}\log\left|\frac{\sqrt{2}+\sqrt{1-\tan^2 x}}{\sqrt{2}-\sqrt{1-\tan^2 x}}\right|-\frac{1}{2}\log\left|\frac{1+\sqrt{1-\tan^2 x}}{1-\sqrt{1-\tan^2 x}}\right|+c$$

C.

$$\frac{1}{4\sqrt{2}}\log\left|\frac{\sqrt{2}-\sqrt{1-\tan^2 x}}{\sqrt{2}+\sqrt{1-\tan^2 x}}\right|+\frac{1}{2}\log\left|\frac{1-\sqrt{1-\tan^2 x}}{1+\sqrt{1-\tan^2 x}}\right|+c$$

D.

$$\frac{1}{4\sqrt{2}}\log\left|\frac{\sqrt{2}-\sqrt{1-\tan^2 x}}{\sqrt{2}+\sqrt{1-\tan^2 x}}\right|+\frac{1}{2\sqrt{2}}\log\left|\frac{1-\sqrt{1-\tan^2 x}}{1+\sqrt{1-\tan^2 x}}\right|+c$$

Answer: B

View Text Solution

71. if $\int\frac{(2x+3)}{x(x+1)(x+2)(x+3)+1}dx=-\frac{1}{px^2+qx+r}+c$, than $\frac{3p-q}{r}$

A. 0

B. 1

C. 2

D. -1

Answer: A

View Text Solution

72. $\int (\log x)^2 dx =$

A. $x \log x - 2x \log x + c$

B. $x \log x + 2x \log x + c$

C. $x(\log x)^2 - 2x(\log x - 1) + c$

D. $x(\log x)^2 + 2x(\log x - 1) + c$

Answer: C

View Text Solution

73. $\lim_{n \to \infty} \sum_{k=1}^{n} \frac{k}{n^2 + k^2} =$

A. $\frac{1}{2} \log 2$

B. 2 log 2

C. $\frac{1}{3}$ log 2

D. 3 log 2

Answer: A

View Text Solution

74. $\int_0^{10} \left(5 - \sqrt{10x - x^2}\right) dx =$

A. $50 - 25\pi$

B. $(100 - 25\pi)$

C. $\frac{1}{2}(100-25\pi)$

D. $\frac{1}{4}(100-25\pi)$

Answer: C

View Text Solution

75. Area of the region (in square units) bounded by the curves $y=\sqrt{x}$, $x=\sqrt{y}$ and the lines x=1, x=4 is

A. $\frac{8}{3}$

B. $\frac{49}{3}$

C. $\frac{16}{3}$

D. $\frac{14}{3}$

Answer: B

View Text Solution

76. The differential equation representing the family of circles of constant radius r is

A. $r^2 y^n = \left[1 + (y')^2\right]^2$

B. $r^2 (y'')^2 = \left[1 + (y')^2\right]^2$

C. $r^2 (y'')^2 = \left[1 + (y')^2\right]^3$

D. $(y)^2 = r^2 \left[1 + (y')^2\right]^2$

Answer: C

View Text Solution

77. The solution of the differential equation (2x-3y+5) dx + (9y-6x -7)dy =0 is

A. 3x-3y+8 log |6x - 9y-1|=c

B. 3x-9y+8 log |6x - 9y-1|=c

C. 3x-9y+8 log |2x-3y-1|=c

D. 3x-9y+4 log |2x-3y-1|=c

Answer: B

View Text Solution

78. The solution of the differential equation $\sqrt{1-y^2}dx + xdy - \sin^{-1} ydy = 0$ is

A. $x = \sin^{-1} y - 1ce^{-\sin^{-1}-y}$

B. $y = x\sqrt{1-y^2} + \sin^{-1} y + c$

C. $x = 1 + \sin^{-1} y + ce^{\sin^{-1}-y}$

D. $y = \sin^{-1} y - 1 + x\sqrt{1-y^2} + c$

Answer: A

View Text Solution

Physics

1. Match the following fundamental forces of nature with their relative strength .

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

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

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

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

Answer: A

View Text Solution

2. Identify the incorrect statement among the following .

A. A true length of 5.678 km has been measured in two experiments as 5.5 km and 5.51 km respectively . The second measurements has more precision .

B. Lengths of 1m and 0.5 m have both been measured with the same absolute error of 0.01 m . Both measurements are equally accurate.

C. The number of significant digits in 1.6 and 0.60 are both two .

D. The number 2.445 can be rounded to two decimal places as 2.45.

Answer: B::D

View Text Solution

3. Ball-1 is dropped from the top of a building from rest . At the same moment , ball-2 is thrown upward towards ball-1 with a speed 14 m/s from a point 21 m below the top of building . How far will the ball -1 have dropped when it passed ball-2 (Assume $g = 10m/s^2$)

A. $\frac{45}{4}$ m

B. $\frac{52}{6}$ m

C. $\frac{37}{2}$ m

D. $\frac{25}{2}$ m

Answer: A

View Text Solution

4. Rain is falling at angle of 30° from the vertical due to the wind with a speed of 40 m/s . A car is travelling horizontally in the direction opposite to the wind , at a speed of 40 m/s. At what angle

from the vertical will it experience the rain falling from ?

A. 30°

B. 60°

C. 90°

D. 120°

Answer: B

View Text Solution

5. Two touching blocks 1 and 2 are placed on an inclined plane forming an angle 60° with the horizontal . The masses are m_1 and m_2 and the coefficient of friction between the inclined plane and the two blocks are 1.5 μ and 1.0 μ respectively . The force of reaction between blocks during the motion is (g=acceleration due to gravity)

A. $(m_2 - m_1)\mu g$

B. $(m_2 + m_1)\mu g$

C. $\frac{1}{2}\frac{m_1 m_2}{m_1 + m_2}\mu g$

D. $\frac{1}{4}\frac{m_1 m_2}{m_1 + m_2}\mu g$

Answer: D

View Text Solution

6. Three blocks are connected by massless string on a frictionless inclined plane of 30° as shown in the figure. A force of 104 N is applied upward along the incline to mass m_3 causing an upward motion of the blocks . What is the acceleration of the blocks ? (Assume $g = 10m/s^2$)

A. $6.0m/s^2$

B. $4.5m/s^2$

C. $3.0m/s^2$

D. $1.5m/s^2$

Answer: D

View Text Solution

7. Consider a system of two masses and a pulley shown in the figure . The coefficient of friction between the two blocks and also between block and table is 0.1. Find the force , F, that must be given to the 0.8 kg block such that it attains acceleration of $5m/s^2$.

(Assume $g = 10m/s^2$)

A. 6.4 N

B. 7.1 N

C. 6.9 N

D. 7.8 N

Answer: A

View Text Solution

8. A box of mass 3 kg moves on a horizontal frictionless table and collides with another box of mass 3 kg initially at rest on the table at height 1m. The speed of moving box just before the collisions is 4 m/s. The two boxes stick together and fall from the table . The kinetic energy just before the boxes strike the floor is (Assume $g = 10/s^2$)

A. 40 J

B. 80 J

C. 96 J

D. 72 J

Answer: D

View Text Solution

9. A ball of mass 2 kg is thrown form a tall building with velocity $\vec{V}$ = (20 m/s) $\hat{i}$ + (24 m/s) $\hat{j}$ at time t=0 s . Change in the potential energy of the ball after t=8 s is (The ball is assumed to be in air during its motion between 0 s and 8 s, $\hat{i}$ is along the horizontal and $\hat{j}$ is along the vertical direction , let $g = 10m/s^2$)

A. -2.56 kJ

B. $0.52kJ$

C. 1.76 kJ

D. -2.44 kJ

Answer: A

View Text Solution

10. Three balls A,B and C of masses 50 g , 100 g and 150 g respectively are placed at the verticles of an equilateral triangle . The length of each side is 1 m . If A is placed at (0,0) and B is placed at (1,0) m , find the coordinates , (x,y) for the centres of mass of this system of balls

A. $\left(\frac{7}{12}, \sqrt{\frac{3}{4}}\right)$m

B. $\left(\frac{5}{18}, \sqrt{\frac{1}{4}}\right)$ m

C. $\left(\frac{7}{12}, \sqrt{\frac{3}{2}}\right)$ m

D. $\left(\frac{5}{18}, \sqrt{\frac{3}{4}}\right)$m

Answer: A

View Text Solution

11. Three bodies, a ring , a solid disc and a solid roll down the same inclined plane without slipping. The radii of the bodies are identical

and they start from rest. If V_S, V_R and V_D are the speeds of the sphere , ring and a disc respectively when they reach the bottom , they the correct option is

A. $V_S > V_R > V_D$

B. $V_D > V_S > V_R$

C. $V_R > V_D > V_S$

D. $V_S > V_D > V_R$

Answer: D

View Text Solution

12. A vertical spring mass system has the same time-period as a simple pendulum undergoing small oscillations. Now both of them are put in an elevator going downwards with an acceleration $5m/s^2$. The ratio of time period of the spring mass system to the time -

period of the pendulum is (Assume $g = 10m/s^2$)

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

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

C. $\sqrt{\frac{1}{2}}$

D. $\sqrt{2}$

Answer: C

View Text Solution

13. Consider a spherical planet which is rotating about its axis such that the speed of a point on its equation is 'V' and the effective acceleration for a particle at the pole of this planet .

A. 3V

B. 2V

C. $\sqrt{3}V$

D. $\sqrt{2}\,V$

Answer: C

View Text Solution

14. Consider a system of blocks X ,A and B are shown in the figure . The blocks A and B have equal mass and are connected by a massless string through a massless pully. The coefficient of friction between block A & X and B & X is 0.5 . If block 'X' moves on horizontal frictionless surface, what should be its minimum acceleration such that blocks A and B remain stationary .

(g=acceleration due to gravity)

A. $\frac{g}{3}$

B. 3g

C. $\frac{g}{4}$

D. $\frac{3g}{4}$

Answer: B

View Text Solution

15. How much pressure (in atm) is needed to compress a sample of water by 0.4% ? (Assume Bulk modulus of water ~ 2.0×10^9 Pa)

A. 60 atm

B. 70 atm

C. 80 atm

D. 90 atm

Answer: C

View Text Solution

16. The tension in a massless cable connected to an iron ball of 100 kg when it is submerged in sea water is $\left(\rho_{\text{iron}} = 8 \times 10^3 kg/m^3 \text{and} \rho_{\text{sea water}} = 1000 kg/m^3, g = 10 m/s^2\right)$

A. 950 N

B. 846 N

C. 875 N

D. 933 N

Answer: C

View Text Solution

17. The area of a circular copper coin increases by 0.4% when its temperature is raised by $100^\circ C$. The coefficient of linear expansion of the coin is

A. $1 \times 10^{-5} / ^{\circ} C$

B. $2 \times 10^{-5} / ^{\circ} C$

C. $3 \times 10^{-5} / ^{\circ} C$

D. $4 \times 10^{-5} / ^{\circ} C$

Answer: B

View Text Solution

18. A 210 W heater is used to heat 100 g water . The required to raise the temperature of this water from $25^{\circ} C$ to $100^{\circ} C$ is (specific heat capacity of water =4200 J kg - 0° C)

A. 100 s

B. 125 s

C. 150 s

D. 200 s

Answer: C

View Text Solution

19. One mole of nitrogen gas being initially at a temperature of T_0 =300 K is adiabatically compressed to increase its pressure 10 times. The final gas temperature after compression is (Assume nitrogen gas molecules as rigid diatomic and $100^{\frac{1}{7}}$ =1.9)

A. 420 K

B. 750 K

C. 650 K

D. 570 K

Answer: D

View Text Solution

20. Two gases A and B are contained in two separate , but otherwise identical containers. Gas A consists of monoaomic molecules , each with atomic mass of 4u where as , Gas B consists of rigid diatomic molecules , each with atomic mass of 20 u. if Gas A is kept at $27^\circ C$, at what temperature should Gas B be kept so that both have the same r.m.s. speed ?

A. $27^\circ C$

B. $54^\circ C$

C. $270^\circ C$

D. $627^\circ C$

Answer: D

View Text Solution

21. Standing waves are produced in a string 16 m long If there are 9 nodes between the two fixed ends of the string and the speed of the wave is 32 m/s , what is the frequency of the wave ?

A. 5 Hz

B. 10 Hz

C. 30 Hz

D. 20 Hz

Answer: B

View Text Solution

22. A highway truck has two horns A and B . When sounded together , the driver records 50 beats in 10 seconds with horn B blowing and the truck moving towards a wall at a speed of 10 m/s , the driver noticed a beat frequency of 5 Hz with the echo . When frequency of A

is decreased the beat frequency with two horns sounded together increases. calculate the frequency of horn A . (Speed of sound = 330 m/s)

A. 75 Hz

B. 85 Hz

C. 90Hz

D. 95 Hz

Answer: A

View Text Solution

23. When light of an unknown polarization is examined with a Polaroid, it is found to exhibit maximum intensity I_0 along y-axis and minimum intensity $\frac{2I_0}{3}$ along x-axis. The intensity transmitted through a Polaroid with pass axis at 45° to y-axis (in xy plane) is

A. $\frac{5}{8}I_0$

B. $\frac{I_0}{2}$

C. $\frac{5}{6}I_0$

D. $\frac{I_0}{4}$

Answer: C

View Text Solution

24. In a Young's double slit experiment , m^{th} order and n^{th} order of brings fringes are formed at point P on a distant screen , if monochromatic source of wavelength 400 nm and 600 nm are used respectively. The minimum value of m and n are , respectively .

A. 4,6

B. 3,2

C. 2,3

D. 4,2

Answer: B

View Text Solution

25. Two small conducting balls of identical mass 20 g and identical charge 10^{-10} C hang from non conducting threads of length L=300 cm. if the equilibrium separation of balls is x and x < < L, then the magnitude of x is (Assume $4\pi \in_0 = \frac{1}{9 \times 10^9}$ F/m and $g = 10m/s^2$)

A. $\frac{2}{5^{\frac{1}{3}}}$ mm

B. $\frac{3}{10^{\frac{1}{3}}}$ mm

C. $\frac{3^{\frac{1}{3}}}{10}$ mm

D. $\frac{3^{\frac{2}{3}}}{5}$ mm

Answer: B

View Text Solution

26. The space between the two large parallel plates is filled with a material of uniform charge density $'\rho'$. Assume that one of the plate is kept at x=0. The potential at any point 'x' between these plates is given by (A and B are constants)

A. $-\frac{\rho X^3}{2\varepsilon_0}$

B. $-\left(\frac{\rho x^2}{2\varepsilon_0}+Ax\right)$

C. $-\left(\frac{\rho x^2}{2\varepsilon_0}+Ax+B\right)$

D. $-\left(\frac{\rho x^3}{4\varepsilon_0}+Ax^2+Bx\right)$

Answer: C

View Text Solution

27. Identify the correct statements among the following .

A. Resistivity of metals decreases with temperature because more electrons are available for conduction

B. Resistivity of metals increases with temperature because number of electrons decreases

C. Resistivity of metals increases with temperature because number of collisions between electrons increases .

D. Resistivity of metals decreases with temperature because superconductivity sets in.

Answer: C

View Text Solution

28. For the circuits A and B as shown in the figure , identify the correct option

A. Circuit A is for accurate measurement of high resistance and B is for low resistance .

B. Circuit A is for accurate measurement of low resistance and B is for high resistance .

C. Both circuits can accurately measure high resistances only

D. Both circuits can accurately measure low resistances only

Answer: B

View Text Solution

29. Two infinitely long straight wires A and B , each carrying current I are placed on x and y axis respectively. The current in wires A and B flow along $-\hat{i}$ and $\hat{j}$ directions respectively. The force on a charged particle having charge q moving from position $\overrightarrow{r} = d\left(\hat{i} + \hat{j}\right)$ with velocity $\overrightarrow{v} = v\hat{i}$ is

A. $\frac{\mu_0 Iqv}{2\pi d}\hat{j}$

B. $\frac{\mu_0 Iqv}{\pi d}\hat{j}$

C. $\frac{\mu_0 Iqv}{\sqrt{2}\pi d}\hat{k}$

D. 0

Answer: B

View Text Solution

30. A long straight wire carrying current 16 a is bent at 90° such that half of wire lies along the positive x-axis and other half lies along the

positive y-axis. What is magnitude of magnetic field at the point $\vec{r} = \left(-2\hat{i} + 0\hat{j} \right)$ mm . (Assume $\frac{\mu_0}{4\pi} = 10^{-7} Hm^{-1}$)

A. 1.2 mT

B. 0.8 mT

C. 3.2 mT

D. 1.6 mT

Answer: B

View Text Solution

31. The magnitude of the force vector acting on a unit length of a thin wire carrying a current I =8A at a point O , if the wire is bent as shown in the figure with a radius R =10π cm, is

A. $64\mu N/m$

B. $32\mu N/m$

C. $20\mu N/m$

D. $100\mu N/m$

Answer: A

View Text Solution

32. A 10 Ω coil of 180 turns and diameter 4 cm is placed in a uniform magnetic field so that the magnetic flux is maximum through the coil's cross-sectional area. When the field is suddenly removed a charge of $360\mu C$ flows through at 618Ω galvanometer connected to the coil , find the magnetic field :

A. 12 T

B. 6 T

C. 1 T

D. 8 T

Answer: C

View Text Solution

33. An inductor coil is connected to a capacitor and an AC source of r.m.s. voltage 8 V in series . The r.m.s . Current in the circuit is 16 A and is in phase with e.m.f. If the inductor coil is connected to 6 V DC battery , the magnitude of stready current is

A. $8A$

B. $10A$

C. $12A$

D. $16A$

Answer: C

View Text Solution

View Text Solution

34. An electromagnetic wave of frequency 30 MHz passes from vacuum into a non-magnetic medium with permittivity $\in$ =16 $\in_0$. Where $\in_0$ is the free - space permittivity . The change in wavelength is

A. -75 m

B. $+75$ m

C. -50 m

D. $+50$ m

Answer: A

View Text Solution

35. A particle of charge q , mass m and energy E has De-Broglie wavelength λ , For a particle of charge 2q, mass 2 m and energy 2E, the de-Broglie wavelength is

A. $\frac{\lambda}{4}$

B. 2λ

C. 8λ

D. $\frac{\lambda}{2}$

Answer: D

View Text Solution

36. The collision of an electron with kinetic energy 5.5 eV and hydrogen atom in its ground state can be described as

A. Completely inelastic

B. May be completely inelastic

C. May be partially elastic

D. Elastic

Answer: D

View Text Solution

37. An alloy is composed of two radioactive materials A and B having equal weight. The half life of A and B are 10 yrs and 20 yrs respectively. After a time 't' , the alloy was found to consist of $\left(\frac{1}{e}\right)$ kg of 'A' and 1 kg of B. If the atomic weight of A and B are same , then the value of 't' is (Assume in 2=0.7)

A. $\left(\frac{200}{7}\right)$ yrs

B. $\left(\frac{10}{7}\right)$ yrs

C. 7 yrs

D. 70 yrs

Answer: A

View Text Solution

38. When a Zener diode is used as a regulator with Zener voltage of 10 V , nearly five times the load current passes through the Zener diode.What should be the series resistance for the Zener diode, if load resistance is $2k\Omega$ and the unregulated voltage supplied is 16 V

A. 500Ω

B. 400Ω

C. 200Ω

D. 800Ω

Answer: C

View Text Solution

View Text Solution

39. The logic circuit below has the truth table , same as that of

A. NOR gate

B. NAND gate

C. AND gate

D. OR gate

Answer: B

View Text Solution

40. A message single is used to modulate a carrier frequency . If the peak voltages of message single and carrier signal are increased by

0.1% and 0.3 % respectively , then the percentage change in modulation index is

A. 0.4

B. 0

C. -0.4

D. -0.2

Answer: D

View Text Solution

Chemistry

1. From the following energy level of hydrogen atom, the values of E_∞ and E_3 in J are , respectively

A. $1, \ -0.242 \times 10^{-18}$

B. $\infty, \ -0.726 \times 10^{-18}$

C. $0, \ -0.242 \times 10^{-18}$

D. $0, \ -0.321 \times 10^{-18}$

Answer: C

View Text Solution

2. Match the following

A. A-V , B-IV ,C-I,D-II

B. A-III,B-IV,C-V,D-II

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

D. A-III,B-I,C-V,D-II

Answer: D

View Text Solution

3. What is the approximate most probable velocity of oxygen ? 1 the kinetic energy of one mole of oxygen is 3741.3 J

A. $\sqrt{43851 Jkg^{-1}}$

B. $\sqrt{48321 Jkg^{-1}}$

C. $\sqrt{155887 Jkg^{-1}}$

D. $\sqrt{3950 Jkg^{-1}}$

Answer: C

View Text Solution

4. Find the heat required to make water of $30^{\circ}C$ from 10 g of ice at $0.0^{\circ}C$. (Enthalpy of fusion of ice $= 333.55Jg^{-1}$, Cp of water = $4.18Jg^{-1}K^{-1}$)

A. 4.0 kJ

B. 5.0 kJ

C. 3.59 kJ

D. 4.59 kJ

Answer: D

View Text Solution

5. For the reaction

$0.5C(s) + 0.5CO_2(g) \Leftrightarrow CO(g)$

The equilibrium pressure is 12 atm. If CO_2 conversion is 50% , the value of Kp , in atm is

A. 4

B. 1

C. 0.5

D. 2

Answer: A

View Text Solution

6. Which of the following are not aromatic ?

A. A,C,F

B. B,E,F

C. B,C,F

D. C,D,E

Answer: B

View Text Solution

7. Identify A and B respectively in the following reactions.

- $[Au(CN)_2]^-, [Zn(CN)_4]^{2-}$
- $Au(CN)_4, [Zn(CN)_4]^{2-}$
- $HCN, [Au(CN)_4]^{2-}$
- $AuCN, [HCN]$

Answer: A

View Text Solution

8. Match the following

A. A-V,B-IV,C-II,D-III

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

C. A-V,B-I,C-IV,D-II

D. A-I,B-V,C-IV,D-II

Answer: A

View Text Solution

9. Match the following

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

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

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

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

Answer: D

View Text Solution

10. What is the product "E" in the following reaction ?

A. 

B. 

C. 

D. 

Answer: C

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