	Enrollm	ent No:	Exam Seat No:				
		C.U.SHA	H UNIVERSITY				
	Summer Examination-2017						
	Subject Name: Business Mathematics						
	Subject	Code: 4MS01BMM1	Branch: BBA				
	Semester	r: 1 Date: 28/03/2017	Time: 10:30 To 13:30 Marks: 70				
	Instructio (1) (1) (2) (1) (3) (1) (4) (4)	ons: Use of Programmable calculator Instructions written on main ansy Draw neat diagrams and figures Assume suitable data if needed.	& any other electronic instrument is prohibited. wer book are strictly to be obeyed. (if necessary) at right places.				
Q-1		Attempt the following question	ons:	(14)			
	a)	Give the formula for n th term in	n Arithmetic Progression	01			
	b)	Give the formula for sum of fir	rst n terms of a Geometric Progression.	01			
	c)	What is ${}_{n}P_{n}$?		01			
	d)	Find the value of $(31)^3$		01			
	e)	Evaluate $(21)^{5}$		01			
	I) g)	Find the value of (41) $F(x) = x^2 x$ Find $f(x+1) = f(x)$		01			
	g) h)	What is $10P_2$?		01			
	i)	Find $\lim_{x \to 1} \frac{x^2 + 2x + 5}{x^2 + 3x + 1}$		01			
	j)	Give the formula for summation	on of first n terms of Arithmetic Progression.	01			
	k)	$f(x)=2x^2+3x-1$. Find $f(2)$		01			
	l)	Give the formula for $\lim_{x \to a} \frac{x^n - a}{x - a}$	$\frac{n}{2}$ where n E Q	01			
	m)	Give the range of the function $f(x)=3x$	f:A->B; A= $\{1,2,3\}$; B= $\{1,2,3,4,5,6,7,8,9\}$,	01			
Atte	n) empt any f	Find x for 840*x =8! four questions from Q-2 to Q-8	3	01			
0.2		Attempt all questions		(14)			
× 4	a.	The demand function of a com	modity is $d=f(p)=75-3p$. Draw the demand curve	07			
	h.	and find the demand when price If $R_f = \{3, 8, 13, 18\}$ of $f(x)=5x-16$	ze is Rs. 10. 2 find its D _f	07			
				2.			

Attempt all questions a. The fixed cost of a factory manufacturing pressure cookers is Rs. 1,50,000 and the variable cost per cooker is Rs. 200. If the selling price of a cooker is Rs. 350, find the number of cookers to be produced for no profit-no loss. b. Prove that if unity is added to the sum of n terms of the series 3,5,7,9..... it

Q-3



(14)

07

07

becomes a perfect square.

Q-4		Attempt all questions	(14)
	a.	Find $\lim_{x \to -1} \frac{x^{29} + 1}{x^{25} + 1}$	07
	b.	Five numbers whose sum is 50 are in A.P. If the fifth number is three times the second number, find the numbers.	07
Q-5		Attempt all questions	(14)
	a.	It is observed that a quadratic function fits the data points $(1,9)$ $(2,14)$, $(3,23)$. Find the quadratic function and estimate y when x=4.	07
	b.	A man is 50 years old. He has 8 sons born at equal intervals. The sum of the ages of the father and the 8 sons is 186 years. If the youngest son is of 3 years age, find the age of eldest son.	07
Q-6		Attempt all questions	(14)
-	a.	In how many ways 4 Red, 2 Blue and 1 Green balls can be selected out of 8 Red, 4 Blue and 3 Green Balls?	07
	b.	Find the sum of the following series: $21^2+22^2+23^2++30^2$	07
Q-7		Attempt all questions	(14)
	a.	Evaluate $\lim_{x \to 2} \frac{x^4 - 16}{x - 2}$	07
	b.	A man borrows Rs. 9000 from his friend and promises him to repay the same in 30 installments. If each installment is Rs. 20 more than its previous one, find the first and last installments.	07
Q-8		Attempt all questions	(14)
	a.	If $y=f(x)=\underline{ax+b}$ prove that $x = f(y)$	07
	b.	Obtain the co-efficient of x in the expansion of $(2x-1/x)^5$	07

