

**Business Mathematics (INTERMEDIATE)**  
**(PART - I)** 021/1  
**(OBJECTIVE PART)**

(Smart Syllabus)

Marks : 10

Time : 15 Minutes

**Note:-** Write your Roll No. in space provided. Over writing, cutting, using of lead pencil will result in loss of marks. All questions are to be attempted.

1- Each question has four possible answers, Tick (  $\sqrt{\quad}$  ) the correct answer. (10)

1)	What percent of Rs 400 is 40;							
	A	30 %	B	20 %	C	15 %	D	10 %
2)	Comparison between two quantities of same units is known as;							
	A	Ratio	B	Proportion	C	Percentage	D	Intrest
3)	Intrest is classified in ----- classes;							
	A	Five	B	Four	C	Two	D	Three
4)	The value of $f(x) = 4x + 100$ at $x = 2$ is;							
	A	110	B	108	C	106	D	104
5)	Degree of quadratic equation is;							
	A	One	B	Two	C	Three	D	Four
6)	$5x + 70 = 0$ then $x = ?$							
	A	-14	B	-13	C	-12	D	-11
7)	A Matrix which has only one row is called ----- Matrix;							
	A	Square	B	Column	C	Row	D	Singular
8)	$\begin{vmatrix} 3 & 4 \\ 2 & 1 \end{vmatrix} = \text{-----}$							
	A	0	B	-1	C	2	D	-2
9)	Base of binary number system is -----;							
	A	10	B	8	C	4	D	2
10)	In binary system, 5 is equal to;							
	A	$(111)_2$	B	$(110)_2$	C	$(101)_2$	D	$(11)_2$

(The End)

**Business Mathematics**

021/1

(Smart Syllabus)

PAPER : PART - I

INTERMEDIATE

MARKS: 40

**ATK-21**

TIME : 1:45 Hours

(SUBJECTIVE PART)

Note:- Attempt any twelve (12) short parts selecting at least six questions from

Q. 2, Q. 3.

(12 × 2 = 24)

SECTION - I

2- Write short answers of any six parts.

(2 × 6 = 12)

i	Define ratio.	ii	Distribute Rs. 15000 in the ratio 3:2.
iii	160 is what percent of 80.	iv	If the simple interest on Rs. 15000 for 3 years is Rs. 900, find the rate of interest.
v	How long will it take for Rs. 35000 to produce Rs. 3500 as interest at the rate of 4%.	vi	Solve $3(x+1) + x^2 = x^2 + 12$ .
vii	Find three consecutive odd integers whose sum is 225.	viii	Solve by the method of factorization $2x^2 + 15x + 18 = 0$
ix	Solve by using quadratic formula $x^2 - 4x - 8 = 0$		

3- Write short answers of any six parts.

(2 × 6 = 12)

i	Define slope of line.	ii	If $Z = x^2 - y^2$ find the value of Z when $x = 1$ and $y = -5$ .
iii	If $A = \begin{bmatrix} 3 & 4 \\ -2 & 3 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix}$ Find $A + B$	iv	Find the value of 'x' when $A = \begin{bmatrix} 2x & -4 \\ -1 & 5 \end{bmatrix}$ and $ A  = 16$
v	If $A = \begin{bmatrix} 3 & 2 \\ 1 & 4 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 0 \\ 5 & 7 \end{bmatrix}$ then find $AB$ .	vi	If $A = \begin{bmatrix} 3 & 2 \\ 1 & 4 \end{bmatrix}$ Find $A^{-1}$
vii	Convert '13' into Binary number system.	viii	Evaluate $(100)_2 - (11)_2$
ix	Evaluate $(101)_2 \times (11)_2$		

SECTION - II

Note:- Attempt any two questions.

(8 × 2 = 16)

- 4- (a) A watch was sold for Rs. 850 on  $4\frac{1}{2}\%$  loss. Find the cost of the watch. (04)  
 (b) Calculate the compound interest earned for Rs. 5000 invested for 6 years at the rate of 7% per annum. (04)
- 5- (a) Solve  $\frac{1}{x+3} - \frac{1}{x-3} = 3$  by using quadratic formula. (04)  
 (b) Find domain and range of the function  $f(x) = \frac{x^3 - 8}{x - 2}$ ,  $x \neq 2$  (04)
- 6- (a) Find  $2A + 4B$  if  $A = \begin{bmatrix} 1 & 2 \\ -3 & 4 \end{bmatrix}$ ,  $B = \begin{bmatrix} 0 & 3 \\ 5 & -2 \end{bmatrix}$  (04)  
 (b) Simplify by changing into decimal system. (04)  
 $[(100111)_2 + (10101)_2] - (10111)_2$

(The End)