

Paper Code Number: 2643		2023 (1 st -A) INTERMEDIATE PART-I (11 th Class)		Roll No: <u>MTN-11-23</u>	
BUSINESS MATHEMATICS (COMMERCE GROUP) PAPER-I					
TIME ALLOWED: 15 Minutes		OBJECTIVE		MAXIMUM MARKS: 10	
Q.No.1		You have four choices for each objective type question as A, B, C and D. The choice which you think is correct, fill that bubble in front of that question number, on bubble sheet. Use marker or pen to fill the bubbles. Cutting or filling two or more bubbles will result in zero mark in that question.			
S.#	QUESTIONS	A	B	C	D
1	$(101)_2 + (11)_2$ is equal to:	$(101)_2$	$(111)_2$	$(110)_2$	$(1000)_2$
2	If $A = \begin{bmatrix} 1 & 2 & 4 \\ 3 & 1 & 0 \end{bmatrix}$ then order of A' will be:	3×2	2×3	3×3	2×2
3	Inverse of the matrix will be possible if the matrix is:	Singular	Null matrix	Non-singular	Row matrix
4	The missing term x in the proportion $x : 5 :: 15 : 25$ is:	3	5	15	25
5	What percent Rs.50 is of Rs.250?	5%	50%	10%	20%
6	In which case more interest is earned if interest rate is compounded?	Annually	Monthly	Quarterly	Semi-annually
7	A cubic function is of degree:	2	1	3	0
8	The graph of a linear function is:	Parabola	Straight line	Circle	Curve
9	The quadratic formula for $ax^2 + bx + c = 0$ is:	$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$	$\frac{-b \pm \sqrt{c^2 - 4ac}}{2a}$	$\frac{-b \pm \sqrt{b^2 - 4bc}}{2a}$	$\frac{-b \pm (b^2 - 4ac)^2}{2a}$
10	A binary number $(101)_2$, in decimal number system is equal to:	4	5	6	3

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2023 (1 st -A)		Roll No: MTN-11-23
INTERMEDIATE PART-I (11 th Class)		
BUSINESS MATHEMATICS (COMMERCE GROUP) PAPER-I		
TIME ALLOWED: 1.45 Hours	SUBJECTIVE	MAXIMUM MARKS: 40
NOTE: Write same question number and its parts number on answer book, as given in the question paper.		
SECTION-I		
2. Attempt any six parts.		6 × 2 = 12
(i)	Define Ratio with example.	
(ii)	Define Proportion.	
(iii)	300 is what percentage of 1000.	
(iv)	Find the simple interest on Rs.5000 for 10 years at 8% per annum.	
(v)	Write the formula of compound interest.	
(vi)	Solve for x : $2x + 20 - 5x = x - 6 + 9x$	
(vii)	Solve the equation $x + 2 [3x + 8] - 7 = 16$	
(viii)	Solve $9x^2 = 81$	
(ix)	Solve by factorization $x^2 + 9x + 18 = 0$	
3. Attempt any six parts.		6 × 2 = 12
(i)	Differentiate between Even and Odd function.	
(ii)	Draw the graph of liner equation $\frac{x}{2} + \frac{y}{4} = 1$	
(iii)	Convert 35 into binary system.	
(iv)	Convert $(10001)_2$ into decimal number.	
(v)	Solve $(10000) - (1011)_2$.	
(vi)	Define Column Matrix.	
(vii)	Find AB if $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 2 \\ 4 \end{bmatrix}$	
(viii)	Find $ A $ if $A = \begin{bmatrix} 1 & 5 \\ 3 & 2 \end{bmatrix}$	
(ix)	Find $B - A$ if $A = \begin{bmatrix} 1 & 2 \\ 3 & 2 \end{bmatrix}$, $B = \begin{bmatrix} -3 & -2 \\ 4 & 2 \end{bmatrix}$	
SECTION-II		
NOTE: Attempt any two questions.		2 × 8 = 16
4.(a)	15 men can finish a job in 8 days. How many men are required to do the same job in 5 days?	4
(b)	Calculate compound interest when Rs.750 invested for 8 years at 12% per annum.	4
5.(a)	If $f(x) = ax + 12$ and $f(-3) = 0$ then find the value of 'a'.	4
(b)	Solve the equation $\frac{1}{x} - \frac{1}{x-2} = 3$ $x \neq 0, 2$ by using quadratic formula.	4
6.(a)	Solve the system by Crammer's rule. $2x + 3y = 5$, $x + 2y = 3$	4
(b)	Simplify $(11111)_2 - [(1011)_2 + (1111)_2]$	4