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STUDENT NAME	
PAPER CODE	74277
TIME ALLOWED	
Paper Date	

CLASS	F.Sc / I.C.S (PART-II)
SUBJECT	Mathematics
TOTAL MARKS	
Paper Type	

Q1. **Choose the correct answer.** **150X1=150**

1. cosechx =:

(A) $\frac{2}{e^x + e^{-x}}$ **(B)** $\frac{e^x + e^{-x}}{2}$ **(C)** $\frac{2}{e^x - e^{-x}}$ **(D)** $\frac{e^x - e^{-x}}{2}$

2. If(x) =x^2+sinx then f(x) .....:

(A) Constant function **(B)** Even function **(C)** Odd function **(D)** Neither even noe odd

3. if is ..... function:

(A) Even **(B)** Odd **(C)** Both even and odd **(D)** Neither even nor odd

4. $\lim_{x \to a} \frac{x}{\tan x}$ is equal to:

(A) 0 **(B)** 1 **(C)** ∞ **(D)** 1/2

5. $\lim_{x \to o} (1+3x)^{2/x} =$

(A) e^2 **(B)** s^8 **(C)** e^6 **(D)** e^4

6. x=at2, y=2at are thr parameters equations of a:

(A) Ellipse **(B)** Circle **(C)** Parable **(D)** Hyperbola

7. If $g(x) = \frac{1}{x^2} (x \neq 0)$ the gog (x) is equal to:

(A) 1 **(B)** x^2 **(C)** x^4 **(D)** $1/x^4$

8. $\lim_{\theta \to 0} \frac{\sin 7\theta}{\theta}$ is equal to:

(A) 1/7 **(B)** 7 **(C)** 1 **(D)** 2/7

9. If f(x)=2x-1, then f^{-1} (x) equal to:

(A) 1-x **(B)** 1+x **(C)** $\frac{1-x}{2}$ **(D)** $\frac{1+x}{2}$

10.

$\lim_{x \to 0} \frac{\sin x}{x} =$

(A) 1 **(B)** $\frac{\pi}{180}$ **(C)** -1 **(D)** $\frac{180}{\pi}$

11. If f(x) is continuous at point x=a, then:

(A) $f(a) = \lim_{x \to a} f(x)$ **(B)** $f(a) = \lim_{x \to 0} f(x)$ **(C)** $f(0) = \lim_{x \to 0} f(x)$ **(D)** $f(x) = \lim_{x \to 0} f(x)$

12. $\lim_{0 \to 0} \frac{x-2}{\sqrt{x}-\sqrt{2}} =$ .....:

(A) $\sqrt{2}$ **(B)** 2 **(C)** $2\sqrt{2}$ **(D)** 0

13. equals to:

(A) $\frac{\pi}{180}$ **(B)** $\frac{180}{\pi}$ **(C)** 180π **(D)** 1

14. $\lim_{a \to \infty} \frac{Sin^2\theta}{\theta}$

(A) 0 **(B)** 1 **(C)** ∞ **(D)** 2

15. $\lim_{n \to \infty} \left(1 - \frac{1}{n}\right)^n$=:

(A) e **(B)** e^2 **(C)** e^{-1} **(D)** $1/e^2$

16. If f: $X \to Y$ is a function, then x is called:

(A) Domain **(B)** Range **(C)** Function **(D)** Dependent

17. If f(x) =x^{2-}x then f(x-2) is equal to:

(A) 2 **(B)** 6 **(C)** 0 **(D)** -6

18. A function 1: $X \to X$of the form $1(x) = x \forall x \in X$ is called:

(A) Linear function **(B)** Constant function **(C)** Identity function **(D)** Even function

19. $\lim_{n \to \infty} \left(1 + \frac{1}{n}\right)^n =$:

(A) 4e **(B)** 3e **(C)** 2e **(D)** e

20. $\cdot \frac{e^2 - e^{-2}}{e^x - e^{-x}}$ .....:

(A) sinh x **(B)** cosh x **(C)** tanh x **(D)** coth x

21.

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$\frac{1-e^{2x}}{2e^{x}}$ is equal to:

(A) sinh x **(B)** -sinh x **(C)** cosh x **(D)** -cosh x

22. $\lim_{x \to 0} \frac{a^2-1}{x} = ?$

(A) lnx **(B)** lna **(C)** 1 **(D)** 0

23. Let $f(x)=x^2+\cos x$, then f(x) is:

(A) Odd function **(B)** Constant function **(C)** Even function **(D)** Neither even nor odd

24. Domain of $f(x)=x^2+1$

(A) R **(B)** R-{1} **(C)** $\{1, \infty\}$ **(D)** None of these

25. $\lim_{a \to \infty} \left(1+\frac{3}{n}\right)^{2n} = =:$

(A) e **(B)** e^2 **(C)** e^3 **(D)** e^6

26. $Log_e\left(\frac{1}{x}+\frac{\sqrt{1-x^2}}{x} = ..., 0 < x \leq 1\right)$

(A) $sech^{-1}x$ **(B)** $cosech^{-1}x$ **(C)** $Tanh^{-1}x$ **(D)** $coth^{-1}x$

27. The linear function f(x)=ax+2 becomes constant if:

(A) a=10,b=0 **(B)** a=1.b=0 **(C)** x=1, b=0 **(D)** x=10, b=0

28. If $f(x)=-2x+8$, then $f^{-1}(-1)$

(A) $\frac{9}{2}$ **(B)** $\frac{2}{9}$ **(C)** $\frac{7}{2}$ **(D)** $\frac{2}{7}$

29. The range of $f(x)=2+\sqrt{x-1}$ is:

(A) $[-1, \infty]$ **(B)** $[0, \infty]$ **(C)** $[2, \infty]$ **(D)** $[-2, \infty]$

30. If $f(x)=\sqrt{x+4}$, then f(4)=:

(A) 8 **(B)** 16 **(C)** $\sqrt{2}$ **(D)** $2\sqrt{2}$

31. If $x=at^2$ and y=2at are equations of a Curve then "t" is called:

(A) Variable **(B)** Constant **(C)** Parameter **(D)** Coefficient

32. x=x Cost t and y=a Sin t are the Parametric Equation of a:

(A) Circle **(B)** Parabola **(C)** Ellipse **(D)** Line

33.

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The output of a function is also called:

(A) Result **(B)** Domain **(C)** Image **(D)** None of these

34. $f(x) = \cos x$, then $f(0) =$:

(A) $\frac{-1}{2}$ **(B)** $\frac{2}{-1}$ **(C)** 0 **(D)** 1

35. If f(x+h)=cos(x+h) then $f^1(x)$ equals:

(A) cos x **(B)** -cos x **(C)** siin x **(D)** -sin x

36. If $f(x)=x^{2/3}$ then $f^1(x)$ =:

(A) **(B)** **(C)** **(D)**

37. $a_0+a_1\ x+a_2x^2+.....+a_ax^n+.....$ is:

(A) Maclaurin's series **(B)** Taylor series **(C)** Power series **(D)** Binomial series

38. A function $f^1(x)>0$ then it is:

(A) Differential **(B)** Increasing **(C)** Decresing **(D)** Zero

39. $\frac{d}{dx}(\sec h\, x)$ is equal to:

(A) sech h x tan x **(B)** -sec x ani x **(C)** -sec x tanh x **(D)** sech x tanh x

40. If f(x)=sin x, then f^1 ()=.....:

(A) -1 **(B)** 0 **(C)** 1 **(D)** $\frac{1}{2}$

41. $\frac{d}{dx}(\cot^{-1}x)$

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

42. If $y=e^{2x}$, them y_2 is equal to:

(A) e^{2x} **(B)** $4e^{2x}$ **(C)** $2e^{2x}$ **(D)** $8e^{2x}$

43. $\frac{d}{dx}|x|$ at x =0 is:

(A) 1 **(B)** -1 **(C)** 0 **(D)** None

44. If $y=e^{ax}$, then y_4.....:

(A) a^4e^{ax} **(B)** $\frac{2e^{ax}}{a}$ **(C)** $3e^{ax}$ **(D)** xe^{ax}

45. If $f^1(c)=0$ then f(x) has relative mexima at x=c, if:

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(A) $f^{11}(c)=0$ **(B)** $a^{11}(c)>0$ **(C)** $f^{11}(c)<0$ **(D)** $f^{11}(c)$ 0

46. $\frac{d}{dx}(x-\frac{1}{x})=$

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

47. $\frac{d}{dx}(3x^{\frac{4}{3}})=$

(A) $4x^{\frac{1}{3}}$ **(B)** $\frac{3}{4}x^{\frac{1}{3}}$ **(C)** $\frac{4}{7}x^{\frac{7}{3}}$ **(D)** $x^{\frac{1}{3}}$

48. $\frac{d}{dx}(\frac{1}{g(x)})=$

(A) $\frac{g^1(x)}{g(x)}$ **(B)** $-\frac{g^1(x)}{g(x)}$ **(C)** $-\frac{g^1(x)}{(g(x))^2}$ **(D)** $\frac{g^1(x)}{(g(x))^2}$

49. If 3x+4y-5=0 then $\frac{dy}{dx}$=:

(A) $4/3$ **(B)** $-4/3$ **(C)** $3/4$ **(D)** $-3/4$

50. $\frac{d}{dx}\left[\sin\left(\frac{1}{x}\right)\right]$ is equal to:

(A) $x\cos\frac{1}{x}$ **(B)** $\frac{-1}{x^2}Cos\frac{1}{x}$ **(C)** $\frac{1}{x^2}Cos\frac{1}{x}$ **(D)** $\frac{-1}{x}Cos\frac{1}{x}$

51. $\frac{d}{dx}\left(\frac{a}{x}\right)$(where a is constant) is:

(A) $\frac{1}{x}$ **(B)** $\frac{-a}{x}$ **(C)** $\frac{a}{x^2}$ **(D)** $\frac{-a}{x^2}$

52. If f(x)= $3-\sqrt{x}$ then f'(1)=:

(A) $\frac{3}{2}$ **(B)** $\frac{1}{2}$ **(C)** $-1/2$ **(D)** $\frac{-1}{\sqrt{2}}$

53. $\int \tan x dx$ =.....:

(A) ln|sex x|+c **(B)** ln|cosec x |+c **(C)** -ln|sin x}+c **(D)** -ln|cot x|+c

54. Anti derivation of cot x is equal to:

(A) ln cos x+c **(B)** ln sin x+c **(C)** -ln cos x +c **(D)** -ln sin x +c

55. $\int x^{-1}dx$ =.....:

(A) a+c **(B)** -x2-+c **(C)** $\frac{x^2}{a}+c$ **(D)** ln x+c

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56. $\int \cos(ax+b)\,dx$=:

(A) -sin(ax+b)+c **(B)** $-\frac{1}{a}\sin(ax+b)+c$ **(C)** -a sin(ax+b)+c **(D)** $\frac{1}{a}\sin(ax+b)+c$

57. $\int e^{-x}(\cos x - \sin x)\,dx$equals:

(A) e^{-x} sin x+c **(B)** e^{-x} cos x+c **(C)** e^{x} sin x+c **(D)** e^{x} cos x +c

58. $\int \frac{1}{1+\cos x}dx$ is equal to:

(A) $\tan\frac{x}{2}$ **(B)** $\frac{1}{2}\tan(\frac{x}{2})$ **(C)** $\cot\frac{x}{2}$ **(D)** $\frac{1}{2}\cot(\frac{x}{2})$

59. $\int_0^{n/2} K\cos x\,dx = 4$, then K=.....:

(A) 5 **(B)** 4 **(C)** 2 **(D)** 0

60. The solution of different equation $\frac{dy}{dx}$=-y is:

(A) $y=xe^{x}$ **(B)** $y=ce^{-x}$ **(C)** $y=e^{x}$ **(D)** $y=ce^{x}$

61. $\int \frac{1}{\sqrt{a^2-x^2}}dx$ is equal to:

(A) $\sin^{-1}(\frac{x}{a})$ **(B)** $\sin^{-1}(\frac{a}{x})$ **(C)** $\cos^{-1}(\frac{x}{a})$ **(D)** $\cos^{-1}(\frac{a}{x})$

62. $\int_0^3 (\frac{1}{x^2+9})dx$ equal:

(A) $\frac{12}{\pi}$ **(B)** $\frac{\pi}{12}$ **(C)** $-\frac{12}{\pi}$ **(D)** $\frac{-\pi}{12}$

63. $\int_0^n \frac{dx}{\sqrt{1-x^2}}$ =.....:

(A) 0 **(B)** π **(C)** $\frac{\pi}{4}$ **(D)** $\frac{\pi}{2}$

64. $\int \sec x \tan x\,dx$:

(A) tan x **(B)** $\sec^2 x$ **(C)** $\tan^2 x$ **(D)** sec x

65. $\int \sin ax\,dx$-.....:

(A) $\frac{\cos ax}{a}$ **(B)** cos a x **(C)** a coses x **(D)** a sec a x

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66. $\int e^x[\frac{1}{1+x^2}+\tan^{-1}x]dx$=.....:

(A) ex tan x+e **(B)** $\frac{e^2}{1+x^2}$ **(C)** e^xsin x+c **(D)** e^x $\tan^{-1}x$+c

67. $\int \cot dx$ =.....:

(A) tan x **(B)** cot x **(C)** ln cot x **(D)** ln sin x

68. $\int (2x)^{3/2}dx$=.....:

(A) $\frac{2}{5}(2x)^{5/2}+c$ **(B)** $\frac{2}{5}(2x)^{5/2}+c$ **(C)** $\frac{1}{2}(2x)^{5/2}+c$ **(D)** $\frac{2}{3}(2x)^{1/2}+c$

69. $\int_0^1 x^2 dx$ is equal to:

(A) 4 **(B)** -4 **(C)** $\frac{1}{4}$ **(D)** $\frac{-1}{4}$

70. $\int \cos 5x\, dx = \ldots\ldots$:

(A) 5 sin5x+c **(B)** $\frac{1}{5}$ sin 5x+c **(C)** -5sin5x+c **(D)** $-\frac{1}{5}$ sin 6x+c

71. $\int \frac{dx}{x \ln x}$ equals:

(A) ln x **(B)** x **(C)** ln (ln x) **(D)** $\frac{(\ln x)^2}{2}$

72. $\int_0^1 \frac{1}{1+x^2}$ dx is equal to:

(A) $\frac{\pi}{4}$ **(B)** $\frac{4}{\pi}$ **(C)** $\frac{-\pi}{4}$ **(D)** $\frac{-4}{\pi}$

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73. Distance of (-3, 7) from x-axis is:

(A) -3 **(B)** 3 **(C)** 7 **(D)** 10

74. Intercept form of equation of line is:

(A) $\frac{x}{a}+\frac{y}{b}=C$ **(B)** $\frac{x}{a}+\frac{y}{b}=-1$ **(C)** $\frac{a}{x}+\frac{b}{y}=C$ **(D)** $\frac{x}{a}-\frac{y}{b}=0$

75. Vertical line has a slope:

(A) 0 **(B)** 1 **(C)** Undefined **(D)** -1

76. The distance of the line 3x + 4y + 10 = 0 from origin is:

(A) 0 **(B)** 1 **(C)** 2 **(D)** 10

77. Point of intersection of lines x – 2y + 1 = 0 and 2x – y + 2 = 0 equals:

(A) (1, 0) **(B)** (0, 1) **(C)** (-1, 0) **(D)** (0, -1)

78. Length of perpendicular from (0, 0) to line 4x – 3y – 1 = 0 equals:

(A) 3 **(B)** 4 **(C)** 5 **(D)** $\frac{1}{5}$

79. Equation of horizontal line through (a, b) is:

(A) y = a **(B)** y = b **(C)** x = a **(D)** x = b

80. Which one is equation of straight line perpendicular to x-axis?

(A) x = k **(B)** y = k **(C)** x + y = k **(D)** x – y = k

81. The slope of the line with inclination 0^0 is:

(A) 0 **(B)** $\frac{1}{\sqrt{3}}$ **(C)** 1 **(D)** $\sqrt{3}$

82. $x\cos\theta + y\sin\theta = P$ is equation of straight line in:

(A) Slope-intercept form **(B)** Two-intercept form **(C)** Point-slope form **(D)** Normal form

83. The inclination of x = y is:

(A) 30^0 **(B)** 60^0 **(C)** 45^0 **(D)** 180^0

84. Two non-parallel lines intersect each other at:

(A) 1 point **(B)** 0 point **(C)** ∞ points **(D)** 2 points

85. A vertical line divides the plane into:

(A) Upper and lower half planes **(B)** Upper and right half planes **(C)** Left and right half planes **(D)** Left and lower half planes

86. The point (-3, -3) will be lies in:

(A) I quad **(B)** II quad **(C)** III quad **(D)** IV quad

87. x-co-ordinate of centroid of triangle ABC with A(-2, 3), B(-4, 1), C(3, 5) equals:

(A) -1 **(B)** 1 **(C)** 3 **(D)** -3

88.

$\frac{x}{a}+\frac{y}{b}=1$is:

(A) Slope intercept form **(B)** Two intercept **(C)** Symmetric form **(D)** Normal form

89. (1,0) is solution of inequality:

(A) 9x+2y<8 **(B)** -x+3y<0 **(C)** 3x+5y>6 **(D)** 3x+5y>4

90. If 2x+y 6 which point satisfies:

(A) (3,1) **(B)** (1,3) **(C)** (0,7) **(D)** (4,0)

91. (0,0) lies in the solution set of inequality:

(A) $x+2y\leqslant 10$ **(B)** $x+2y\geqslant 10$ **(C)** $x+2y\geqslant 1$ **(D)** $x-2y\geqslant 1$

92. Which one satisfies the equality x+2y<6?

(A) (4,1) **(B)** (1,3) **(C)** (1,4) **(D)** (3,1)

93. ax+b<c is a linear inequality in:

(A) four variables **(B)** three variables **(C)** one variables **(D)** two variables

94. (2,1) is in the solution of inequality:

(A) 2x+y>0 **(B)** x-y>1 **(C)** 3x+5y<7 **(D)** 2x+y 6

95. (0,0) is the solution of inequality:

(A) 7x+2y>3 **(B)** x-3y>0 **(C)** x+2y<6 **(D)** x-3y<0

96. Point (1,2) lies in the solution region of the inequality:

(A) 2x+y> **(B)** x+3y>5 **(C)** 2x+y>3 **(D)** 2x+y<6

97. x=0 is in the solution of inequality:

(A) 2x+1>0 **(B)** 2x+3>0 **(C)** x-2>0 **(D)** 2x+1>0

98. The feasible solution which maximizes or minimizes the objective function is called:

(A) solution **(B)** optimal solution **(C)** minimum solution **(D)** maximum solution

99. System of linear inequalities involved in the problem is called:

(A) cofficients **(B)** solution **(C)** problem constraints **(D)** boundaries

100. To find optimal solution we eveluate the objective function at:

(A) one point **(B)** origion **(C)** some points **(D)** corner points

101. (1,2) is one of the solution of inequality:

(A) 2x+y>5 **(B)** $2x - y \geqslant 5$ **(C)** 2x+y<3 **(D)** $2x + y < 5$

102. Which of the points satisfy inequality -x+3y<3:

(A) (3,2) **(B)** (3,3) **(C)** (2,1) **(D)** (3,0)

103. Solution set of inequality 2x<3 is:

(A) $\left(-\infty, \frac{3}{2}\right)$ **(B)** $\left(\frac{3}{2}, -\infty\right)$ **(C)** $(-\infty, \infty)$ **(D)** $\left(\frac{-3}{2}, \frac{3}{2}\right)$

104. Solution $x < \frac{-3}{2}$ is:

(A) $\left(-\infty, \frac{3}{2}\right)$ **(B)** $\left(\frac{-3}{2}, \infty\right)$ **(C)** $\left(\frac{-3}{2}\right), \frac{3}{2}$ **(D)** $\left(\frac{-3}{2}\right), \frac{3}{2}$

105. The solution set of x<4=:

(A) 0<x<4 **(B)** 10<x<15 **(C)** $-\infty < x < 4$ **(D)** $4 < x < \infty$

106. (3,2) is not the solution of inequality:

(A) x+y>2 **(B)** 2x+y $\geqslant$ 5 **(C)** 2x+y<3 **(D)** 2x+y<5

107. 2x-8 $\leqslant$ 0 is:

(A) Equation **(B)** Identity **(C)** Inequality **(D)** Curve

108. Solution set of inequality $2x - 3 \geqslant 0$ equals:

(A) $\left[\frac{3}{2}, \infty\right[$ **(B)** $\left[\frac{3}{2}, \infty\right]$ **(C)** $\left[\frac{2}{3}, \infty\right[$ **(D)** $\left[\frac{2}{3}, \infty\right]$

109. Which one is not a solution of in-equality 2x+3y>0:

(A) (-1,-2) **(B)** (1,2) **(C)** (2,3) **(D)** (0,1)

110. If x=a.Sec,y=b tan is equation of:

(A) Circle **(B)** Ellipse **(C)** porabola **(D)** hyperbola

111. Parabola having equation x2==4ay opens:

(A) towards left **(B)** towards right **(C)** upwards **(D)** downwords

112. Focus the parabola x^2=4ay is:

(A) (a,0) **(B)** (-a,0) **(C)** (0,a) **(D)** (0,-a)

113. Converties of the ellipse x^2+4y^2=16 are:

(A) $(\pm 4, 0)$ **(B)** $(0, \pm 4)$ **(C)** $(0, \pm 2)$ **(D)** $(\pm 2, 0)$

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114. Vertices of ellipse with equation $x^2+4y^2=16$ are:

(A) $(\pm 4, 0)$ **(B)** $(0, \pm 4)$ **(C)** $(\pm 2, 0)$ **(D)** $(\pm 2, 0)$

115. Equation of circle wirh centre (0,0) and redius r=:

(A) x^2+y^2+7 **(B)** $x^2+y^2+r^2$ **(C)** x+y=0 **(D)** $x^2+y^2=r$

116. The equation $Ax^2+By^2+Gx+Fy+c=0$ represent circle if:

(A) A=0, B0 **(B)** $A \neq B$ **(C)** $A = B \neq 0$ **(D)** $A = B \neq 0$

117. $X^2+Y^2+2gx+2fy+c=0$ is the equation of:

(A) line **(B)** ellipse **(C)** hyperbola **(D)** circle

118. The centre of the circle:

(A) (g,f) **(B)** (f,g) **(C)** (-f,-g) **(D)** (-g,-f)

119. Asymptotes are very useful in graphing:

(A) circle **(B)** Ellipse **(C)** Parabola **(D)** Hyperbola

120. The length of latus return of parabola $y^2=8x$ is:

(A) 2 **(B)** 4 **(C)** 6 **(D)** 8

121. The end point of the major axis ellipse are called its:

(A) foci **(B)** verties **(C)** convertices **(D)** directrix

122. The length of the diameter of circle $x^2+y^2-6x+8y=0$.

(A) 4 **(B)** 10 **(C)** 13 **(D)** 12

123. The eccentricity "e" of the parabola is:

(A) 0<e<1 **(B)** x=-4 **(C)** y=2 **(D)** y=-2

124. $x^2+y^2=r^2$ is the equation of circle with centre:

(A) (1,1) **(B)** (0,0) **(C)** (0,1) **(D)** (1,0)

125. Length of the diameter of a circle $x^2+y^2=$ is:

(A) 4 **(B)** 2 **(C)** 16 **(D)** 8

126. Focal chord prependicular to axis of parabola is called:

(A) latus rectum **(B)** eccentricity **(C)** vertec **(D)** axis

127. Equation of line bisecting II and IV quadrant:

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(A) y=x **(B)** y=-x **(C)** $y-\frac{1}{x}$ **(D)** x+y=1

128. Length of Latus Rectum of Parabola $x^2=5y$ is:

(A) 5 **(B)** 20 **(C)** $\frac{5}{4}$ **(D)** 10

129. Length of the diameter of the circle $(x+8)^2+(y-5)^2=80$ is:

(A) 160 **(B)** $\sqrt[4]{5}$ **(C)** $\sqrt[8]{5}$ **(D)** 40

130. For a vactor $\underline{v}=a\underline{i}+bj+\underline{c}k$, projection of $\underline{v}$ along k is:

(A) a **(B)** b **(C)** c **(D)** a+b+c

131. Projecion of $\underline{u}$ along $\underline{v}$ is:

(A) $\frac{\underline{u}.\underline{v}}{|\underline{v}|}$ **(B)** $\frac{\underline{u}.\underline{v}}{|\underline{u}|}$ **(C)** $\frac{\underline{u}.\underline{v}}{|\underline{u}||\underline{v}|}$ **(D)** $\underline{u}.\underline{v}$

132. $\hat{i} \times \hat{i} =:$

(A) 1 **(B)** 2 **(C)** 0 **(D)** -1

133. If $\underline{i},j,\underline{k}$ are unit vectors then $\underline{k}$ x j=:

(A) $\underline{i}$ **(B)** $\underline{-i}$ **(C)** 1 **(D)** 0

134. The position vector of a point P(-1,2,3) is:

(A) $\vec{i}+2\vec{j}+k$ **(B)** $-\vec{i}+2\vec{j}+3\vec{k}$ **(C)** $\vec{i}-2\vec{j}-3\vec{k}$ **(D)** $-\vec{i}-2\vec{j}-3\vec{k}$

135. Unit vector perpendicular to $\underline{a}$ and $\underline{b}$ is:

(A) $\frac{\underline{a}.\underline{b}}{|\underline{a}||\underline{b}|}$ **(B)** $\frac{\underline{a}x\underline{b}}{|\underline{a}||\underline{b}|}$ **(C)** $\frac{\underline{a}x\underline{b}}{|\underline{a}x\underline{b}|}$ **(D)** $|\underline{a} \times \underline{b}|$

136. If $\vec{v}=-\frac{\sqrt{3}}{2}.1-\frac{1}{2}j$, then $|\vec{v}|=$:

(A) 1 **(B)** 0 **(C)** 1/2 **(D)** 4

137. Length of the vector-$\underline{i}$+2j+2$\underline{k}$ is:

(A) 3 **(B)** 4 **(C)** 5 **(D)** 6

138. Vector product by two vectors is a:

(A) scalar quantity **(B)** unit vector **(C)** vector quantity **(D)** null vector

139. The vectors u and v are parallel if angel between them is:

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(A) $\frac{\pi}{2}$ **(B)** π **(C)** $\frac{\pi}{4}$ **(D)** $\frac{\pi}{3}$

140. $\underline{i}$.2jx3$\underline{k}$=.....:

(A) 0 **(B)** 6 **(C)** -6 **(D)** none

141. $\hat{i}.\hat{k} =$:

(A) 1 **(B)** 0 **(C)** -1 **(D)** 2

142. 2$\underline{i}$.jx2$\underline{k}$=.....:

(A) 0 **(B)** 2 **(C)** 1 **(D)** 4

143. The value of i.i x k is:

(A) 0 **(B)** -1 **(C)** i **(D)** 1

144. 2$\underline{i}$x2j.$\underline{k}$ equal to:

(A) 2 **(B)** -2 **(C)** 4 **(D)** -4

145. If vector u=2$\underline{i}$+4j-7k and v=2$\underline{i}$+6j+x$\underline{k}$ are prependicular then x=?

(A) -4 **(B)** 4 **(C)** 28 **(D)** 0

146. Vector triple product of three non-zero vectors $\underline{a}$,$\underline{b}$ and $\underline{c}$ is denoted by:

(A) $\underline{a}$x($\underline{b}$x$\underline{c}$) **(B)** $\underline{a}$.($\underline{b}$x$\underline{c}$) **(C)** $\underline{a}$.($\underline{b}$+$\underline{c}$) **(D)** $\underline{a}$.($\underline{b}$.$\underline{c}$)

147. 2$\underline{i}$xj.k=:

(A) 2 **(B)** 0 **(C)** 1 **(D)** -2

148. |$\underline{k}$ $\underline{i}$ j|=:

(A) 1 **(B)** -1 **(C)** 0 **(D)** 3

149. If vector $\underline{a}$ and $\underline{b}$ have the same direction, then $\underline{a}$.$\underline{b}$ is equal to:

(A) ab **(B)** ab cos θ **(C)** ab sin θ **(D)** -ab

150. $\vec{k}.\vec{k} =$:

(A) -1 **(B)** 0 **(C)** 1 **(D)** -2

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