Unit#4

F.Sc Math Part 2

Introduction To Analtic Geometry

M.C.Q's

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M.Phil Math

(1) For any Point (x,y) on x-axis = (LHR-2010, 2014)

(a) $y=0$ (b) $y=-1$ (c) $y=1$ (d) $y=2$

(2) Distance between $(1,2)$ and $(2,1)$ = (LHR-2016)

(a) $\sqrt{3}$ (b) $\sqrt{5}$ (c) $\sqrt{2}$ (d) $\sqrt{7}$

(3) The Distance between the Points $(0,0)$ and $(1,2)$ = (LHR-2017)

(a) 0 (b) 2 (c) $\sqrt{3}$ (d) $\sqrt{5}$

(4) If the Distance between $(a,5)$ and $(1,3)$ is $\sqrt{2a+1}$ = (LHR-2009)

(a) $a=4$ (b) $a=2$ (c) $a=\sqrt{2}$ (d) $a=1$

(5) The Midpoint of the line Joining the Points $A(x_1,y_1)$, $B(x_2,y_2)$ =

(a) $\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$ (b) $\left(\frac{x_1-x_2}{2}, \frac{y_1-y_2}{2}\right)$ (c) $\left(\frac{x_1+y_1}{2}, \frac{x_2+y_2}{2}\right)$ (d) None (LHR-2008)

(6) Midpoint of $A(2,0)$ and $B(0,2)$ is = (LHR-2019)

(a) $(0,2)$ (b) $(2,0)$ (c) $(2,2)$ (d) $(1,1)$

(7) The Mid point of line Joining Segment $A(-8,3)$, $B(2,-1)$ is

(a) $(-6,2)$ (b) $(10,4)$ (c) $(-3,1)$ (d) $(-16,-3)$ (LHR-2019)

(8) If α is the Inclination of a line "ℓ" Then it Must be True

(a) $0 \leq \alpha \leq \frac{\pi}{2}$ (b) $\frac{\pi}{2} \leq \alpha < \pi$ (c) $0 \leq \alpha \leq \pi$ (d) $0 \leq \alpha < 2\pi$ (LHR-2018)

(9) If α is the Inclination of a Non Vertical line, Then its Slope

(a) $\sin\alpha$ (b) $\cos\alpha$ (c) $\tan\alpha$ (d) $\cot\alpha$ (ESD 2010) (DG Khan 2010, 2014)

(10) If a Straight Line is $\perp$ to y-axis, Then its Slope is

(a) 1 (b) -1 (c) 0 (d) ∞ (LHR-2011, Multan 2014, 2018)

(11) If m is Slope of Vertical line, Then m is

(a) 0 (b) 1 (c) -1 (d) ∞ (Multan 2015, 2019) (Federal 2012)

(12) Inclination of Line Joining Two Points $(-2,4)$ and $(5,11)$ =

(a) $\frac{\pi}{3}$ (b) $\frac{\pi}{4}$ (c) $\frac{\pi}{6}$ (d) $\frac{\pi}{2}$ (LHR-2010)

(13) If Two Lines with Slopes m_1 and m_2 are Parallel to each other, Then which is Correct?

(a) $m_1 = m_2$ (b) $m_1 = -m_2$ (c) $m_1 = \frac{1}{m_2}$ (d) $m_2 = \frac{1}{m_2}$ (LHR-2019) Multan 2014 2018,

(14) The lines l_1, l_2 with Slopes m_1, m_2 are $\perp$ if (LHR-2010)

(a) $m_1 \cdot m_2 = -1$ (b) $m_1 = m_2$ (c) $m_1 + m_2 = 0$ (d) $m_1 \cdot m_2 = +1$

(15) Slope of Line $\perp$ to line $2x - 3y + 1 = 0$ (LHR-2014)

(a) $\frac{3}{2}$ (b) $-\frac{3}{2}$ (c) $\frac{2}{3}$ (d) $-\frac{2}{3}$

(16) An equation of horizontal Line Through Point $P(7,-9)$ is

(a) $y = -9$ (b) $y = 9$ (c) $x = 7$ (d) $x = -7$ (LHR-2018)

(17) Slope Intercept form of Line = (LHR-2015) (Sargodha 2009 2011)

(a) $y - y_1 = m(x - x_1)$ (b) $y = mx + c$ (c) $\frac{x}{a} + \frac{y}{b} = 1$ (d) $ax + by + c$

(18) The equation of the Line $\frac{x - x_1}{\cos\alpha} = \frac{y - y_1}{\sin\alpha} = r$ is the (LHR-2018)

(a) Normal Form (b) Symmetric form (c) Two Intercept form (d) Point Slop

(19) Equation of Line bisecting 2nd and 4th Quadrant is

(a) $y = x$ (b) $y = -x$ (c) $y = \frac{x}{\sqrt{2}}$ (d) $y = mx$ (LHR-2018) (FSD-2015)

(20) Equation of Line Parallel to $x + 3y - 9 = 0$ is (LHR-2016)

(a) $3x - y - 9 = 0$ (b) $3x + 9y + 7 = 0$ (c) $2x - 6y - 18 = 0$ (d) $x - 3y + 9 = 0$

(21) Distance of $P(x_1, y_1)$ from Line $ax + by + c = 0$ (LHR-2018)

(a) $\frac{|ax_1 + by_1 + c|}{\sqrt{a^2 + b^2}}$ (b) $\frac{|ax_1 + by_1 + c|}{a^2 + b^2}$ (c) $ax + by + c$ (d) $\frac{|ax_1 + by_1 - c|}{\sqrt{a + b}}$

(22) The Perpendicular distance of the line $12x + 5y = 7$ from origion

(a) 13 (b) $\frac{13}{7}$ (c) $\frac{7}{13}$ (d) $\frac{1}{13}$ (FSD 2009, 2016 2017) (LHR-2019)

(23) The Perpendicular distance of Line $3x+4y-10=0$ from origion
(a) 0 (b) 1 (c) $\frac{1}{2}$ (d) 2 (LHR-2018)

(24) The distance of Point P(6,-1) from line $3x+4y+1=0$
(a) 1 (b) 2 (c) 3 (d) 4 (Rawalpindi 2017)

(25) The distance of Point P(6,-1) from line $6x-4y+9=0$
(a) 49 (b) $\frac{49}{52}$ (c) $\frac{\sqrt{49}}{52}$ (d) $\frac{49}{\sqrt{52}}$ (LHR-2015)

(26) Two Non-Parallel lines Interset each other at =
(a) 1 Point (b) 0 Point (c) ∞ points (d) 2 Points (LHR-2017)

(27) Point of Intersection of Lines $x-2y+1=0$ and $2x-y+2=0$
(a) (1,0) (b) (0,1) (c) (-1,0) (d) (0,-1) (LHR-2015)

(28) The Point of Concurrency of Median of a Triangle is
(a) In-Centre (b) Centroid (c) Circumcentre (d) orthocentre
(LHR-2011, 2014, 2015, 2016)

(29) The Centroid of a Triangle divides each Median in the Ratio= (a) 2:1 (b) 1:2 (c) 3:1 (d) 1:3 (LHR-2018)

(30) The Centroid of the Triangle whose vertices are (3,-5), (-7,4) and (10,-2)=
(a) (-2,-2) (b) (-2,2) (c) (2,-1) (d) (0,0) (LHR-2016)

(31) Centroid of Triangle with Vertices A(2,1), B(-1,3) and C(-1,-4)=
(a) (3,1) (b) (0,0) (c) (2,2) (d) (-2,-5) (LHR-2012)

(32) x-Coordinate of Centroid of Triangle ABC with A(-2,3) B(-4,1), C(3,5)=
(a) -1 (b) 1 (c) 3 (d) -3 (LHR-2014)

(33) The Point of Intersection of Angle bisectors of Triangle
(a) Orthocentre (b) Centroid (c) In Centre (d) Circumcentre

(34) Common Point of Three altitudes of Sides of Triangle is called- (D.G Khan 2012, Gujrawala 2019)

(a) orthocentre (b) Ciicumcentre (c) In-Centre (d) Centroid

(35) The Angle between the Lines $\frac{x}{\sqrt{3}}+y=1$ and $\frac{x}{\sqrt{3}}-y=1$

(a) 30° (b) 45° (c) 60° (d) 90° (LHR-2009)

(36) If $f(kx,ky)=k^n f(x,y)$, Then $f(x,y)=0$ is a homogenous Equation of Degree= (LHR-2013)

(a) n+1 (b) n-1 (c) n (d) K