2018 (A)

INTERMEDIATE PART-II (12th CLASS)

MATHEMATICS PAPER-II GROUP-I

SUBJECTIVE

TIME ALLOWED: 2.30 Hours MAXIMUM MARKS: 80

Roll No:

NOTE: - Write same question number and its part number on answer book, as given in the question paper.

SECTION-I

2.

3.

Attempt any eight parts.(i) Define explicit function and give an example.

(ii) Find $\frac{f(a+h) - f(a)}{h}$ and simplify where $f(x) = \cos x$

(iii) Prove that
$$\lim_{n \to \infty} \left(1 + \frac{1}{n} \right)^n = e$$

(iv) Find by definition, the derivative of $2 - \sqrt{x}$ w.r.to 'x'.

(v) Find
$$\frac{dy}{dx}$$
 if $y = \frac{(\sqrt{x}+1)(x^{\frac{3}{2}}-1)}{x^{\frac{1}{2}}-1}, x \neq 1$

(vi) Differentiate
$$\left(\sqrt{x} - \frac{1}{\sqrt{x}}\right)^2$$
 w.r.to 'x'.

(vii) Find
$$\frac{dy}{dx}$$
 if $y^2 - xy + 4 - x^2 = 0$

(viii) Differentiate
$$\tan^3 \theta \sec \theta$$
 w.r.to ' θ '.

(ix) Find
$$\frac{dy}{dx}$$
 if $x = y \sin y$

(x) Differentiate $(lnx)^x$ w.r.to 'x'.

(xi) Find
$$f'(x)$$
 if $f(x) = x^3 e^{t/x}$, $x \neq 0$

(xii) Find y_2 if $x^2 + y^2 = a^2$

Attempt any eight parts.

- (i) Find δy and dy if $y = \sqrt{x}$ when x changes from 4 to 4.41.
- (ii) Evaluate $\int \frac{\sin x + \cos^3 x}{\cos^2 x \sin x} dx$
- (iii) Evaluate $\int \frac{1}{x \ell n x} dx$
- (iv) Evaluate $\int x \sin x \, dx$

(v) Evaluate
$$\int e^{-x} (\cos x - \sin x) dx$$

(vi) Evaluate
$$\int \frac{5x+8}{(x+3)(2x-1)} dx$$

- (vii) State the fundamental theorem of calculus.
- (viii) Evaluate $\int_{1}^{2} \frac{x dx}{x^2 + 2}$
- (ix) Find the area bounded by the curve $y = 4 x^2$ and the x axis.
- (x) Solve $\sec^2 x \tan y \, dx + \sec^2 y \tan x \, dy = 0$
- (xi) Graph the inequality $3x + 7y \ge 21$
- (xii) State the Linear Programming Theorem.

 $8 \times 2 = 16$

(2)

Attempt any nine parts.

4.

- (i) Find "h" such that A(-1, h), B(3, 2) and C(7, 3) are collinear.
- (ii) Find an equation of the line passing through (-5, -3) and (9, -1).
- (iii) Find the area of the region bounded by the triangle with vertices A(1, 4), B(2, -3) and C(3, -10)
- (iv) Find value of "p" such that lines 2x 3y 1 = 0, 3x y 5 = 0 and 3x + py + 8 = 0 meet at a point.
- (v) Find the lines represented by $6x^2 19xy + 15y^2 = 0$
- (vi) Find the focus and vertex of the parabola $x^2 4x 8y + 4 = 0$
- (vii) Find equation of parabola with focus (2, 5) and directrix y = 1

(viii) Find foci and vertices of the ellipse
$$\frac{x^2}{9} + \frac{y^2}{4} = 1$$

- (ix) Find an equation of the ellipse with foci $(\pm 3\sqrt{3}, 0)$ and vertices $(\pm 6, 0)$.
- (x) Find the direction cosines of vector $\underline{v} = \underline{i} \underline{j} \underline{k}$
- (xi) Find real number " α " so that the vectors $\underline{u} = \alpha \underline{i} + 2\alpha \underline{j} \underline{k}$ and $\underline{v} = \underline{i} + \alpha \underline{j} + 3\underline{k}$ are perpendicular.
- (xii) Find the area of the triangle with vertices A(1, -1, 1), B(2, 1, -1) and C(-1, 1, 2).
- (xiii) Prove that the vectors $\underline{i} 2\underline{j} + 3\underline{k}$, $-2\underline{i} + 3\underline{j} 4\underline{k}$ and $\underline{i} 3\underline{j} + 5\underline{k}$ are coplaner.

SECTION-II

NOTE: - Attempt any three questions.

 $3 \times 10 = 30$

 $9 \times 2 = 18$

5.(a) If θ is measured in Radian, then prove that $\lim_{\theta \to 0} \frac{\sin \theta}{\theta} = 1$

(b) Show that
$$2^{x+h} = 2^{x} \left[1 + (\ln 2)h + \frac{(\ln 2)^{2}}{\lfloor 2}h^{2} + \frac{(\ln 2)^{3}}{\lfloor 3}h^{3} + \dots \right]$$

6.(a) Evaluate the indefinite integral $\int \frac{x^2 + 3x - 34}{x^2 + 2x - 15} dx$

(b) Find a joint equation of the lines through the origin and perpendicular to the lines $ax^2 + 2hxy + by^2 = 0$

7. (a) Evaluate the integral
$$\int_{0}^{1} \frac{3x}{\sqrt{4-3x}} dx$$

(b) Minimize z = 2x + y subject to the constraints $x + y \ge 3$; $7x + 5y \le 35$; $x \ge 0$; $y \ge 0$

8. (a) Find equations of tangents to the circle $x^2 + y^2 = 2$ which are perpendicular to the line 3x + 2y = 6

- (b) Prove that for any triangle $\triangle ABC$ $a^2 = b^2 + c^2 2bc \ Cos A$
- 9.(a) Discuss and sketch the graph of the equation $25x^2 16y^2 = 400$
 - (b) Find volume of the tetrahedron with vertices (2, 1, 8), (3, 2, 9), (2, 1, 4) and (3, 3, 10).

14-2018(A)-17000 (MULTAN)

Paper		201	18 (A) R	oll No:
Numbe		INTERMEDIATE	PART-II (12 ⁴⁴ CI	LASS)
	HEMATICS PAP			ME ALLOWED: 30 Minute
GRO		<u>OBJECT</u>	<u>TIVE</u> M	AXIMUM MARKS: 20
think is	You have four choices correct, fill that bubb	for each objective type	e question as A, B, C	and D. The choice which you
Cutting	g or filling two or more	bubbles will result in a	tion number. Use ma	arker or pen to fill the bubbles.
questio	is as given in objective	e type question paper a	nd leave others blank	No credit will be awarded in
case De	JBBLES are not filled.	Do not solve question	s on this sheet of OB	JECTIVE PAPER.
Q.No.1	/			
(1)	$Log_e \left(\frac{1}{x} + \frac{\sqrt{1-x^2}}{x} \right)$	=, 0	$0 < x \leq 1$	
		(B) $Co \sec h^{-1}x$		$(\mathbf{D}) C = t t^{-1} \mathbf{r}$
(2)	The linear function	f(x) = ax + b becomes	identity function if:-	(D) $Coth^{-1}x$
	(A) $a = 0, b = 1$	f(x) = ax + b becomes (B) $a = 1, b = 0$	(C) $a = 0, b = 0$	(D) $a = 1$ $b = 1$
(3)	If $y = e^{f(x)}$ then y'	=	(=)	(D) u = 1, v = 1
	(A) $e^{f'(x)}$. $f(x)$	(B) $e^{f(x)}$. $f'(x)$	(C) $e^{f'(x)} \log f(x)$	(D) $e^{f'(x)} - f'(x)$
(4)	For relative maxima a	t x = c	(0) 0 . 105.) (4	$(D) \in (J)$
	(A) $f(c) < f(x)$	(B) $f(c) > f(x)$	(C) $f(c) \ge f(x)$	(D) $f(c) \leq f(x)$
(5)	If $f'(a-\varepsilon) < 0$ and	$f'(a+\varepsilon) < 0$ then a	t $x = a$ $f(x)$ has:	
	(A) Relative Minima	(B) Relative Maxir	ma (C) Point of Inflex	ion (D) Critical Point
(6)	$\frac{1}{2}\frac{d}{dx}\left[Tan^{-1}x - Cot^{-1}\right]$	x] =		
	(A) $\frac{-1}{1+x^2}$	(B) $\frac{1}{1+x^2}$	(C) $\frac{1}{2}$	(D) $-\frac{-1}{-1}$
				$1 - x^2$
(7)	$\int \frac{\log_e Tanx}{Sin2x} dx =$	(A)	$\frac{1}{2} (\log_e(Tanx))^2 + c$	
	(B) $\frac{1}{4} (\log_e(Tanx))^2 +$	c (C) $\frac{1}{2}\log_e(Sin$	$(2x)^2 + c \tag{D}$	$\frac{1}{4}\log_e(\sin 2x)^2 + c$
(8)	$\int e^{-x} (Cosx - Sinx) dx$	=		4
			(0) -10	
	T Sum TC	(B) $-e^{-x}Sinx + c$	(C) $e^{-cosx} + c$	$(D) - e^{-x}Cosx + c$
(9)	$3\int Sinx.dx =$	(A) 1	(B) 2 (C) 3	(D) 4
	7/2			
(10)	Solution of differentia	l equation $(e^x + e^{-x})\frac{dy}{dx}$	$= e^x - e^{-x}$ is $y = $	
		un		
(11)	(A) $\log_a(e^a + e^a) +$	c (B) $\log_e(e^x + e^{-x}) +$	+ c (C) $\log_a(e^x - e^x)$	$(-x) + c$ (D) $\log_e(e^x - e^{-x}) + c$
(11) (12)	Distance of the point	(3, -7) from $x - axis$	is:- (A) 3	(B) -3 (C) 7 (D) -7
(12)	The alars of a line pe	rpendicular to $y - axis$ is	s:- (A) 0°	(B) 60° (C) 30° (D) 90°
(13)		ich is perpendicular to th) is:-
	(A) $\frac{-a}{b}$	(B) $\frac{b}{a}$	(C) $\frac{-b}{c}$	(D) $\frac{a}{b}$
(14)	U	a ncy of altitudes of a trian	0	b
	(A) In – Centre	(B) Orthocentre	(C) Circumcentre	(D) Centroid
(15)	The graph of $2x \ge 3$]	ies in:-		
14.00	(A) Upper Half Plane	(B) Lower Half Plan	ne (C) Left Half Plan	e (D) Right Half Plane
(16)	Length of the diameter	of the circle $(x+8)^2$ +	$(y-5)^2 = 80$ is:-	
10.00	(A) 160	(B) $4\sqrt{5}$		(D) 40
(17)	Directrix of Parabola	$x^2 = -16y$ is:-		
1.0	(A) $x + 4 = 0$	(B) $x - 4 = 0$	(C) $y - 4 = 0$	(D) $y + 4 = 0$
(18)	$x = a\cos\theta, y = b\sin\theta$	$n\theta$ represent:- (A)	Circle (B) Parabola	(C) Ellipse (D) Hyperbola
1000	A unit vector perpendi	cular to the vectors \underline{a} a	nd \underline{b} is:-	work and an an arrange
(13)				
1000		$a \times b$	a b	$ a \times b $
1000	(A) $\frac{\underline{a} \times \underline{b}}{ a b }$	(B) $\frac{\underline{a} \times \underline{b}}{ a \times b }$	(C) $\frac{ \underline{a} \underline{b} }{ \underline{a} \times b }$	(D) $\frac{\left \underline{a} \times \underline{b}\right }{\left \underline{a}\right \underline{b} }$
10 m 10 m 10 m		(B) $\frac{\underline{a} \times \underline{b}}{ \underline{a} \times \underline{b} }$ (A) 1 (B) 2	(C) $\frac{\left \underline{a}\right \underline{b} }{\left \underline{a} \times \underline{b}\right }$ (C) -1 (D) -2	(D) $\frac{ \underline{a} \times \underline{b} }{ \underline{a} \underline{b} }$

14(Obj)(27)-2018(A)-17000 (MULTAN)

Paper Code	4102	2018	8 (A)	Roll No:
Number:	and the second se	INTERMEDIATE F	PART-II (12** C	LASS)
MATHEMA GROUP-I	ATICS PAP	ER-II OBJECTI		ΓΙΜΕ ALLOWED: 30 Minute MAXIMUM MARKS: 20
	ave four choices			C and D. The choice which you
think is corre	ct. fill that bubb	le in front of that questi	question as A, D,	C and D. The choice which you narker or pen to fill the bubbles.
Cutting or fill	ling two or more	e bubbles will result in ze	ero mark in that q	uestion. Attempt as many
questions as g	given in objective	e type question paper and	d leave others blan	nk. No credit will be awarded in
case BUBBLE	LS are not filled.	Do not solve questions	on this sheet of O	BJECTIVE PAPER.
Q.No.1	d City diamatar			
		of the circle $(x+8)^2 + (x+8)^2$		
÷ *	160	(B) $4\sqrt{5}$	(C) 8√5	(D) 40
	ctrix of Parabola		- 1 C	
(A)	x + 4 = 0	(B) $x - 4 = 0$	(C) $y - 4 = 0$	(D) $y + 4 = 0$
				ola (C) Ellipse (D) Hyperbola
		icular to the vectors \underline{a} and		
	(A) $\underline{a} \times \underline{b}$	(D) $\underline{a} \times \underline{b}$	$ \underline{a} \underline{b} $	$ \underline{a} \times \underline{b} $
	$(A) \underline{a} \underline{b} $	(B) $\frac{ \underline{a} \times \underline{b} }{ \underline{a} \times \underline{b} }$	(C) $\frac{ \underline{a} \times \underline{b} }{ \underline{a} \times \underline{b} }$	(D) $\frac{ a b }{ a b }$
(5) $ \hat{k}\hat{i} $	ĵ =	(B) $\frac{\underline{a} \times \underline{b}}{ \underline{a} \times \underline{b} }$ (A) 1 (B) 2	(0) = 1 (D) =	2
Y-2. 1.1.1.	$\left(1 \right) \left(1 - r^2 \right)$	$\left =, 0 \right $	(C) = I (D)	
(6) <i>Log</i>	$S_e = \frac{1}{1} + \frac{\sqrt{1-x}}{1}$	=, 0.	$< x \le 1$	
		/		
(A)	Sech ⁻¹ x	(B) $Co \sec h^{-1}x$	(C) $Tanh^{-1}x$	(D) $Coth^{-1}x$
(7) The l	linear function f	(B) $Co \sec h^{-1}x$ f(x) = ax + b becomes i (B) $a = 1, b = 0$	dentity function if:	
(A) ($a = 0, \ b = 1$	(B) $a = 1, b = 0$	(C) $a = 0, b = 0$	0 (D) $a = 1, b = 1$
(8) If y	$y = e^{f(x)}$ then y'			
		(B) $e^{f(x)}, f'(x)$	(C) $e^{f'(x)}$. log $f(x)$	(x) (D) $e^{f'(x)}$, $f'(x)$
(9) For r	elative maxima at	x = c		
	f(c) < f(x)	(B) $f(c) > f(x)$	(C) $f(c) \ge f(x)$) (D) $f(c) \leq f(x)$
(10) If f	$G'(a-\varepsilon) < 0$ and	$f'(a+\varepsilon) < 0$ then at	x = a $f(x)$ has	IS:-
(A) F	Relative Minima	(B) Relative Maxim	a (C) Point of Infle	exion (D) Critical Point
(11) $\frac{1}{2}\frac{u}{dx}$	$[Tan^{-1}x - Cot^{-1}x]$	x]=		
2 un			1	-1
(A) -	$\frac{1}{1+x^2}$	(B) $\frac{1}{1+x^2}$	(C) $\frac{1}{1-r^2}$	(D) $\frac{-1}{1-x^2}$
(12) $\int \frac{1}{s}$	$\frac{g_e Tanx}{\sin 2x}$, $dx =$	(A) -	$\frac{1}{2}(\log_e(Tanx))^2 + c$	
(P) 1	(1) (T) (1) ²	4	4	
		c (C) $\frac{1}{2}\log_e(Sin2)$	$(1)^2 + c \qquad (1)$	$D) \frac{1}{4} \log_e (\sin 2x)^2 + c$
	(Cosx – Sinx) dx	-		4
			(a) -X Carry 1 a	
		(B) $-e^{-x}Sinx + c$		
(14) $3\int Sin^{2}$	nx.dx =	(A) 1	(B) 2 (C)	3 (D) 4
π/2			10	
(15) Solut	tion of differentia	al equation $(e^x + e^{-x})\frac{dy}{dx}$	$-e^x - e^{-x}$ is $y =$	
		ux		
(A) I	$og_a(e^x + e^{-x}) +$	c (B) $\log_e(e^x + e^{-x}) +$	c (C) $\log_a(e^x -$	$(e^{-x}) + c$ (D) $\log_e(e^x - e^{-x}) + c$
(16) Dista	ance of the point	(3, -7) from x - axis is	s:- (A) 3	(B) - 3 $(C) 7$ $(D) - 7$
				(B) 60° (C) 30° (D) 90°
(18) The s	lope of a line wh	ich is perpendicular to the		
(A)	$\frac{-a}{b}$	(B) $\frac{b}{a}$	(C) $\frac{-b}{-b}$	(D) $\frac{a}{b}$
	D		~	b
	point of concurrent In – Centre	ency of altitudes of a triang (B) Orthocentre		(D) Contraid
	graph of $2x \ge 31$	lies in:-	(C) Uncumeena	e (D) Centrola
	Upper Half Plane		e (C) Left Half Pl	lane (D) Right Half Plane
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X.

Paper			B(A) Rol	Il No:
Numb		INTERMEDIATE I		
GRO	HEMATICS PAP			IE ALLOWED: 30 Minutes
		OBJECT		XIMUM MARKS: 20
think i Cuttin questio	s correct, fill that bubb g or filling two or more ons as given in objectiv UBBLES are not filled	ole in front of that question e bubbles will result in ze	on number. Use mar ero mark in that ques d leave others blank.	No credit will be awarded in
(1)		(3, -7) from x – axis is	:- (A) 3 (I	B) -3 (C) 7 (D) -7
(2)				B) 60° (C) 30° (D) 90°
(3)		ich is perpendicular to the		
	(A) $\frac{-a}{b}$			
	D	(B) $\frac{b}{a}$		(D) $\frac{a}{b}$
(4)	(A) In – Centre	ncy of altitudes of a triang (B) Orthocentre	le is called:- (C) Circumcentre	(D) Centroid
(5)	The graph of $2x \ge 3$ (A) Upper Half Plan			
(6)	Length of the diameter	(B) Lower Half Plan r of the circle $(x + 8)^2 + 6$	$(y-5)^2 = 80$ is:-	e (D) Right Half Plane
		(B) $4\sqrt{5}$	(C) 8√5	(D) 40
(7)	Directrix of Parabola			
(0)		(B) $x - 4 = 0$		
(8)				(C) Ellipse (D) Hyperbola
(9)		icular to the vectors \underline{a} and		
	(A) $\frac{\underline{a} \times \underline{b}}{ \underline{a} \underline{b}}$	$\overline{ } \qquad (B) \frac{\underline{a} \times \underline{b}}{ \underline{a} \times \underline{b} } (A) 1 \qquad (B) 2$	(C) $\frac{ \underline{a} \underline{b} }{ \underline{a} \times \underline{b} }$	(D) $\frac{ \underline{a} \times \underline{b} }{ \underline{a} \underline{b} }$
(10)	$\begin{bmatrix} \hat{k} \ \hat{i} \ \hat{j} \end{bmatrix} = \begin{bmatrix} 1 & \sqrt{1-2} \end{bmatrix}$	(A) 1 (B) 2	(C) -1 (D) -2	
(11)		=, 0 <		
(12)	The linear function	(B) $Co \sec h^{-1}x$ f(x) = ax + b becomes	identity function if:-	
(13)	If $y = e^{f(x)}$ then y			
(14)	For relative maxima			
(15)		(B) $f(c) > f(x)$ d $f'(a + \varepsilon) < 0$ then at		(D) $f(c) \le f(x)$
(16)	(A) Relative Minima $\frac{1}{2} \frac{d}{dx} \left[Tan^{-1}x - Cot^{-1} \right]$		a (C) Point of Inflexio	on (D) Critical Point
		(B) $\frac{1}{1+x^2}$	(C) $\frac{1}{1}$	(D) $\frac{-1}{-1}$
(17)		1.1.1	1	$1 - x^2$
(17)	$\int \frac{\log_e Tanx}{Sin2x} dx =$		$\frac{1}{2} \left(\log_e(Tanx) \right)^2 + c$	1
(18)	$\int e^{-x} (Cosx - Sinx) dx$	- c (C) $\frac{1}{2}\log_e(Sin2)$	(D) = (D) + c	$\frac{-\log_e(\sin 2x)^2 + c}{4}$
(10)	the second se	(B) $-e^{-x}Sinx + c$	(C) $e^{-x}Cosx + c$	(D) $-e^{-x}Cosx + c$
(19)	$3\int_{\frac{\pi}{2}}^{\pi} Sinx.dx =$	(A) 1	(B) 2 (C) 3	(D) 4
(20)	Solution of differentia	al equation $(e^x + e^{-x})\frac{dy}{dx}$	$= e^x - e^{-x}$ is $y =$	
			- c (C) $\log_a(e^x - e^-)$	$(x^{x}) + c$ (D) $\log_{e}(e^{x} - e^{-x}) + c$ 2018(A)-17000 (MULTAN)

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14(Obj)(公公公)-2018(A)-17000 (MULTAN)

Paper	Code	201	18 (A)	Roll	No:
Numbe	er: 4197	INTERMEDIATE	PART-II (12 th CLA	SS)
GRO		OBJECT		MAX	E ALLOWED: 30 Minut XIMUM MARKS: 20
Cutting question	s correct, fill that bubb g or filling two or more ons as given in objective UBBLES are not filled.	ble in front of that quest e bubbles will result in z	tion number. zero mark in nd leave othe	Use mark that questi ers blank. 1	No credit will be awarded i
C	$\frac{1}{2}\frac{d}{dx}\Big[Tan^{-1}x - Cot^{-1}x\Big]$	x] =			
	(A) $\frac{-1}{1+x^2}$	(B) $\frac{1}{1+x^2}$	(C) $\frac{1}{1-x}$; ²	(D) $\frac{-1}{1-x^2}$
(2)		(A)			
(2)	(B) $\frac{1}{4} (\log_e(Tanx))^2 + \int_0^{-\pi} \frac{1}{4} (\log_e(Tanx))^2 + \int_0^{-\pi} \frac{1}{4} (\log_e(Tanx))^2 + \log_e(Tanx) + \log_e(Ta$	c (C) $\frac{1}{2}\log_e(Sir$	$(12x)^2 + c$	(D) $\frac{1}{4}$	$\log_e \left(Sin 2x \right)^2 + c$
(3)	$\int e^{-x} (Cosx - Sinx) dx$				
		(B) $-e^{-x}Sinx + c$	(C) $e^{-x}Ce^{-x}$	osx + c	$(D) - e^{-x}Cosx + c$
(4)	$3\int_{\frac{\pi}{2}}^{\pi}Sinx.dx =$	(A) 1	(B) 2	(C) 3	(D) 4
(5)		equation $(e^x + e^{-x})\frac{dy}{dx}$			
10	(A) $\log_a(e^x + e^{-x}) + D$	c (B) $\log_e(e^x + e^{-x})$	+c (C) log	$g_a(e^x-e^{-x})$	$0 + c$ (D) $\log_e(e^x - e^{-x}) + c$
(6) (7)	Distance of the point ((3, -7) from $x - axis is$	s:- (A	A) 3 (B)	-3 (C) 7 (D) -7
(7) (8)	The slope of a line white	pendicular to $y - axis$ is	;- 	(A) 0° (B) 60° (C) 30° (D) 90°
(0)		ch is perpendicular to the	· · · · · · · · · · · · · · · · · · ·		
	Ų	(B) $\frac{b}{a}$	(C) $\frac{-b}{a}$		(D) $\frac{a}{b}$
(9) (10)	(A) In – Centre	(B) Orthocentre	gle is called:- (C) Circu		(D) Centroid
(10)	The graph of $2x \ge 3$ (A) Upper Half Plane		ane (C) Left	Half Plane	(D) Right Half Plane
(11)	Length of the diamete	r of the circle $(x+8)^2$ -	$(y-5)^2 =$	80 is:-	(-)
	(A) 160	(B) $4\sqrt{5}$			(D) 40
(12)	Directrix of Parabola	$x^2 = -16y$ is:-			
(13)	(A) $x + 4 = 0$ $x = a\cos\theta$ $y = bc$	(B) $x - 4 = 0$	(C) $y - 4$	= 0	(D) $y + 4 = 0$
(13)	A unit vector perpend	dicular to the vectors \underline{a} a) Circle (B)	Parabola (C) Ellipse (D) Hyperbola
				à la companya de la c	1
	(A) $\frac{\underline{a} \times \underline{b}}{ \underline{a} \underline{b} }$	(B) $\frac{\underline{a} \times \underline{b}}{ a \times b }$	(C) $\frac{ \underline{u} _{\underline{v}}}{ \underline{a}\times t }$		(D) $\frac{ \underline{a} \times \underline{b} }{ \underline{a} \underline{b} }$
(15)	$\begin{bmatrix} \hat{k} \ \hat{i} \ \hat{j} \end{bmatrix} =$	(B) $\frac{\underline{a} \times \underline{b}}{ \underline{a} \times \underline{b} }$ (A) 1 (B) 2	$ \underline{u} \wedge \underline{v} $ (C) – 1	(D) – 2	$ \underline{u} \underline{v} $
(16)	$Log_e\left(\frac{1}{x} + \frac{\sqrt{1-x^2}}{x}\right)$	=, 0	< <i>x</i> ≤ 1		
(17)	(A) $Sech^{-1}x$ The linear function f	(B) $Co \sec h^{-1}x$ f(x) = ax + b becomes (B) $a = 1, b = 0$	(C) Tanh ⁻ identity funct	⁻¹ x tion if:-	(D) $Coth^{-1}x$
(10)	(A) $a = 0, b = 1$	(B) $a = 1, b = 0$	(C) $a = 0$,	b=0	(D) $a = 1, b = 1$
(18)		=	<i></i>		
	(A) e^{-x} . $f(x)$	(B) $e^{f(x)}$. $f'(x)$	(C) $e^{f'(x)}$.	$\log f(x)$	(D) $e^{f'(x)}$. $f'(x)$
(19)	For relative maxima a				
(19) (20)	For relative maxima a (A) $f(c) < f(x)$	(B) $f(c) > f(x)$ $f'(a + \varepsilon) < 0$ then a	(C) $f(c) \ge \frac{1}{2}$	$\geq f(x)$	(D) $f(c) \leq f(x)$

14(Obj)(값값값값)-2018(A)-17000 (MULTAN)

2018 (A)

Roll No:

INTERMEDIATE PART-II (12th CLASS)

MATHEMATICS PAPER-II GROUP-II

SUBJECTIVE

TIME ALLOWED: 2.30 Hours MAXIMUM MARKS: 80

NOTE: - Write same question number and its part number on answer book,

2.

as given in the question paper.

SECTION-I

 $8 \times 2 = 16$

(i) Evaluate $\lim_{x \to 0} \frac{\sqrt{x+a} - \sqrt{a}}{x}$

Attempt any eight parts.

- (ii) Express $\lim_{n \to \infty} \left(1 + \frac{3}{n} \right)^{2n}$ in terms of number "e".
- (iii) Give three conditions for a function f(x) to be continuous at a number 'C'.
- (iv) Write any two different notations for the derivative of a function f(x).
- (v) Find derivative of $\frac{1}{(az-b)^7}$ w.r.t. z using power rule.
- (vi) Differentiate $\frac{x^2 + 1}{x^2 3}$ w.r.t. x
- (vii) If $y = \sqrt{x} \frac{1}{\sqrt{x}}$. Show that $2x\frac{dy}{dx} + y = 2\sqrt{x}$
- (viii) Find the first derivative of implicit function $y^2 + x^2 4x = 5$
- (ix) Differentiate x and y w.r.t. 't' if $x = \frac{1-t^2}{1+t^2}$, $y = \frac{2t}{1+t^2}$
- (x) Differentiate Sin^2x w.r.t. Cos^4x

(xi) If
$$x = a \cos^3 \theta$$
, $y = b \sin^3 \theta$, then show that $a \frac{dy}{dx} + b \tan \theta = 0$

(xii) Find
$$\frac{dy}{dx}$$
 if $y = \ln(\tanh x)$

3.

Attempt any eight parts.

- $8 \times 2 = 16$
- (i) Find δy and dy when $y = x^2 + 2x$ when x changes from 2 to 1.8.
- (ii) Evaluate $\int \frac{e^{2x} + e^x}{e^x} dx$
- (iii) Evaluate $\int \frac{ax+b}{ax^2+2bx+c} dx$
- (iv) Evaluate $\int \frac{x}{\sqrt{4+x^2}} dx$
- (v) Evaluate $\int \frac{1}{x \ln x} dx$
- (vi) Evaluate $\int x \cos x \, dx$
- (vii) Evaluate $\int_{1}^{2} \ell n x \, dx$
- (viii) Evaluate $\int e^x (Cosx + Sinx) dx$
- (ix) Evaluate $\int Tan^{-1}x \, dx$
- (x) Find the area bounded by the curve $y = x^3 + 3x^2$ and the x-axis.
- (xi) Define feasible solution set.
- (xii) Graph the inequality x + 2y < 6

Attempt any nine parts.

4.

 $9 \times 2 = 18$

- (i) Prove that A(3, 1), B(-2, -3) and C(2, 2) are vertices of an isosceles triangle.
- (ii) If origin is translated to O'(-3, 2) find new coordinates of P(-2, 6).
- (iii) Find the distance of P(6, -1) from the line 6x 4y + 9 = 0
- (iv) Find equation of line whose slope is -4 and x-intercept is -9.
- (v) Find equation of each line represented by $20x^2 + 17xy 24y^2 = 0$
- (vi) Find focus, directrix of parabola $y = 6x^2 1$
- (vii) Find equation of parabola if its focus is (2, 5), directrix y = 1
- (viii) Find centre and vertices of ellipse $\frac{(2x-1)^2}{16} + \frac{(y+2)^2}{16} = 1$
- (ix) Find equation of ellipse with centre (0, 0) focus (0, -3), vertex (0, 4)
- (x) Find direction cosine of \overrightarrow{PQ} if P(2, 1, 5), Q(1, 3, 1)
- (xi) Find unit vector in the direction of the vector $\underline{V} = 2\underline{i} + 6\underline{j}$.
- (xii) A force $\underline{F} = 4\underline{i} 3\underline{k}$, passes through the point A(2, -2, 5). Find the moment of \underline{F} about point B(1, -3, 1)
- (xiii) Find ' α ', so that $\left| \alpha \underline{i} + (\alpha + 1) \underline{j} + 2\underline{k} \right| = 3$

SECTION-II

NOTE: - Attempt any three questions.

 $3 \times 10 = 30$

5.(a)
$$f(x) = \begin{cases} \frac{\sqrt{2x+5} - \sqrt{x+7}}{x-2} & \text{if } x \neq 2 \\ k & \text{if } x = 2 \end{cases}$$

Find the value of k so that the function is continuous at x = 2.

(b) If
$$y = e^{ax} \sin bx$$
, show that $\frac{d^2 y}{dx^2} - 2a\frac{dy}{dx} + (a^2 + b^2)y = 0$

6.(a) Evaluate $\int \sqrt{a^2 + x^2} dx$

- (b) The vertices of a triangle are A(-2, 3), B(-4, 1) and C(3, 5). Find coordinates of the centroid of the triangle.
- 7. (a) Find the area bounded by the curve $y = x^3 4x$ and the x-axis.
 - (b) Maximize z = 2x + 3y subject to the constraints $3x + 4y \le 12; \quad 2x + y \le 4; \quad 4x - y \le 4; \quad x \ge 0; \quad y \ge 0$
- 8. (a) Write an equation of the circle that passes through the given points. A(4, 5), B(-4, -3), C(8, -3)
 - (b) Prove that $Cos(\alpha + \beta) = Cos \alpha Cos\beta Sin\alpha Sin\beta$
- 9.(a) Find the center, Foci, Eccentricity vertices and equation of directrices of $x^2 y^2 = 9$
 - (b) Find the volume of tetrahedron whose vertices are A(2, 1, 8), B(3, 2, 9), C(2, 1, 4) and D(3, 3, 0)

16-2018(A)-6500 (MULTAN)

Paper C			2018 (A)	Ro	oll No:	
Number	r: 4192	INTERMEDIA		·II (12 th CL	ASS)	
MATH GROU		PER-II OBJ	ECTIVE		ME ALLOWE	
Note:	You have four choic	es for each objective	type question	n as A, B, C a	and D. The cho	ice which you
think is	correct, fill that bul	bble in front of that o	question num	ber. Use mai	rker or pen to fi	ill the hubbles.
Cutting	or filling two or mo	re bubbles will resul	t in zero mar	k in that que	stion. Attempt a	is many
question	ns as given in objecti	ive type question pap d. Do not solve que	per and leave	others blank	No credit will	be awarded in
Q.No.1	In the second seco	u. Do not source que	Stions on the	Sheet or One	JECHVETAL	CR.
(1)	If $g(x) = \frac{3}{x-1}$,	then $gog(4) =$	(A)	3 (B) 1	(C) Undefined	(D) 0
(2)	Sin70		19.5 6			
(2)	$\lim_{\theta \to 0} \frac{Sin7\theta}{\theta} =$		(A)	0 (B) Und	lefined (C) 1	(D) 7
(2)	$d(c_{22}-1, 2_{22})$	3		-3	1	-1
(3)	$\frac{d}{dx}\left(\cos^{-1}3x\right) =$	(A) $\frac{1}{\sqrt{1-9x^2}}$	= (B) $\frac{1}{\sqrt{1}}$	$\frac{1}{-9r^2}$ (C)	$\frac{1}{\sqrt{1-9x^2}}$ (E)	$\frac{1}{\sqrt{1-9r^2}}$
	$d = \frac{1}{5x-2}$	V 5x-2	V.	- 74	$\sqrt{1-9x}$	$\sqrt{1-9x}$
(4)	$\frac{d}{dx} e^{5x-2} =$	(A) $5e^{5x-2}$	(B) $2e^{5x}$	⁻² (C)	e^{5x-3} (I	$) 5e^{5x-3}$
100	d^2					
(5)	$\frac{d^2}{dx^2}(\cos h 3x) =$	(A) $3\cos h3x$	(B) 3sin	h3x (C)	$-9\cos h3x$ (I	$9\cos h3x$
(6)	$\frac{d}{dx}\left(\cot^{-1}\frac{x}{a}\right) =$	(A) $\frac{a}{2}$	(B) $\frac{a}{2}$	$\frac{2}{2}$ (C)	$\frac{-a}{a^2 + r^2} \qquad (1)$	(-1)
		$a^{-} + x^{-}$	a* +	$-x^2$	$a^2 + x^2$	$a^{2} + x^{2}$
(7)	$\int \frac{1}{ax+b} dx =$					
	(A) $ln(ax+b)+c$	(B) $\frac{1}{a} ln(ax)$	((+b)+c)	$\frac{1}{2} - ln(ax +$	(b) + c (D) a	ln(ar+b)+
	c (1)	a		b	0)10 (D) u	cn(ux+v)+
(8)	$\int e^x \left(\frac{1}{x} + \ln x\right) dx =$	$= (A) e^{x}$	lnx+c (E	$\frac{1}{2}e^x + c$	(C) $e^x + c$ (D) $lnx+c$
	π			x		
(9)	$\int Cos x dx =$	(A) π	(B) 2	2 (C) 1	(D) 0	
	0					
(10)	$\int \frac{1}{x} dx =$	(A) 0	n/ (D) /	(() 1-2		
1	$\int_{2}^{2} x$	(1) (1	n4 (B) 4	(C) <i>ln</i> 2	(D) 2	
(11)	Distance between p	oints (7, 6) and (3,	3) is:-	(A)	3 (B) 5 (C) 6 (D) 7
(12)	If two lines with slo	opes m_1, m_2 are parall	lel then:-			
	(A) $m_1 = m_2$	(B) $m_1 = -m_2$	$(C) - \frac{m}{2}$	$\frac{n_1}{1} = 2$	(D) $\frac{m_1}{m_1} = -\frac{m_1}{m_1}$	é.
		(-)-1	(c) n	n ₂ - 2	$(D) \frac{1}{m_2} = -1$	
(13)	Slope of line $5x + 2$	(B) $m_1 = -m_2$ 7 $y = 35$ is:-	(A) $\frac{5}{7}$	(B) $\frac{7}{5}$	(C) 35 (D) -	$\frac{-5}{7}$
(14)	Equation of line wit	th slope -2 , y - interest of the slope -2 , y - interest o	cept 3 is:-			
	(A) $x - 2y = 3$	(B) $3x + 2y =$	2 (C) 2	x + y = 3	(D) $x + 3y =$: 2
(15)	point satisfy					
	(A) (3, 1)	(B) (-1, 1)	(C) (1, -1)	(D) $(0, -2)$	
(16)		$+y^2 - 6x + 4y + 13$				
	(A)(3, -2)	(B) (-3 2)	(0) (-3, 2)	(D) (3, 2)	
(17)	Equation of directrix	(B) $(-5, -2)$ x of $y^2 = -4ax$ is:- (B) $y = a$			(-) (0, -)	
	(A) $y = -a$	(B) $y = a$	(C) <i>x</i>	= - <i>a</i>	(D) $x = a$	
(18)	Focus of $\frac{x^2}{25} + \frac{y^2}{15}$	= 1 is:-	$(A)(\pm 4,0)$	(B) $(\pm 5, 0)$	(C)(0+3)	(D) (+3.0)
(18)	Focus of $\frac{x}{25} + \frac{y}{16}$	= 1 is:-	(A) $(\pm 4, 0)$	(B) $(\pm 5, 0)$	(C) $(0, \pm 3)$	
(18) (19) (20)	Focus of $\frac{x}{25} + \frac{y}{16}$ $2\underline{i} \times 2\underline{j} \cdot \underline{k} =$	= 1 is:-	(A) (±4, 0) (A) 2	(B) (±5, 0)(B) 4	(C) $(0, \pm 3)$ (C) 0 (B) $\frac{2}{7}$ (C) $\frac{3}{7}$	(D) 6

16(Obj)(1)-2018(A)-6500 (MULTAN)

Paper (20	18 (A)	Roll No:	
Numbe			2 PART-II (12***)	CLASS)	
MATI GROU	HEMATICS PA JP-II		and a standard standard standard standard standards and standard standards and standard standards and standards	TIME ALLOWEI MAXIMUM MAI	
think is Cutting questio	s correct, fill that bu g or filling two or me ns as given in object	ces for each objective typ bble in front of that ques ore bubbles will result in ive type question paper a ed. Do not solve question	e question as A, B, tion number. Use zero mark in that and leave others bla	C and D. The choic marker or pen to fil question. Attempt as ank. No credit will	ce which you l the bubbles. s many be awarded in
(1)		$+ y^2 - 6x + 4y + 13 = 0$			
(2)	(A) $(3, -2)$ Equation of directri	(B) $(-3, -2)$ x of $y^2 = -4ax$ is:- (B) $y = a$	(C) (-3, 2)	(D) (3, 2)	
	(A) $y = -a$ r^2 v^2	(B) $y = a$	(C) $x = -a$	(D) $x = a$	
(3)		= 1 is:- (A) $(\pm 4,$			(±3,0)
	$2\underline{i} \times 2\underline{j} \cdot \underline{k} =$) 2 (B) 4		(D) 6
(5)	For a vector $\underline{v} = 2\underline{i}$	$+3\underline{j}-6\underline{k}, \ Cos\beta =$	(A) $\frac{-6}{7}$	(B) $\frac{2}{7}$ (C) $\frac{3}{7}$	(D) $\frac{-3}{7}$
(6)	If $g(x) = \frac{3}{x-1}$, t	hen $gog(4) =$	(A) 3 (B)	1 (C) Undefined	(D) 0
(7)	$\lim_{\theta \to 0} \frac{Sin7\theta}{\theta} =$		(A) 0 (B) 1	Undefined (C) 1	(D) 7
(8)	$\frac{d}{dx}\left(\cos^{-1}3x\right) =$	$(A) \ \frac{3}{\sqrt{1-9x^2}}$	(B) $\frac{-3}{\sqrt{1-9x^2}}$	(C) $\frac{1}{\sqrt{1-9x^2}}$ (D)	$\frac{-1}{\sqrt{1-9x^2}}$
(9)	$\frac{d}{dx} e^{5x-2} =$			(C) e^{5x-3} (D)	
(10)	$\frac{d^2}{dx^2}(\cos h \Im x) =$	(A) $3\cos h3x$	(B) $3\sin h 3x$	$(C) -9\cos h3x (D)$	$9\cos h3x$
(11)	$\frac{d}{dx}\left(\cot^{-1}\frac{x}{a}\right) =$	(A) $\frac{a}{a^2 + x^2}$	(B) $\frac{a^2}{a^2 + x^2}$	(C) $\frac{-a}{a^2 + x^2}$ (D)	$\frac{-1}{a^2 + x^2}$
(12)	$\int \frac{1}{ax+b} dx =$				
		$C \qquad (B) \ \frac{1}{a} \ell n (ax + b)$	$+c$ (C) $\frac{1}{b}\ell n(a)$	$(x+b)+c$ (D) $a\ell$	2n(ax+b) +
	$\int e^x \left(\frac{1}{x} + \ln x\right) dx$	$x = (A) e^{x} \ell r$	$ax+c$ (B) $\frac{1}{x}e^x+$	c (C) $e^{x} + c$ (D) $lnx+c$
(14)	$\int_{0}^{n} \cos x dx =$	(A) π	(B) 2 (C) 1	(D) 0	
(15)	$\int_{2}^{4} \frac{1}{x} dx =$	(A) <i>ln4</i>	(B) 4 (C) 4	en2 (D) 2	
(16) (17)	Distance between p If two lines with sl	points (7, 6) and (3, 3) is opes m_1, m_2 are parallel the	s:- ((A) 3 (B) 5 (C)	6 (D) 7
	(A) $m_1 = m_2$	(B) $m_1 = -m_2$	(C) $\frac{m_1}{m_2} = 2$	(D) $\frac{m_1}{m_2} = -1$	
(18)	Slope of line $5x +$	7y = 35 is:- (A	(b) $\frac{5}{7}$ (B) $\frac{7}{5}$	(C) 35 (D) -	5
(19)	Equation of line with $(A) x - 2y = 3$	th slope -2 , y - intercept (B) $3x + 2y = 2$	3 is:- (C) $2x + y = 3$	(D) $x + 3y =$	2
(20)	$\underline{\qquad}$ point satisfy (A) (3, 1)	x - y < 2. (B) (-1, 1)	(C) (1,-1)	(D) $(0, -2)$	
	· · · · · · · · · · · · · · · · · · ·	(D)(-1, 1)		(1/1(1) - /)	

Paper	And the second second second	201 INTERMEDIATE	8 (A)	Roll No:
Numbe				
	HEMATICS PA UP-II	PER-II OBJECT		TIME ALLOWED: 30 Minute MAXIMUM MARKS: 20
Note:	You have four choic			, C and D. The choice which you
think is Cutting question	is correct, fill that bu g or filling two or mo ons as given in object UBBLES are not fille	bble in front of that quest ore bubbles will result in z	ion number. Use zero mark in that nd leave others bl	marker or pen to fill the bubbles. question. Attempt as many ank. No credit will be awarded in
(1)		pints (7, 6) and (3, 3) is:-		(A) 3 (B) 5 (C) 6 (D) 7
(2)		pes m_1, m_2 are parallel the		
		(B) $m_1 = -m_2$		(D) $\frac{m_1}{m_1} = -1$
			<i>m</i> ₂	m_2
(3)	Slope of line $5x + 7$	y = 35 is:- (A)	$\frac{5}{7}$ (B) $\frac{7}{5}$	(C) 35 (D) $\frac{-5}{7}$
(4)	Equation of line wit	h slope – 2, y – intercept 3	is:-	
	(A) x - 2y = 3	(B) $3x + 2y = 2$	(C) $2x + y = 3$	3 (D) $x + 3y = 2$
(5)	point satisfy			
	(A) (3, 1)	(B) (-1, 1)	(C) (1,-1)	(D)(0, -2)
(6)	Centre of circle x^2 +	$-y^2 - 6x + 4y + 13 = 0$ i	s:-	
	(A) (3, -2)	(B) $(-3, -2)$	(C) (-3, 2)	(D) (3, 2)
(7)	Equation of directrin	of $y^2 = -4ax$ is:-		
		(B) $y = a$	(C) $x = -a$	(D) $x = a$
(8)	Focus of $\frac{x^2}{25} + \frac{y^2}{16}$	= 1 is:- (A) $(\pm 4, 0)$) (B) $(\pm 5, 0)$	(C) $(0, \pm 3)$ (D) $(\pm 3, 0)$
(9)	$2\underline{i} \times 2\underline{j} \cdot \underline{k} =$			(C) 0 (D) 6
(10)	For a vector $\underline{y} = 2\underline{y}$	$+3\underline{j}-6\underline{k}, Cos\beta =$		$\frac{5}{2}$ (B) $\frac{2}{7}$ (C) $\frac{3}{7}$ (D) $\frac{-3}{7}$
(11)	If $g(x) = \frac{3}{x-1}$,	then $gog(4) =$	(A) 3 (B)	1 (C) Undefined (D) 0
(12)	$\lim_{\theta \to 0} \frac{Sin7\theta}{\theta} =$		(A) 0 (B) t	Undefined (C) 1 (D) 7
(13)	$\frac{d}{dx} \Big(Cos^{-1} 3x \Big) =$	$(A) \ \frac{3}{\sqrt{1-9x^2}}$	(B) $\frac{-3}{\sqrt{1-9x^2}}$	(C) $\frac{1}{\sqrt{1-9x^2}}$ (D) $\frac{-1}{\sqrt{1-9x^2}}$
(14)	$\frac{d}{dx} e^{5x-2} =$	(A) $5e^{5x-2}$ ((B) $2e^{5x-2}$ ((C) e^{5x-3} (D) $5e^{5x-3}$
(15)	$\frac{d^2}{dx^2}(\cos h 3x) =$	(A) $3\cos h3x$ ((B) $3\sin h 3x$ ((C) $-9\cos h3x$ (D) $9\cos h3x$
(16)	$\frac{d}{dx}\left(\cot^{-1}\frac{x}{a}\right) =$	(A) $\frac{a}{a^2+x^2}$ ($B) \frac{a^2}{a^2 + x^2} \qquad ($	(C) $\frac{-a}{a^2 + x^2}$ (D) $\frac{-1}{a^2 + x^2}$
(17)	$\int \frac{1}{ax+b} dx =$			
	(A) $ln(ax+b)+c$	(B) $\frac{1}{a}\ell n(ax+b)$	+ c (C) $\frac{1}{b} ln(a)$	$(x + b) + c$ (D) $a \ell n(ax + b) + c$
(18)	$\int e^x \left(\frac{1}{x} + \ln x\right) dx$	$= (A) e^{x} \ell n x$	$(+c) (B) \frac{1}{x}e^{x} +$	c (C) $e^{x} + c$ (D) $lnx + c$
	$\int_{0}^{\pi} \cos x dx =$	(A) <i>π</i>	(B) 2 (C) 1	(D) 0
(20)	$\int_{-\infty}^{4} \frac{1}{x} dx =$	(A) <i>ln4</i>	(B) 4 (C) <i>l</i>	<i>en</i> 2 (D)2
	2			

16(Obj)(☆☆☆)-2018(A)-6500 (MULTAN)

10.500	Code	2018 (A)	Roll No:
Numbe		INTERMEDIATE PART-II	(12 th CLASS)
		PER-II	TIME ALLOWED: 30 Minu
GRO		<u>OBJECTIVE</u>	MAXIMUM MARKS: 20
Cutting questio	s correct, fill that bub g or filling two or mor ns as given in objectiv JBBLES are not filled	ble in front of that question number re bubbles will result in zero mark i	hers blank. No credit will be awarded
(1)	$\frac{d}{dx}\left(\cot^{-1}\frac{x}{a}\right) =$	(A) $\frac{a}{a^2 + x^2}$ (B) $\frac{a^2}{a^2 + x^2}$	$\frac{1}{a^2}$ (C) $\frac{-a}{a^2 + x^2}$ (D) $\frac{-1}{a^2 + x^2}$
(2)	$\int \frac{1}{ax+b} dx =$		
	(A) $ln(ax+b)+c$		$\frac{1}{b}\ell n(ax+b) + c (D) \ a\ell n(ax+b)$
	$\int_{\pi} e^x \left(\frac{1}{x} + \ln x \right) dx =$	$= (A) e^{x} \ell n x + c (B)$	$\frac{1}{x}e^{x}+c (C) e^{x}+c (D) \ \ln x+c$
(4)	$\int_{0}^{n} \cos x dx =$	(A) π (B) 2	(C) 1 (D) 0
(5)	$\int_{2}^{4} \frac{1}{x} dx =$	(A) <i>ln4</i> (B) 4	(C) $ln2$ (D) 2
(6) (7)	Distance between poi If two lines with slop	ints (7, 6) and (3, 3) is:- es m_1 , m_2 are parallel then:-	(A) 3 (B) 5 (C) 6 (D) 7
		(B) $m_1 = -m_2$ (C) $\frac{m_1}{m_2}$	
(8)	Slope of line $5x + 7y$	$v = 35$ is:- (A) $\frac{5}{7}$ (B)	$\frac{7}{5}$ (C) 35 (D) $\frac{-5}{7}$
(9)		slope - 2, y - intercept 3 is:- (B) $3x + 2y = 2$ (C) $2x + 3y = 2$	+ $y = 3$ (D) $x + 3y = 2$
(10)	$\frac{1}{(A)(3, 1)}$	x - y < 2. (B) (-1, 1) (C) (1,	-1) (D)(0, -2)
(11)	Centre of circle x^2 + (A) (3, -2)	$-y^2 - 6x + 4y + 13 = 0$ is:- (B) (-3, -2) (C) (-3	(D) (3, 2)
(12)	Equation of directrix	x of $y^2 = -4ax$ is:- (B) $y = a$ (C) $x =$	
(13)			B) $(\pm 5, 0)$ (C) $(0, \pm 3)$ (D) $(\pm 3, -2)$
			B) 4 (C) 0 (D) 6
(15)			A) $\frac{-6}{7}$ (B) $\frac{2}{7}$ (C) $\frac{3}{7}$ (D) $\frac{-3}{7}$
(16)	If $g(x) = \frac{3}{x-1}$,	then $gog(4) =$ (A)	A) 3 (B) 1 (C) Undefined (D)
(17)	$\lim_{\theta \to 0} \frac{Sin7\theta}{\theta} =$		(B) Undefined (C) 1 (D) 7
(18)	$\frac{d}{dx}\left(\cos^{-1}3x\right) =$	(A) $\frac{3}{\sqrt{1-9x^2}}$ (B) $\frac{-3}{\sqrt{1-9x^2}}$	$\overline{x^2}$ (C) $\frac{1}{\sqrt{1-9x^2}}$ (D) $\frac{-1}{\sqrt{1-9x^2}}$
(19)	$\frac{d}{dx} e^{5x-2} =$	(A) $5e^{5x-2}$ (B) $2e^{5x-2}$	(C) e^{5x-3} (D) $5e^{5x-3}$
	$\frac{d^2}{dr^2}(\cos h 3x) =$		

16(Obj)(☆☆☆☆)-2018(A)-6500 (MULTAN)

BOARD OF INTERMEDIATE AND SECONDARY EDUCATION, MULTAN **OBJECTIVE KEY FOR INTERMEDIATE ANNUAL/SUPPLY EXAMINATION, 2018**

Name of Subject: Mathematics

Group : 1st Session:

Group: 2nd

Paper Code

4196

B

A

D

C

B

A

D D

B

C C

D

В

A

D C

B

7

D

C

Paper Code

4198

C

B

A

D

C B

A

D C

B

A

D

D B

C

C

D

B

A

D

Q.	Paper Code	Paper Code	Paper Code	Paper Code	Q.	Paper Code	Paper Code	F
Nos	4191	4193	4195	4197	Nos	4192	4194	
1	A	С	C	ß	1	С	A	
2	B	C	A	B	2	D	D	Γ
3	B	C	B	A	3	B	D	
4	c	B	B	C	4	A	B	
5	C	A	D	B	5	Ð	C	
6	B	A	C	C	6	C.	C.	
7	B	B	C	A	7	B	D	
8	A	B	С	B	8	A	B	
9	C	C	B	B	9	D	A	
10	B	C	A	D	10	C	D.	1
11	C	B	A	C	11	B	C	-
12	A	B	B	C	12	A	B	-
13	B	A	B	C	13	D ·	A	1
14	B	C	C	B	14	C ·	D	
15	D	B	C	A	15	B	C	
16	C	С	B	A	16	A	B	1
17	C	A	B	B	17	D	A	
18	С	B	A	B	18	D		A
19	B	B	C	C	19	B	C	
20	A	D	B	C	20	C	B	-

بر شِفَلِتْ بابت في مواليه برجد إماركت Key

<u>بچ رما من المبارد با / 1</u> سیم معو انزسالاندامنی امتحان 2018 کا ہم نے مضمون رماضی سوالیہ پرچہ انثاثیہ ومعروضی(Subjective & Objective) کو بنظر عمیق چیک کرلیا ہے یہ پرچہ Syllabus کے عین مطابق Set کیا گیا ہے۔ اس سوالیہ پرچہ میں کی قتم کی کوئی غلطی ند ہے ۔ ہم نے سوالیہ پر چہ کا اردو اور انگریز Version بھی چیک کرلیا ہے۔ یہ Version آپس میں مطابقت رکھتے ہیں۔ نیز اس پر چہ ی معروض (Key (MCQs) کی بابت تقدیق کی جاتی ہے کہ اس میں بھی کی قسم کی کوئی غلطی نہ ہے۔ مزید سے کہ ہم نے Key بنانے سے متعلق دفتر کی جانب سے تیار کردہ بدایات وصول کرے ان کا بغور مطالعہ کرلیا ہے اور ان کی روشی میں Key بنائی ہے۔ نیز سب ا گزامیز ز کیلے تفصیلی مارکنگ بدایات/ مارکنگ سیم/Rubrics بھی تیار کر دی گنی ہیں۔

Prepared & Checked By:

S.#	Name	Designation	Institution	Mobile No	Signature
1	Kauser Ali Tulm	Also . Prof.	Govi Millar College milin	0300-6510 675	Alth
2	Muhammad gabale	Asso. Prod	G. A. college of SC Mule	0301-75536	16 Washi
3	Muhamma Yourst	Assoporg.	A	332 - 6008	
4	Noorullah,	A-P	Gout Emerson alleg	0333	Acuse
5					
Re-Ch	- می کوئی غلطی نہے۔ necked By	م مل طور پر سل کر لی ب	نی)،معروض "Key" اور مدایات کے حوالد -	يه برجه (انثائيه + معرد	تم في درج بالاسوال
1	Javed Igbal Ans	Asio Plug	G.E.C. Multan	03 00 6364666	Frank
2	FayyazHussain	Assista	1932 - Ca. W. H. D. BT.	5665249	Other .

ثانوی و اعلیٰ ثانوی تعلیمی بورڈ، ملتان مور*د*: <u>18/2/8</u>1 منمون: <u>محمق پچ: TT</u>گروپ: <u>T</u>

<u>جن المحاط المسطون. بحلام برجة مسلم لروب: معن المحاليات برائك سميم)</u> جزل هدايات برائح ماركنگ Keyاولد سميم اينو سميم (ماركنگ سميم) انثر پارث فرست اسيكند سالانه العنمي امتحان 2018ء

Sr #	Code	Error Indicated	Sr #	Code	Error Indicated
1.	UN	Un-Necessary	8.	Sp	Spelling Error
2.	lr	Irrelevant	9.	P	Punctuation
3.	IN	Incomplete	10.	Wo	Wrong word error
4.	EX	Extra	11.	Wt	Wrong Tense
5.	Rp	Re-Produced	12.	Wf	Wrong Form
6.	ls	Insufficient	13.	OA ·	Over Attempt
7.	Gr	Grammar Error	1		
	-25in $-25in$ $+35 =$ $+ n(n)$ $+ n(n)$ $+ n(n)$ $+ n(n)$ $+ n(n)$	$\frac{(a+h+e)}{(a+h+e)} = \cos x, \frac{f(a+h)}{f(a+h+e)} = \frac{h}{\sin(a+h+e)}$ $\frac{(a+h+e)}{\sin(a+h+e)} = \frac{h}{\sin(a+h+e)}$ $\frac{(1+h+e)}{n \rightarrow \infty} = \frac{h}{n}$ $\frac{-1}{n} = \frac{h}{n}$ $\frac{(1+h+e)}{n} = \frac{h}{n}$ $\frac{(1+h+e)}{n} = \frac{h}{n}$	$\frac{a+h}{h^2}$ $\lim_{n \to \infty} (a+1) \frac{1}{n^2}$	$\frac{-a}{h} = \frac{-a}{h} \frac{1}{h}$	$\frac{1}{n} + \frac{1}{n(n-1)} \frac{1}{n^2}$
		$\frac{1}{2!}(1) + \frac{1}{3!} + \frac{1}{3!}$ $R \cdot H \cdot S$	1; + . ,	uppey !	limit n ³ - IM
>	uf y	= 2-1x => y. 1x+8x-2+1x =	+ &y =	2-12	+ 5x
= (-1x-1	x+3x) (x+1x+8	5×5 =	- x-	-(x+6x) (
ST	= .	- 5/2 × 1 x+5x+5x × 5x		-1	M

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