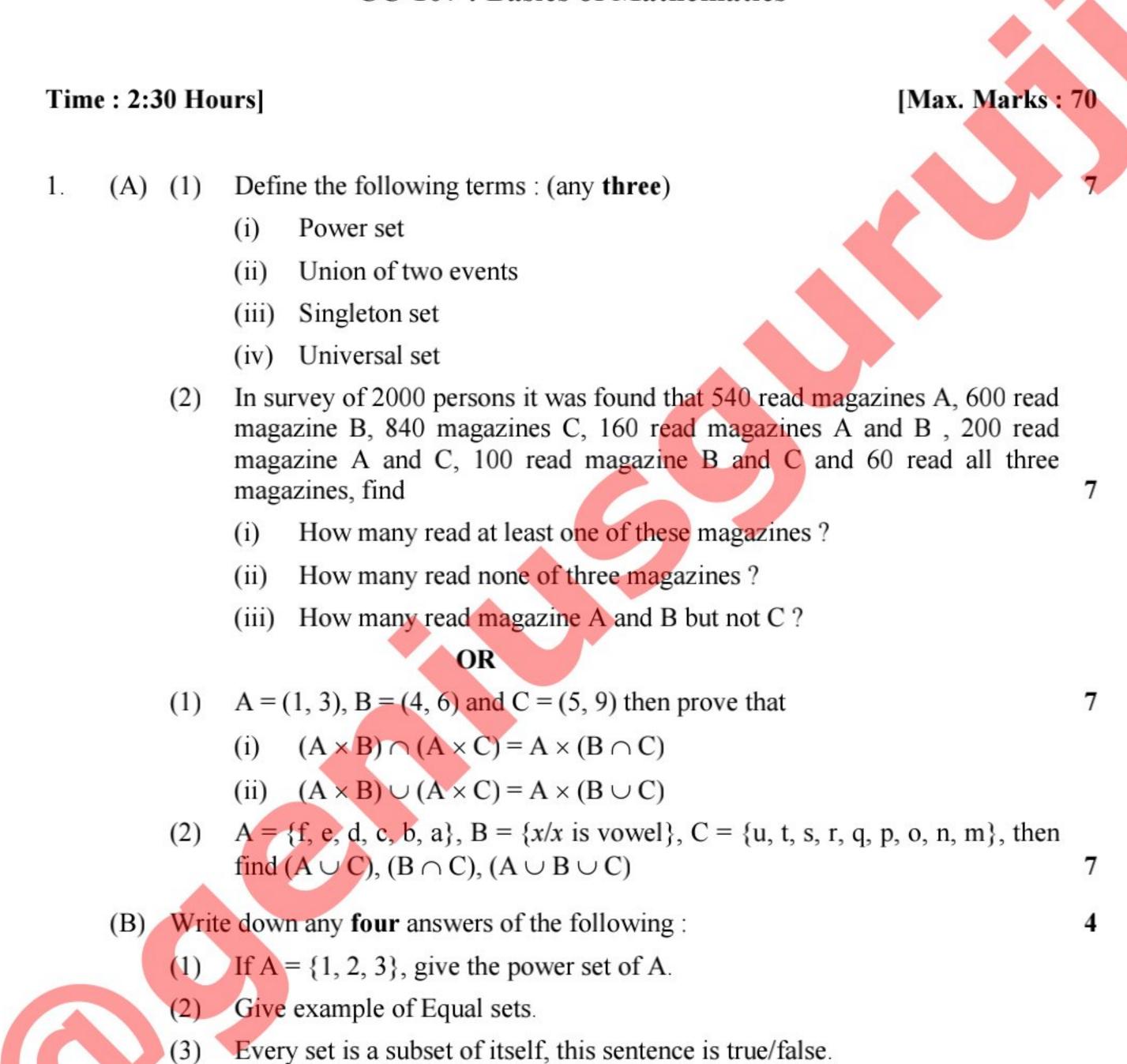
Seat No.	:

DF-105

December-2018

B.B.A., Sem.-I

CC-107: Basics of Mathematics



This statement is true/false. $A \cap A' = \phi$.

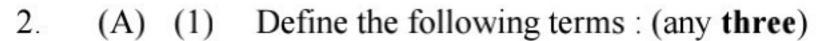
How many methods in sets theory?

Explain example of Cartesian product.

(4)

(5)

(6)

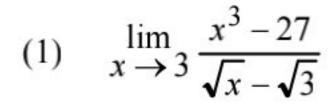


7

4

- (i) Domain of function
- (ii) One-One function
- (iii) $X \rightarrow 2$
- (iv) Function

(2) Solve any three:



(2)
$$\lim_{x \to \infty} \frac{1 - \sqrt{x}}{1 + \sqrt{x}}$$

(3)
$$\lim_{x \to 0} \frac{a^{5x} + a^{2x} - 2}{x}$$

$$(4) \quad \lim_{x \to \infty} \left(1 + \frac{9}{x} \right)^x$$

(5)
$$\lim_{x \to -1} \frac{x^2 - x - 2}{2x^2 - x - 3}$$

OR

- (1) For product A production the following information is available. Variable cost per unit ₹ 100, fixed cost ₹ 20,000, selling price ₹ 200 per unit. Find out the following:
 - (i) Break Even Point
 - (ii) Profit Function
 - (iii) If 250 unit produce then find out profit Loss.
- (2) Give the meaning of Limit of a Function. Also state the rules of Limit.
- (B) Write down any four answers of the following:

(1) Evaluate
$$\lim_{x \to 0} 2 + \frac{2}{3 + \frac{4}{x}}$$

- (2) Explain Equal function.
- $(3) X \rightarrow 0$
- (4) Give Example of Many one function.

(5)
$$\lim_{x \to 5} \frac{x^3 - 125}{x - 5}$$

(6) Write down Linear Function.

DF-1	05			3 P.T.	O.
		(2)	The sum of three numbers.	pers in A.P. is 24 and the sum of their squares is 200,	7
		(1)	Obtain the equation of $A(X_1, Y_1)$ and $B(X_2, Y_2)$	f a straight line passing through two given points,	7
				OR	
			+ 77 + 777 + 7777 +		
		(2)	ind the sum of n terms	5	7
			iii) The cost of manu	facturing 500 units	
			ii) The slope of the	ine and interprete it.	
			i) The linear relation	nship between x and y.	
4.	(A)	(1)	pon the number of i	turing x units is partly constant and partly depends inits manufactured. If the cost of manufacturing 400 t of manufacturing 600 units is ₹ 1,500, find	7
		(4)		e letter "ECONOMICS" be arranged ?	
		(3)	${}^{0}C_{3} + 2({}^{10}C_{4}) + {}^{10}C_{5} =$	$= {}^{12}C_x$, find value of x?	
		(2)	The formula for circula	r permutations of n things	
		(1)	How many three digit is if each digit can be us	numbers can be formed from the digit 0, 1, 2, 3, 4, 5, sed only once?	
	(B)	Write	down any three answe	rs of the following:	3
				the letters of the word "LAUGHTER" be arranged never be separated? Also find out if vowels are not	7
			ii) At least 2 girls.		<
			i) There are at the r	nost 2 boys	
		(1)	Out of four boys and nembers can be five for	six girls in how many ways a committee of five	7
			OR		4
			$1_{p}n: 12_{p}n = 3:4$		
		(2)	Solve the following Eq	uation :	7
			ii) Combination		
			i) Permutation		
3.	(A)	(1)	Explain:		7

- (B) Write down any three answers of the following:
 - (1) Formula for finding the nth term of A.P..
 - (2) What is the formula for finding out Slope in Perpendicular A(X₁, Y₁) and B(X₂, Y₂)
 - (3) If the equation of a straight line is 3x + 4y + 7 = 0, find its slope.

3

(4) Write down formula for G.P.



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