PROVISIONAL ANSWER KEY

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Exam:KEAM 2026 - 6

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1. Let $A = \{1, 2, 3\}, B = \{1, 2, 3, 4\}$ and let $R: A \to B$ be a relation. If $R = \{(1, 2), (2, 3), (3, 4)\}$, then $R \circ R$ is

A) $\{(1, 2), (2, 3), (3, 4)\}$

B) $\{(1, 2), (2, 1), (3, 4)\}$

C) $\{(1, 3), (2, 1), (3, 2)\}$

D) $\{(1, 1), (2, 3), (3, 2)\}$

E) $\{(1, 2), (2, 1), (3, 3)\}$

Correct Answer : Option C

2. The inverse function of $f(x) = \lambda\ x + 1, x \in \mathbb{R}$ is itself. Then the value of λ is

A) 1

B) -1

C) $\frac{1}{2}$

D) $-\frac{1}{2}$

E) 2

Correct Answer : Option B

3. If $f(x) = x + 1$, and $g(x) = x^3$,then $f^{-1}(g(x))$ is equal to

A) $x - 1$

B) $x^3 + 2$

C) $x + 1$

D) $x^3 + x$

E) $x^3 - 1$

Correct Answer : Option E

4. The range of $f(x) = [cosx]$, where $[x]$ is the greatest integer less than or equal to x, is

A) (-1,1)

B) {-1,0}

C) {1,0}

D) {-1,0,1}

E) [-1,1]

Correct Answer : Option D

5. The equation $\text{Im}(1-i)z = 1$ represents the line

A) $y = x + 1$

B) $y = 1 - x$

C) $y = x - 1$

D) $y = x + 2$

E) $y = -x - 1$

Correct Answer : Option A

6. The domain of the function $f(x) = sin^{-1}(\sqrt{2} - x)$ is

A) [0,1]

B) [-1,1]

C) [1,2]

D) [-1,0]

E) [0,2]

Correct Answer : Option C

7. The imaginary part of $\frac{cos50^o + isin50^o}{cos50^o - isin50^o}$ is equal to

A) $cos10^o$

B) $sin80^o$

C) $cos50^o$

D) $sin40^o$

E) $cos40^o$

Correct Answer : Option A

8. The value of $\left(\frac{\sqrt{3}}{2} + \frac{i}{2}\right)^3 + \left(\frac{\sqrt{3}}{2} - \frac{i}{2}\right)^3$ is equal to

A) $3\sqrt{3}$

B) $2\sqrt{3}$

C) 2

D) 0

E) -1

Correct Answer : Option D

9. The 3rd and 6th terms of a G.P. are, respectively 108 and -32 . Then the first term is

A) -81
B) -243
C) 243
D) 81
E) 27

Correct Answer : Option C

10. The three geometric means between 4 and 324 are

A) 12,46,108
B) 12,36,128
C) 14,36,108
D) 12,36,98
E) 12,36,108

Correct Answer : Option E

11. If the 3rd, 7th, 11th terms of a geometric progression are *a, b, c* respectively, then $(ac)^4 =$

A) b^8
B) b^6
C) b^4
D) b^2
E) b^{12}

Correct Answer : Option A

12. If a, x, y, b are in G.P. , then $(x+y)^2$=

A) $(a+x)(y+b)$
B) $(b+x)(y+a)$
C) $(a+2x)(y+b)$
D) $(a+x)(y+2b)$
E) $(a+2x)(y+2b)$

Correct Answer : Option A

13. The number of 3-digit even numbers that can be formed with the digits 0, 1, 2, 3, 4, 5, 6 are

A) 30

B) 75
C) 105
D) 140
E) 150

Correct Answer : Option C

14. A cricket team of 11 players from 16 players is to be selected. If three particular players are always included in the team, then the number of ways of selecting the team is

A) 1287
B) 1187
C) 1117
D) 1298
E) 1349

Correct Answer : Option A

15. If six persons are to be selected to form a committee from a group of seven women and four men so that at least three women are there on the committee, then the number of ways it can be done, is

A) 641
B) 545
C) 591
D) 441
E) 139

Correct Answer : Option D

16. If the coefficient of y^3 in the binomial expansion of $\left(2\alpha - \frac{y}{2}\right)^8$ is -7 , then the value of α is equal to

A) $\frac{1}{2}$
B) 2
C) 3
D) 6
E) 8

Correct Answer : Option A

17. Let $(1+ax)(1-2x)^3 = \sum_{n=0}^{4} a_n x^n$, where a is a constant. If $a_2 = 0$, then the value of a is

A) 1
B) 9

C) 3
D) 5
E) 2

Correct Answer : Option E

18. The value of $\begin{vmatrix} \sin 30^\circ & \cos 30^\circ & \sin\left(30^\circ+75^\circ\right) \\ \sin 45^\circ & \cos 45^\circ & \sin\left(45^\circ+75^\circ\right) \\ \sin 60^\circ & \cos 60^\circ & \sin\left(60^\circ+75^\circ\right) \end{vmatrix}$ is equal to

A) -2
B) -1
C) 0
D) 1
E) 2

Correct Answer : Option C

19. If A is a non-singular matrix of order n satisfying the matrix equation $I + A + A^2 + A^3 + \ldots + A^{10} = O$, where I and O are, respectively, unit and null matrices of order n , then A^{10} =

A) A^{-1}
B) I
C) A
D) $I + A$
E) O

Correct Answer : Option A

20. If A is a square matrix of order n such that $|adj(adjA)| = |A|^{23}$, then n is equal to

A) 6
B) 4
C) 5
D) 3
E) 7

Correct Answer : Option A

21. If $\frac{21x-6}{4} - 9 \leq 0$ and $\frac{x-1}{3} + 1 \geq 0, x \in \mathbb{R}$, then x lies in the interval

A) [-2,1]

B) [-2,2]

C) [-1,2]

D) [2,4]

E) [-2,4]

Correct Answer : Option B

22. If $|2x-3| < 5, x \in \mathbb{R}$, then x lies in the interval

A) [-1,1]

B) [-1,4]

C) (-1,4)

D) (-2,4)

E) [-2,4]

Correct Answer : Option C

23. The value of $\frac{\sqrt{3}(sin40^o + sin20^o)}{cos40^o + cos20^o}$ is

A) 1

B) $\sqrt{3}$

C) $\sqrt{2}$

D) $\frac{1}{2}$

E) 0

Correct Answer : Option A

24. If $sec^2\theta + tan^2\theta = 7, 0 < \theta < \frac{\pi}{2}$, then $tan2\theta$ is equal to

A) 1

B) $\sqrt{3}$

C) $\sqrt{2}$

D) $-\sqrt{3}$

E) 0

Correct Answer : Option D

25. The value of $\frac{tan75^o + tan15^o}{tan75^o - tan15^o}$ is equal to

A) $\frac{1}{\sqrt{3}}$

B) $\sqrt{3}$

C) 1

D) $-\sqrt{3}$

E) $\frac{2}{\sqrt{3}}$

Correct Answer : Option E

26. The value of $4cos36^{o}cos72^{o}$ is equal to

A) 1

B) 2

C) $\sqrt{2}$

D) 2

E) 0

Correct Answer : Option A

27. Let $f(x) = (8sinx + 15cosx + 3)^{2} - 15, x \in \mathbb{R}$. Then the maximum value of f is

A) 325

B) 365

C) 385

D) 430

E) 455

Correct Answer : Option C

28. The value of $cos^{-1}\left(cos\frac{2\pi}{3}\right) + sin^{-1}\left(sin\frac{2\pi}{3}\right)$ is equal to

A) $-\frac{\pi}{2}$

B) $-\frac{2\pi}{2}$

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

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

E) π

Correct Answer : Option E

29. The value of $tan^{2}(sec^{-1}(3))$ is

A) 8

B) 4

C) 6

D) 1

E) 10

Correct Answer : Option A

30. The value of $tan^{-1}\left(\frac{cosx-\sqrt{3}sinx}{\sqrt{3}cosx+sinx}\right)$, where $0 < x < \frac{\pi}{2}$ is

A) $\frac{\pi}{6} - x$

B) $\frac{\pi}{4} - x$

C) $\frac{\pi}{3} - x$

D) $\frac{\pi}{2} - x$

E) $\pi - x$

Correct Answer : Option A

31. The x-intercept and y-intercept of a line are three times and four times of the x -intercept and y-intercept of the line $3x + 2y = 6$, respectively. Then the equation of the line is

A) $2x - y = 12$

B) $2x + y = 12$

C) $2x - y = -12$

D) $x + 2y = 12$

E) $2x + 2y = 12$

Correct Answer : Option B

32. If the foot of the perpendicular drawn from the origin to the line $y = mx + c$ is (1,1) then the value of m and c are, respectively,

A) 1 and 2

B) 1 and -2

C) -1 and 2

D) 2 and 2

E) -1 and -2

Correct Answer : Option C

33. The perpendicular distance between the lines $3x + 4y - 6 = 0$ and $6x + 8y + 18 = 0$ is

A) 15

B) 12

C) 9

D) 3

E) 0

Correct Answer : Option D

34. If the circle $x^2 + y^2 - 6x - 12y - 55 = 0$ intercepts the x-axis at two points A and B, then $|AB|$ is equal to

A) 6
B) 8
C) 10
D) 12
E) 16

Correct Answer : Option E

35. If the focus and vertex of a parabola are at a distance of 3 units and 6 units, respectively, from the origin on the positive x-axis, then the equation of the parabola is

A) $y^2 = -12(x - 6)$
B) $y^2 = -9(x - 6)$
C) $y^2 = -16(x - 6)$
D) $y = 16(x - 6)^2$
E) $y^2 = 14(x - 6)$

Correct Answer : Option A

36. If the foci and vertices of an ellipse are respectively $(\pm 2, 0)$ and $(\pm 3, 0)$ then its eccentricity is

A) $\frac{2}{3}$
B) $\frac{\sqrt{5}}{3}$
C) $\frac{\sqrt{2}}{3}$
D) $\frac{1}{2}$
E) $\frac{1}{\sqrt{2}}$

Correct Answer : Option A

37. The equation of a hyperbola is $9x^2 - 16y^2 = 144$. If A and S are, respectively, the focus and the vertex of one section of the hyperbola, then the length of AS is

A) $\frac{5}{2}$
B) $\frac{3}{2}$

C) $\frac{1}{2}$

D) 2

E) 1

Correct Answer : Option E

38. If the angle between the vectors $\vec{a} = x\hat{\imath} + 3\hat{\jmath} + \hat{k}$ and $\vec{b} = x\hat{\imath} - x\hat{\jmath} + 2\hat{k}$ is acute, then x lies is

A) $(-\infty, -1) \cup (1, \infty)$

B) $(-\infty, -1) \cup (2, \infty)$

C) $(-\infty, 1) \cup (2, \infty)$

D) $(-\infty, 0) \cup (1, \infty)$

E) $(-\infty, 0) \cup (2, \infty)$

Correct Answer : Option C

39. Let $\vec{OP} = 2\hat{\imath} - 2\hat{\jmath} - 2\hat{k}$ and $\vec{OQ} = 2\hat{\imath} + \hat{\jmath} + 2\hat{k}$. If the point R lies on $\vec{PQ}$ and $\vec{OR}$ bisects the angle $< POQ$, then $2\,\vec{OR}$ is

A) $4\hat{\imath} - \hat{\jmath} + \hat{k}$

B) $4\hat{\imath} - \hat{\jmath} - \hat{k}$

C) $4\hat{\imath} + \hat{\jmath} + \hat{k}$

D) $4\hat{\imath} + \hat{\jmath} - \hat{k}$

E) $-4\hat{\imath} + \hat{\jmath} + \hat{k}$

Correct Answer : Option A

40. If $\vec{a} \times (\hat{\imath} - \hat{\jmath} + \hat{k}) = (\hat{\imath} - \hat{\jmath} + \hat{k}) \times \vec{b}$ and $|\vec{a} + \vec{b}| = 3\sqrt{3}$, then the possible values of $(\vec{a} + \vec{b}) . (3\hat{\imath} + 2\hat{\jmath} + \hat{k})$ are

A) ± 1

B) ± 2

C) ± 4

D) ± 6

E) ± 8

Correct Answer : Option D

41. Let the three vectors $\vec{a}, \vec{b},$ and $\vec{c}$ be pairwise non-collinear vectors. If $\vec{a} + 2\vec{b}$ is

collinear with $\vec{c}$ and if $\vec{b}+2\vec{c}$ is collinear with $\vec{a}$, then $\vec{a}+2\vec{b}+5\vec{c}$ is equal to

A) $\vec{0}$

B) $\vec{a}$

C) $\vec{b}$

D) $\vec{c}$

E) $2\vec{a}$

Correct Answer : Option D

42. The angle between the lines $\vec{r}=(3+\alpha)\hat{\imath}+2(1+\alpha)\hat{\jmath}+2(-2+\alpha)\hat{k}$ and $\vec{r}=(5+3\beta)\hat{\imath}+2(1+\beta)\hat{\jmath}+6\beta\,\hat{k}$, where α and β are parameters, is

A) $cos^{-1}\left(\frac{17}{21}\right)$

B) $cos^{-1}\left(\frac{19}{12}\right)$

C) $cos^{-1}\left(\frac{9}{21}\right)$

D) $2cos^{-1}\left(\frac{19}{21}\right)$

E) $cos^{-1}\left(\frac{19}{21}\right)$

Correct Answer : Option E

43. The equation of line which is parallel to $\frac{2-x}{-3}=\frac{y-2}{2}=\frac{z-4}{1}$ and passing through the point (1,1,1), is

A) $\frac{x-1}{3}=\frac{y-1}{2}=\frac{z+1}{1}$

B) $\frac{x-1}{3}=\frac{y-1}{2}=\frac{z-1}{1}$

C) $\frac{x-1}{3}=\frac{y-1}{-2}=\frac{z-1}{1}$

D) $\frac{x-1}{-3}=\frac{y-1}{2}=\frac{z-1}{1}$

E) $\frac{x-1}{3}=\frac{y-1}{2}=\frac{z+1}{-1}$

Correct Answer : Option B

44. The shortest distance between the lines $\vec{r}=\hat{\imath}+\hat{\jmath}+3\hat{k}+\lambda\,(2\hat{\imath}+2\hat{J}+\hat{k})$ and $\vec{r}=(2\mu+1)\hat{\imath}+(2\mu-1)\hat{\jmath}+(\mu+1)\hat{k}$, where λ and μ are parameters, is

A) 1
B) 6
C) 3
D) 4
E) 2

Correct Answer : Option E

45. The vector form of the straight line $\frac{x-2}{1} = \frac{y-1}{-1} = \frac{z-1}{-2}$ is

A) $\vec{r} = (2+\mu)\hat{i} + (1-\mu)\hat{j} + (1+2\mu)\hat{k}$
B) $\vec{r} = (2+\mu)\hat{i} + (1+\mu)\hat{j} + (1-2\mu)\hat{k}$
C) $\vec{r} = (2+\mu)\hat{i} + (1-2\mu)\hat{j} + (1-2\mu)\hat{k}$
D) $\vec{r} = (2+3\mu)\hat{i} + (1-\mu)\hat{j} + (1-2\mu)\hat{k}$
E) $\vec{r} = (2+\mu)\hat{i} + (1-\mu)\hat{j} + (1-2\mu)\hat{k}$

Correct Answer : Option E

46. The combined mean age of a group of boys and girls in a school is 12. If the mean of the boys in that group is 14 and the mean of the girls is 9, then the percentage of boys in that group is

A) 24%
B) 36%
C) 40%
D) 60%
E) 85%

Correct Answer : Option D

47. If the mean and standard deviation of 10 observations are 24 and 4 respectively, then the sum of the squares of all observations is

A) 5920
B) 5820
C) 5720
D) 5640
E) 5660

Correct Answer : Option A

48. If $P(A \,/\, B) = \frac{1}{2}, P(B \,/\, A) = \frac{1}{3}$ and $P(A \cap B) = \frac{1}{6}$ then $P(A \cup B)$ is

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

B) $\frac{1}{2}$

C) $\frac{2}{9}$

D) $\frac{1}{6}$

E) $\frac{2}{3}$

Correct Answer : Option E

49. A box contains 5 white balls, one red ball and 4 black balls. If three balls are drawn at random, then the probability of getting no red ball is

A) $\frac{1}{10}$

B) $\frac{3}{10}$

C) $\frac{7}{10}$

D) $\frac{9}{10}$

E) $\frac{3}{5}$

Correct Answer : Option C

50. The domain of the function $f(x) = \sqrt{\frac{x+1}{2-x}}$ is

A) [1,2)

B) [-1,2]

C) [-1,2)

D) [-1,3)

E) (-1,3)

Correct Answer : Option C

51. The value of $\lim_{x \to 2^+} \frac{[x]-2}{x-2}$ is

A) -2

B) 4

C) 2

D) 1

E) 0

Correct Answer : Option E

52. Let $f(x)=\begin{cases} ax+3 & x<1 \\ \frac{4x}{a} & x\geq 1 \end{cases}$. If $\lim_{x\to 1} f(x)$ exists, then the possible values of a are

A) -1,-4

B) 1,-4

C) 4,-4

D) 4,-1

E) 1,4

Correct Answer : Option B

53. The value of $\lim_{x \to 0} \frac{\sqrt{1+3x}-\sqrt{1-3x}}{x}$ is

A) 0

B) 1

C) $\frac{1}{3}$

D) $\frac{1}{2}$

E) 3

Correct Answer : Option E

54. The range of the function $f(x) = (\frac{1}{3})^{3+sinx}$ is

A) $\left[-\frac{1}{9}, \frac{1}{81}\right]$

B) $\left[-\frac{1}{9}, \frac{1}{3}\right]$

C) $\left[\frac{1}{9}, \frac{1}{3}\right]$

D) $\left[\frac{1}{81}, \frac{1}{9}\right]$

E) $\left[\frac{1}{81}, \frac{1}{3}\right]$

Correct Answer : Option D

55. If $f(x) = \frac{1}{2x-4}$, then the point(s) of discontinuity of $f(f(x))$ is/are

A) $2, \frac{9}{4}$

B) 3,4

C) 1,3

D) 4

E) 3

Correct Answer : Option A

56. If $f'(5) = \frac{3}{5}$, then the value of $\lim_{h \to 0} \frac{f(5+10h) - f(5)}{h}$ is equal to

A) 1

B) 2

C) 3

D) 5

E) 6

Correct Answer : Option E

57. If $f(x) = \frac{|x|}{x^2}$, then $f'(2)$ is equal to

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

B) $\frac{1}{4}$

C) $-\frac{1}{2}$

D) $-\frac{1}{4}$

E) $-\frac{1}{6}$

Correct Answer : Option D

58. If $f(x) = tan^{-1}\left(\frac{3cosx - 5sinx}{5cosx + 3sinx}\right)$, then the value $f'(1)$ is

A) 1

B) $\frac{1}{2}$

C) $\frac{1}{4}$

D) -1

E) $-\frac{1}{4}$

Correct Answer : Option D

59. If $f(x) = (2x+3)e^{5x}$, then $f''(1) - 10f'(1)$ is equal to

A) $250e^5$

B) $125e^5$

C) $25e^5$

D) $-25e^5$

E) $-125e^5$

Correct Answer : Option E

60. The function $f(x) = 2x^3 - 15x^2 + 36x - 24$ is strictly decreasing in the interval is

A) (2,3)

B) (1,3)

C) (2,4)

D) (1,4)

E) (2,5)

Correct Answer : Option A

61. The distance s in meters travelled by a particle in t seconds is given by $s = e^t(4cos3t + 5sin3t)$. Then the velocity of the particle at time t is given by

A) $e^t(19cos3t - 7sin3t)$

B) $e^t(12cos3t - 7sin3t)$

C) $e^t(16cos3t + 9sin3t)$

D) $e^t(14cos3t - 9sin3t)$

E) $e^t(19cos3t + 7sin3t)$

Correct Answer : Option A

62. If $f(x) = 2x^3 - 3x^2 - \lambda\ x + 1, x\epsilon[0,3]$ attains a local minimum at $x = 2$, then the value λ is equal to

A) -12

B) -36

C) 12

D) 36

E) -6

Correct Answer : Option C

63. Let $f(x) = x^2 - 10x + 16, x \in \mathbb{R}$. If $f'(c)$ is equal to slope of the straight line joining the points (2,0) and (8,0), then the value of c is

A) 1

B) 2

C) 4
D) 5
E) 6

Correct Answer : Option D

64. $\int \frac{tanx + cotx}{1 + tan^2x} dx$ is equal to

A) $log \mid sinx \mid + C$
B) $2log \mid sinx \mid + C$
C) $log \mid cosx \mid + C$
D) $log \mid tanx \mid + C$
E) $2log \mid tanx \mid + C$

Correct Answer : Option A

65. $\int e^{-x}(1 + (1 - x)logx)dx$ is equal to

A) $(xlogx)e^x + C$
B) $(x^2logx)e^{-x} + C$
C) $(x^2logx)e^{-2x} + C$
D) $(xlogx)e^{-x} + C$
E) $(xlogx)e^{-2x} + C$

Correct Answer : Option D

66. $\int \frac{2 + 3x}{2\sqrt{1 + c}} d$ x equal to

A) $2x\sqrt{1 + x} + C$
B) $x\sqrt{1 - x} + C$
C) $x^2\sqrt{1 + x} + C$
D) $(x - 1)\sqrt{1 + x} + C$
E) $x\sqrt{1 + x} + C$

Correct Answer : Option E

67. $\int \frac{xcosx - sinx}{x^2} dx$ is equal to

A) $\frac{cosx}{x} + C$
B) $\frac{sin2x}{x} + C$

C) $\frac{sinx}{x^2} + C$

D) $\frac{sinx}{x} + C$

E) $\frac{cos2x}{x} + C$

Correct Answer : Option D

68. $\int x(1 + 2logx)d\,\mathrm{x}$ is equal to

A) $xlogx + C$

B) $x^2logx + C$

C) $x^3logx + C$

D) $2xlogx + C$

E) $3xlogx + C$

Correct Answer : Option B

69. The value of $\int_{-2}^{1} \frac{|x|}{x} dx$ is equal to

A) -1

B) -2

C) 1

D) 2

E) 3

Correct Answer : Option A

70. The value of $\int_{0}^{\pi} \frac{\sin x}{1+\sin x} dx$ is equal to

A) π +2

B) 2π -2

C) 2π -1

D) π -2

E) π +1

Correct Answer : Option D

71. The value of $\int_{0}^{3} x^2[x]\, dx$ is equal to

A) 18

B) 15

C) 12

D) 10

E) 8

Correct Answer : Option B

72. The value of $\int_0^{\frac{\pi}{2}} \frac{\cos^{11} x}{\cos^{11} x + \sin^{11} x}\, dx$ is equal to

A) π

B) $\frac{3\pi}{2}$

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

D) $\frac{\pi}{4}$

E) 2π

Correct Answer : Option D

73. The order and the degree of the differential equation $2\frac{dy}{dx} - 3x = \left(2y - x\frac{dy}{dx}\right)^{-3}$ respectively, are

A) 1 and 1

B) 1 and 3

C) 1 and 4

D) 2 and 3

E) 2 and 4

Correct Answer : Option C

74. The solution of the differential equation $(y + x^2)dx = xdy, x > 0$ is a curve which passes through the point (1,0). The equation of the curve is

A) $y = x(x + 1)$

B) $y = x(x - 1)$

C) $y = x^2(x - 1)$

D) $y = x^2(x + 1)$

E) $y = x(x^2 - 1)$

Correct Answer : Option B

75. Consider the Linear Programming Problem:
Maximize $Z = x + 2y$
Subject to $2x + 3y \leq 12, x \geq 0, y \geq 0$. The optimal value is

A) 3

B) 7

C) 8

D) 10

E) 12

Correct Answer : Option C

76. Of the given numbers,
(1) 25300
(2) 5.600
(3) 0.07200
the number of significant figures for

A) (1) is five

B) (2) is two

C) (3) is three

D) (1) and (2) are four

E) (2) and (3) are four

Correct Answer : Option E

77. The mismatch between the physical quantity and the dimensional formula in the following is

A) Force : $M\,LT^{-2}$

B) Torque : $M\,L^{2}\,T^{-1}$

C) Pressure : $M\,L^{-1}\,T^{-2}$

D) Heat energy : $M\,L^{2}\,T^{-2}$

E) Thermal conductivity : $M\,L\,T^{-3}\,K^{-1}$

Correct Answer : Option B

78. If a ball is thrown horizontally with a velocity of 10 ms^{-1} from the tower of height 45 *m*, then it strikes the ground at a distance of ($g = 10\ ms^{-2}$)

A) 25 m

B) 40 m

C) 20 m

D) 30 m

E) 45 m

Correct Answer : Option D

79. If the vectors $\vec{A} = a_x\hat{\imath} + a_y\hat{\jmath} + a_z\hat{k}, \vec{B} = b_x\hat{\imath} + b_y\hat{\jmath} + b_z\hat{k}$ and $\vec{C} = c_x\hat{\imath} + c_y\hat{\jmath} + c_z\hat{k}$ are defining the vector $\vec{T} = \vec{A} - \vec{B} + \vec{C}$, then the z - component of the vector T_z is

A) $a_x - b_x + c_z$

B) $a_z - b_z + c_z$

C) $a_y - b_z + c_z$

D) $a_z - b_z + c_x$

E) $a_y - b_y + c_y$

Correct Answer : Option B

80. A particle moves along a semi circular path of radius r in time t with constant speed, then its

A) average speed is $\frac{\pi\ r}{2t}$

B) average velocity is $\frac{r}{t}$

C) displacement is $2\pi\ r$

D) distance travelled is $2r$

E) average acceleration is $\frac{2\pi\ r}{t^2}$

Correct Answer : Option E

81. A hanging rope can withstand a tension of 750 N. The minimum acceleration for a man of 50 kg to climb up without breaking the rope is (g = 10 ms^{-2})

A) 6 ms^{-2}

B) 4 ms^{-2}

C) 5 ms^{-2}

D) 7 ms^{-2}

E) 2 ms^{-2}

Correct Answer : Option C

82. If the area under the graph between the force on an object and time is 20 units, then the object experiences

A) an impulse of 10 units

B) a change of momentum of 10 units

C) an impulse of 20 units

D) a change of force by 20 units

E) a change of acceleration of 20 units

Correct Answer : Option C

83. A bob of mass *m* tied to one end of a light string of length 50 *cm* whirled in a vertical circle. The minimum velocity with which it has to move so that the string remains taut, when it reaches the top most point of the circle is (g = 10 ms^{-2})

A) 10 ms^{-1}

B) 8 ms^{-1}

C) 15 ms^{-1}

D) 5 ms^{-1}

E) 12 ms^{-1}

Correct Answer : Option D

84. The power generated by a turbine operated by the fall of water from a height of 100 m at the rate of 24 kg s^{-1} is 21 kW. The percentage loss in power is

A) 10 %

B) 12.5 %

C) 15 %

D) v

E) 5 %

Correct Answer : Option B

85. A solid cylinder of mass 6 kg of length ℓ is inserted tightly into a hollow cylinder of outer radius 0.6 m and length ℓ without any air gap between them. If the moment of inertia of this setup about its own axis is 1.44 kgm^2, then the mass of the hollow cylinder is

A) 1 kg

B) 3 kg

C) 4 kg

D) 2 kg

E) 5 kg

Correct Answer : Option D

86. The objects and the corresponding positions of centre of mass are given below. The FALSE one is

A) Uniform rod : middle point of the rod

B) Circular ring : centre of the ring

C) Triangular lamina : point of intersection of altitudes

D) Cylinder : middle point on it axis

E) Cubical box : intersection of diagonals

Correct Answer : Option C

87. The height at which the weight of a body becomes one third of its weight on the surface of earth is (R is the radius of earth)

A) $\frac{R}{3}$

B) 0.732 R

C) 0.414 R

D) $\frac{R}{6}$

E) $\frac{R}{10}$

Correct Answer : Option B

88. If the ratio of the distances of a planet from the sun at perihelion and aphelion is 2 : 3, then the ratio of their respective velocities at the perihelion and aphelion is

A) 2 : 3

B) 2 : 5

C) 3 : 5

D) 3 : 2

E) 1 : 1

Correct Answer : Option D

89. The flow of oil of density 800 kgm^{-3} through a horizontal pipe is streamlined. If the pressure between two points separated by 1m in the tube falls by 1.6 Nm^{-2}, then the change in kinetic energy per kg of the liquid between these points is

A) 16 x 10^{-4} J kg^{-1}

B) 2 x 10^{-3} J kg^{-1}

C) 4 x 10^{-3} J kg^{-1}

D) 8 x 10^{-4} J kg^{-1}

E) 32 x 10^{-2} J kg^{-1}

Correct Answer : Option B

90. If the work done in increasing the area of a thin soap film from A to 3 A is W , then the surface tension of the soap solution is

A) $\frac{W}{A}$

B) $\frac{W}{4A}$

C) WA

D) $2WA$

E) $\frac{W}{3A}$

Correct Answer : Option B

91. The MISMATCH among the following phase transition processes is

A) Solid to liquid : melting

B) Liquid to solid : freezing

C) Liquid to vapour : vaporisation

D) Solid to vapour : sublimation

E) Vapour to solid : regelation

Correct Answer : Option E

92. If 300 *J* of heat energy is used to raise the temperature of one mole of an ideal gas by 10 *K* at constant pressure, then heat energy required to raise its temperature by 10 *K* at constant volume is (R = 8.3 J $mol^{-1}K^{-1}$)

A) 117 J

B) 150 J

C) 183 J

D) 217 J

E) 300 J

Correct Answer : Option D

93. To increase the efficiency of a Carnot engine working between a source at 500 *K* and a sink at 300 *K* by 10 % , with the same sink temperature the source temperature should be increased to

A) 550 K

B) 600 K

C) 700 K

D) 750 K

E) 800 K

Correct Answer : Option B

94. If f represents the intermolecular force between molecules and V, is the volume occupied by the gas molecules, then at high pressure and at low temperatures, the gas shows large deviation from the ideal behaviour because the fact that

A) f is negligible

B) both f and V are negligible

C) V is negligible

D) f is appreciable and V is negligible

E) f is appreciable and V is not negligible

Correct Answer : Option E

95. A cylinder contains 18 moles of oxygen at pressure of 15 atmosphere at temperature 300 K. If the pressure reduces to 9 atmospheres by the withdrawal of 6 moles of oxygen, then the temperature of the cylinder will be reduced to

A) 200 K
B) 230 K
C) 270 K
D) 220 K
E) 250 K

Correct Answer : Option C

96. The graph drawn between the velocity of sound in a gas and pressure of the gas at a given temperature is

A) a straight line with negative slope
B) a straight line with positive slope
C) a straight line parallel to pressure axis
D) a parabola
E) an exponential curve

Correct Answer : Option C

97. Which one of the following motions is not simple harmonic motion?

A) Rotation of earth about its axis
B) Small oscillations of a mass attached to a spring
C) Oscillation of mercury column in a U tube
D) Oscillation of a second's pendulum
E) The projection of uniform circular motion on the diameter of the circle

Correct Answer : Option A

98. In a uniform electric field **E**, the work done in rotating the electric dipole of dipole moment **P** from -45^o to 45^o with respect to the field direction is

A) 0.5 PE
B) 0.414 PE
C) 0.866 PE
D) PE
E) zero

Correct Answer : Option E

99. A uniformly charged cube of side one cm having surface charge density of 8.85 μC $cm^{-2}$is placed inside a hollow metal sphere. The total flux emerging out of the sphere in Nm^2C^{-1} is ($\varepsilon_0 = 8.85 \times 10^{-12}\ C^2N^{-1}m^{-2}$)

A) 8.85×10^6
B) 12×10^6
C) 19.7×10^6

D) 3×10^6

E) 6×10^6

Correct Answer : Option E

100. The INCORRECT formula representing the energy stored in a parallel plate capacitor in usual notation is

A) $\frac{1}{2} CV^2$

B) $\frac{1}{2} QV$

C) $\frac{1}{2C} Q^2$

D) $\frac{1}{2} C^2 V$

E) $\frac{1}{2} \epsilon_0 E^2 Ad$

Correct Answer : Option D

101. The distance between the centres of two identical solid spheres each of radius 5 cm kept in free space is 40 cm. If each one is holding a charge of 2 μC, then the work done in bringing their centres to a separation of 30 cm is

A) 36×10^{-2} J

B) 12×10^{-2} J

C) 6×10^{-2} J

D) 18×10^{-2} J

E) 3×10^{-2} J

Correct Answer : Option E

102. If the resistance of a uniform wire of length 1m of cross-sectional area 0.1 m^2 is 12 Ω, then the resistance of wire of length 2 m of the same material with area of cross section 0.2 m^2 is

A) 24 Ω

B) 6Ω

C) 12Ω

D) 40Ω

E) 4Ω

Correct Answer : Option C

103. With increase in temperature, the resistivity of

A) both Cu and Ge increases

B) both nichrome and Ge decreases

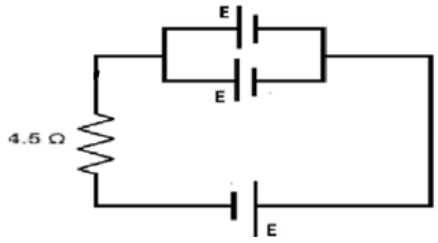
C) nichrome decreases and that of Ge increases

D) both Cu and nichrome increases

E) Cu, nichrome and Ge increases

Correct Answer : Option D

104. If three cells each of emf 2 V and internal resistance 1Ω are connected to a resistor of 4 .5 Ω as shown, then the current through the resistor is



A) 1 A

B) 0.67 A

C) 0.33 A

D) 2 A

E) 0.5 A

Correct Answer : Option B

105. Regarding the magnetic property, the TRUE statement is

A) Ag and Al have permanent dipole moment

B) Magnetic susceptibility of Ag and Pb is small and negative

C) Magnetic susceptibility of Al and Pb is small and negative

D) Al and Pb have the tendency to move from weak to strong field

E) Relative permeability of Ag and Al is greater than one

Correct Answer : Option B

106. When a bar magnet of dipole moment m is suspended in a uniform magnetic field **B**, then

A) the force on it is **m** x **B**

B) its potential energy is -**m.B**

C) the torque on it is zero

D) both torque and force on it are zero

E) it moves away from the field **B**

Correct Answer : Option B

107. Two long straight conductors carrying equal current I kept parallel at a separation of r metre experience a force F per unit length. If the distance of separation is made $2r$, then to maintain the same force F per unit length on each conductor, the current in each conductor

should be increased to

A) $2I$

B) $\sqrt{2}I$

C) $\sqrt{3}I$

D) 1.5 I

E) 3 I

Correct Answer : Option B

108. The shunt resistance to be connected across a galvanometer of resistance 50 Ω to send $\frac{1}{1000}$ th of the main circuit current through the galvanometer is nearly

A) 0.01Ω

B) 0.2Ω

C) 0.05Ω

D) 0.02Ω

E) 0.5Ω

Correct Answer : Option C

109. If the current in a coil of inductance 10 *mH* is increased from 1 *A* to 5 *A* in0.2 s, then the *emf* produced in it is

A) 0.1 V

B) 0.3 V

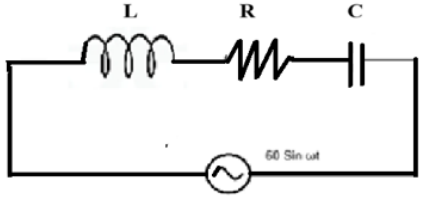
C) 0.5 V

D) 0.4 V

E) 0.2 V

Correct Answer : Option E

110. For a given ac supply voltage 60 sin ωt, the reactances offered by L and C, are found to be 20 Ω each. If the resistance of the resistor is also 20 Ω , then the current in the circuit is



A) 1A

B) 3 A

C) 2.12 A

D) 1.73 A

E) zero

Correct Answer : Option C

111. In a plane electromagnetic wave if the amplitude of oscillating electric field is 45 Vm^{-1} then the amplitude of the oscillating magnetic field is

A) 2.5×10^{-8} T

B) 1.5×10^{-7} T

C) 3×10^{-8} T

D) 1.5×10^{-8} T

E) 2.5×10^{-7} T

Correct Answer : Option B

112. If a coin at the bottom of a lake appears to be at a depth of 6 *m*, then the gauge pressure on the coin in pascal is (μ of water is 4/3)

A) 8.2×10^{3}

B) 78.4×10^{3}

C) 38.2×10^{3}

D) 4.5×10^{4}

E) 29.4×10^{3}

Correct Answer : Option B

113. If an object is placed at a distance of 12 *cm* from a thin lens of power 5D, then the distance of the image from the lens with proper sign convention is

A) -30 cm

B) 20 cm

C) 15 cm

D) 24 cm

E) -12 cm

Correct Answer : Option A

114. If two waves of same wavelength with their intensities in the ratio 25 : 9 produce interference, then the ratio of the maximum to minimum intensity is

A) 9 : 2

B) 9 : 1

C) 5 : 3

D) 16 : 3

E) 16 : 1

Correct Answer : Option E

115. If the energy of the incident radiation on a metal is increased by 10 %, the kinetic energy of the emitted photoelectrons increases from 0.5eV to 0.75 eV, then the work function of the metal is

A) 2 eV

B) 1.5 eV

C) 1 eV

D) 2.5 eV

E) 1.8 eV

Correct Answer : Option A

116. If the de Broglie wavelengths of deuteron, positron and electron are in the ratio 1 : 2 : 3, then the ratio of their respective momenta is

A) 1 : 2 : 3

B) $\sqrt{3}:\sqrt{2}:1$

C) 6 : 3 : 2

D) 3 : 2 : 1

E) 1 : 4 : 9

Correct Answer : Option C

117. If r and v represent, respectively, the orbital radius and orbital velocity of the electron in the Bohr's theory of hydrogen atom, then they are proportional to the orbit number n as

A) $r \propto n$ and $v \propto n$

B) $r \propto n$ and $v \propto n^2$

C) $r \propto n^2$ and $v \propto \frac{1}{n}$

D) $r \propto \frac{1}{n}$ and $v \propto n$

E) $r \propto n^2$ and $v \propto n$

Correct Answer : Option C

118. If a radioactive substance is reduced to 6.25 % of its initial amount in 256 days then its half-life period is

A) 126 days

B) 64 days

C) 50 days

D) 25 days

E) 12.5 days

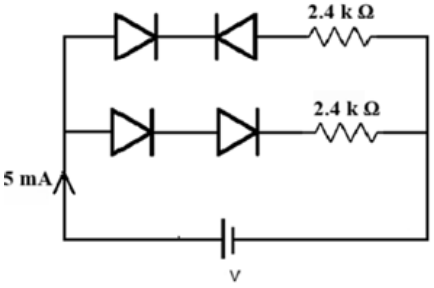
Correct Answer : Option B

119. In a diode rectifier, the capacitors with large values of *C* are used in filter circuits in order to

A) increase the ac ripple
B) to reduce the peak voltage at the output
C) increase the time constant to high value
D) discharge quickly the voltage across it
E) to double the input ac peak value

Correct Answer : Option C

120. If 5 *mA* current is drawn from the voltage source in the circuit connected with two resistors each of 2.4 kΩ and four ideal diodes, then the source voltage is



A) 12 V
B) 6 V
C) 24 V
D) 10 V
E) 8 V

Correct Answer : Option A

121. 3.0 g of a salt of molecular weight 30 is dissolved in 250 *mL* of water. The molarity of the solution is

A) 0.1 M
B) 0.2 M
C) 0.3 M
D) 0.4 M
E) 0.5 M

Correct Answer : Option D

122. The quantum number symbols are given in List-I and the informations about them are given in List-II. The correct match is

List-I	List-II
I) m_l	a) Shape of orbital
II) m_s	b) Size of orbital
III) l	c) Orientation of orbital

IV) n — d) Orientation of electron spin

A) I-d, II-a, III-c, IV-b

B) I-c, II-d, III-a, IV-b

C) I-b, II-c, III-d, IV-a

D) I-c, II-a, III-d, IV-b

E) I-b, II-d, III-a, IV-c

Correct Answer : Option B

123. The transition energy of the electron from higher to lower level is 3.0×10^{-19} J. The wavelength of the emitted light is about
($h = 6.625 \times 10^{-34}$ J s, $c = 3 \times 10^{8}$ m s^{-1})

A) 330 nm

B) 660 nm

C) 990 nm

D) 310 nm

E) 230 nm

Correct Answer : Option B

124. Which of the following represents the correct increasing order of first ionization enthalpy for Ca, Ba, S, Se and Ar?

A) Ca < S < Ba < Se < Ar

B) Ar < S < Ba < Se < Ca

C) Ba < Ca < Se < S <Ar

D) Ba < Ca < S < Se <Ar

E) Ca < S < Ar < Se < Ba

Correct Answer : Option C

125. Which of the following statement is incorrect about the periodic trend?

A) Atomic radii decrease while going from left to right in a period and increase with atomic number in a group.

B) Ionisation enthalpies generally decrease across a period and increase down a group.

C) Electronegativity generally increases across a period and decreases down a group.

D) Electron gain enthalpies in general, become more negative across a period and less negative down a group.

E) Among representative elements, the valence is equal to the number of electrons in the outermost orbital.

Correct Answer : Option B

126. The correct increasing order of average bond length for C=C, N=O, C-C, N-O is

A) C=C < N=O < C-C < N-O

B) N-O < N=O < C-C < C=C

C) C=C < C-C < N=O < N-O

D) C-C < N=O < C=C < N-O

E) N=O < C= C < N-O < C-C

Correct Answer : Option E

127. Which of the following set of molecules are having zero dipole moment?

A) HI, CO_2 and CCl_4

B) H_2, CO_2 and BF_3

C) NH_3, CO_2 and CCl_4

D) HI, CH_4 and CCl_4

E) HI, HCl and CCl_4

Correct Answer : Option B

128. 5 moles of an ideal gas at 100 K are allowed to undergo reversible adiabatic compression till its temperature becomes 200 K. If C_v = 30 JK^{-1} mol^{-1}, calculate ΔU and Δ(pV) for this process. (R = 8.0 JK^{-1} mol^{-1})

A) ΔU = 10 kJ; Δ(pV) = 2 kJ

B) ΔU = 12 kJ; Δ(pV) = 4 kJ

C) ΔU = 14 kJ; Δ(pV) = 4 kJ

D) ΔU = 15 kJ; Δ(pV) = 4 kJ

E) ΔU = 3.0 kJ; Δ(pV) = 2 kJ

Correct Answer : Option D

129. Which of the following reaction has the positive value of standard enthalpy of reaction?

A) $C_2H_5OH_{(l)} + 3O_{2(g)} \rightarrow 2CO_{2(g)} + 3H_2O_{(l)}$

B) $2SO_{2(g)} + O_{2(g)} \rightarrow 2SO_{3(g)}$

C) $2NH_{3(g)} \rightarrow N_{2(g)} + 3H_{2(g)}$

D) $C_{(s)} + O_{2(g)} \rightarrow CO_{2(g)}$

E) $CO_{(g)} + ½\ O2_{(g)} \rightarrow CO_{2(g)}$

Correct Answer : Option C

130. The reaction between N_2 and O_2 is carried out in a sealed vessel at 300 K. At equilibrium, $[N_2] = 2\times10^{-3}$ M, [O2] = 4×10^{-3} M and [NO] =2×10^{-3} M. What is the value of Kp for the reaction $N_{2(g)} + O_{2(g)} \leftrightharpoons 2\ NO(g)$ at 300 K? (R = 0.08 bar lit mol^{-1} K)

A) 0.5
B) 12
C) 120
D) 5
E) 50

Correct Answer : Option B

131. The acid which has the highest ionization constant (Ka) at 298 K is

A) HNO_2
B) C_6H_5OH
C) HClO
D) C_5H_4NCOOH
E) HF

Correct Answer : Option A

132. Which of the following statement is incorrect about the standard electrode potential?

A) A negative E˚ value means the redox couple is a stronger reducing agent than the H^+/H_2 couple.
B) A positive E˚ value of potential means the redox couple is a weaker reducing agent than the H^+/H_2 couple.
C) The standard electrode potential value of hydrogen electrode is 0.0
D) The trend in E˚ value from top to bottom shows the increasing strength of reducing agent.
E) The trend in E˚ value from top to bottom shows the increasing strength of oxidising agent.

Correct Answer : Option E

133. Chlorine has oxidation number +7 in

A) NaCl
B) $SiCl_4$
C) HCl
D) $HClO_4$
E) KCl

Correct Answer : Option D

134. The compound which has the highest freezing point (in K) is

A) CS_2
B) $CHCl_3$
C) $(C_2H_5)_2O$
D) H_2O

E) C_2H_5OH

Correct Answer : Option D

135. Which of the following statement is incorrect?

A) All natural radioactive processes follow first order kinetics.

B) Thermal decomposition of HI on gold surface is a zero-order reaction.

C) Decomposition of hydrogen peroxide catalysed by iodide in an alkaline medium is a first order reaction.

D) The unit of second order rate constant is $mol^{-1}L\ s^{-1}$.

E) The experimental rate expression of the reaction, $CHCl_3 + Cl_2 \rightarrow CCl_4 + HCl$ is, Rate = k $[CHCl_3]$ $[Cl_2]$.

Correct Answer : Option E

136. The rate constants of a reaction at 300 K and 400 K are 1.5 s^{-1} and 3 s^{-1} respectively. The Ea value is [log 2 = 0.3010, 2.303 R = 19 JK^{-1} mol^{-1}]

A) 7.86 kJ

B) 68.6 kJ

C) 78.6 kJ

D) 6.86 kJ

E) 5.86 kJ

Correct Answer : Option D

137. The highest possible oxidation states of uranium and plutonium, respectively, are

A) 7 and 6

B) 6 and 4

C) 6 and 7

D) 7 and 5

E) 4 and 6

Correct Answer : Option C

138. The type of isomerism exhibited by the complexes $[Co(NH_3)(SO_4)]Br$ and $[Co(NH_3)_5Br]SO_4$ is

A) Ionisation isomerism

B) Linkage isomerism

C) Coordinate isomerism

D) Geometrical isomerism

E) Optical isomerism

Correct Answer : Option A

139. The ligand which is used in the treatment of lead poisoning is

A) D-penicillamine

B) EDTA

C) desferrioxime B

D) cis-platin

E) CO

Correct Answer : Option B

140. The compound which gives the most stable carbocation in elimination reaction is

A) $(CH_3)_3COH$

B) $CH_3CH_2CH_2CH_2OH$

C) $CH_3CH(CH_3)CH_2OH$

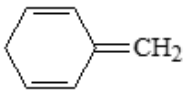
D) $CH_3CH(OH)CH_2CH_3$

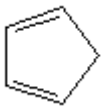
E) CH_3CH_2OH

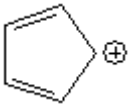
Correct Answer : Option A

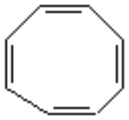
141. Which of the following compound is aromatic?

A) 

B) 

C) 

D) 

E) 

Correct Answer : Option A

142. Which of the following statement is incorrect with Williamson synthesis?

A) It is used to prepare symmetrical and unsymmetrical ethers.

B) It involves reaction between alkyl halide and sodium alkoxide.

C) This reaction involves S_N2 attack.

D) Secondary or tertiary alkyl halides gives better results of ether formation.

E) Alkoxides are not only nucleophiles but also strong bases.

Correct Answer : Option D

143. Which of the following is used in the production of freon refrigerant R-22?

A) $CHCl_3$

B) CH_3Cl

C) $(C_2H_5)_2O$

D) CCl_4

E) CH_2Cl_2

Correct Answer : Option A

144. An organic liquid 'A' containing C, H and O with pKa value 15.9, used in polishing woods, on heating with concentrated sulphuric acid gives a gaseous product 'B' with the empirical formula, CH_2. 'B' decolourises bromine water as well as dilute permanganate solution. The compound A and B are respectively

A) methanol and methane

B) ethanol and ethane

C) Phenol and ethanol

D) ethanol and ethene

E) ethanol and methane

Correct Answer : Option D

145. When phenol is treated with excess of bromine water, it gives

A) o-bromophenol

B) o- and p-bromophenol

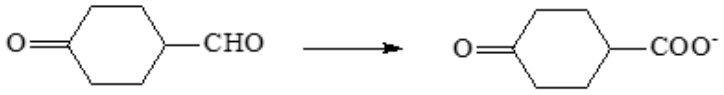
C) 1,3,5-tribromophenol

D) 2,4-dibromophenol

E) 2,4,6-tribromophenol

Correct Answer : Option E

146. Which is the reagent used for the following conversion?



A) NaCN/HCl

B) $NaBH_4$

C) $SOCl_2$

D) $O_3/Zn\text{-}H_2O$

E) $[Ag(NH_3)_2]^+$

Correct Answer : Option E

147. An organic compound 'A' with the molecular formula $C_6H_4NO_2Br$ is treated with magnesium in dry ether gives an organometallic compound which on treated with CO_2 (dry ice) and gives compound 'B'. 'B' on hydrolysis gives 'C'. The name of the products A and C are

A) 2-bromoaniline and terephthalic acid

B) 2-nitrobromobenzene and terephthalic acid

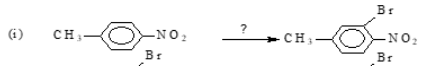
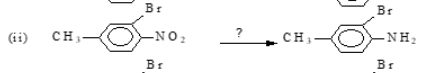
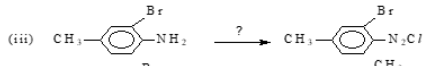
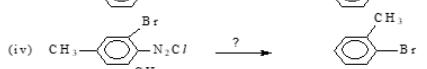
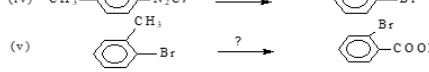
C) 3-nitrobromobenzene and 3-nitrobenzoic acid

D) 3-nitrobromobenzene and 3-bromobenzoic acid

E) 3-nitrobromobenzene and 2-nitrobenzoic acid

Correct Answer : Option C

148. Match the following:

Conversion	Reagents and conditions
(i) 	(a) $KMnO_4/OH^-$
(ii) 	(b) Br_2
(iii) 	(c) Sn/HCl
(iv) 	(d) $NaNO_2/HCl$,273-278 K
(v) 	(e) H_2O/H_3PO_2

A) (i)-(b), (ii)-(c), (iii)-(e), (iv)-(d), (v)-(a)

B) (i)-(b), (ii)-(c), (iii)-(d), (iv)-(e), (v)-(a)

C) (i)-(e), (ii)-(c), (iii)-(b), (iv)-(d), (v)-(a)

D) (i)-(c), (ii)-(b), (iii)-(e), (iv)-(d), (v)-(a)

E) (i)-(b), (ii)-(c), (iii)-(a), (iv)-(d), (v)-(e)

Correct Answer : Option B

149. The decreasing order of acid strength of the following is

A) $FCH_2COOH > NCCH_2COOH > NO_2CH_2COOH > ClCH_2COOH$

B) $CNCH_2COOH > O_2NCH_2COOH > FCH_2COOH > ClCH_2COOH$

C) $NO_2CH_2COOH > NCCH_2COOH > FCH_2COOH > ClCH_2COOH$

D) $NO_2CH_2COOH > FCH_2COOH > NCCH_2COOH > ClCH_2COOH$

E) $ClCH_2COOH > FCH_2COOH > NCCH_2COOH > NO_2CH_2COOH$

Correct Answer : Option C

150. Two forms of D-glucopyranose, are called

A) enantiomers

B) anomers

C) epimers

D) diastereomers

E) tautomers

Correct Answer : Option B