BOARD OF INTERMEDIATE EDUCATION, KARACHI

H.S.C. Annual Examinations 2021

(MODEL QUESTION PAPER)

BUSINESS MATHEMATICS PAPER-I (Commerce Regular & Private Groups)

Total Duration: 01:30 Minutes

Time Allowed: 40 Minutes SECTION "A" (M.C.Qs) Max Marks: 25

Note: This section consists of 25 part questions and all are to be answered. Each question carries one mark.

- 1. Choose the correct answer for each from the given option.
 - i. In binary number system 1+1 =:

♦ 2 **1** 102

ii. The product of (x - 1) and (x + 1) is equal to:

iii. The binary number 102 is equivalent to the decimal number:

- v. $(a + b)^2$ $\Rightarrow a^2 2ab + b^2 \Rightarrow a^2 + 2ab + b^2$ $\Rightarrow a^2 2ab b^2 \Rightarrow a^2 + b^2$
- vi. $(25)^{1/2} \times (8)^{1/3} \times (2)^2$

♦ 200
♦ 400
♦ 40

vii. 5% of 400 is:

♦ 20
♦ 50
♦ 25

viii. 120 is 30% of:

♦ 360♦ 400♦ 1200

ix. If a:b = 2:3 and a:c = 2:4, then b:c = 2:4. Page 1 of 4

	*	3:2	*	3:4			
Х.	If selling price is:	e of a chair is Rs.	700 and profi	t is Rs.250, then cos	st price of chair		
	*	Rs. 950 Rs.400	*	Rs.450 Rs.500			
xi.	The ratio of 1.5 feet to 30 inches is:						
	*	3:5 1:2	•	1:10 2:5			
xii.	If $x:6 = 6:x$, th	nen x=:					
	*	9 8	O	-6 ±6			
xiii.	If simple inte	rest on Rs. 5000	isRs.100, the	en accumulated amo	ount is Rs.:		
	 **	5500 5100	ایان	4900 1500	*		
xiv.	$A \times A^{-1} =:$						
	14	A ⁻¹ Null matrix	1	A Le	3		
XV.	When a serie known as:	es of equal amour	nt is made at	equal intervals, each	n payment is		
	15	Annuity Interest	8	Principal amount Investment			
xvi.	The slope of	x-axis is:	14.75	Sal			
	13	2 5		3			
xvii.	The y-interce	ept of the line 2y :	= x is	F UCATIO			
	: \	1/2 0 KA	RACH	1			
xviii.	The turning p	point of parabola i	s called:				
	*	Ratio Vertex	*	Roots Average			

		*	3 and 9 3 and -9	*	-3 and 9 1/3 and 1/9					
XX.	If the number of rows and columns of a matrix are equal then the matrix is called:									
		*	Null matrix Unit matrix	*	Square matrix Rectangular matri	ix				
xxi.	The	simple interest of Rs. 6000 for 3 years at 10% per year is Rs.								
		*	1000 180	*	600 1800					
xxii.	The	parabola	$y = 3x^2 + 2x + 24$ ope	ens:						
		:	towards right downward		towards left upward					
xxiii.	A matrix whose inverse does not exist is known as:									
			Null matrix Unit matrix	1/2	Square matrix Singular matrix	7.				
xxiv.	The ordered pair (-3, 4) is located on the quadrant:									
	3		First Third	*	Second Fourth	رگز				
XXV.	The graph of a quadratic equation is a:									
			Straight line Circle		Curve Rectangle					
Time: 5	1	Max. Marks: 25								
SECTION 'B' (SHORT-ANSWER QUESTIONS) (15 Marks)										
Q2.	INTERMEDIALE TOGATION									
	(i) If 16 men paint 8 houses in 7 days. How manyhouses can 5 men paint in14 days?									
	(ii) Perform the following binary operations:									
		(a) 10)11 + 1001 – 111	(b)	1001 x 101					
	(iii) Find the compound interest and accumulate amount on Rs.60000 for 5 years at 7% per annum compounded quarterly.									

The x-intercept and y-intercept of the equation $\frac{x}{3} - \frac{y}{9} = 1$ are:

xix.

(iv) Find the inverse of the matrix $A = \begin{bmatrix} 2 & -8 \\ 3 & 6 \end{bmatrix}$

OR

- (a) Convert the binary number 1011₂ to its equivalent decimal number.
- (b) Convert the decimal number 56 to the equivalent binary number.
- (v) Find the equation of straight line passes through the point (2, 3) with slope=4. Also find x-intercept and y-intercept.

SECTION 'C' DETAILED -ANSWER QUESTIONS (10 Marks)

Answer any one question from this section. All questions carry equal marks.

- **Q3.** (a) Solve the equation: $\frac{-2}{2x+1} \frac{4}{2x-1} = 5$
 - (b) Solve the following simultaneous equations by Cramer's Rule. x + 2y = 6, 2x + 7y = 3
- **Q4.** (a) For the equation $x^2 5x + 6 = 0$, find the vertex and roots of the parabola.
 - (b) Distribute Rs. 120000 among three partners A, B and C such that A:B = 1:2 and B:C = 3:1.

