Enrollment No:	Exam Seat No:
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C.U.SHAH UNIVERSITY

Summer Examination-2019

Subject Name : Computer Oriented Numerical Methods (CONM)

Subject Code: 5CS03MCN1 Branch: MCA

Semester: 3 Date: 11/03/2019 Time: 02:30 To 05:30 Marks: 70

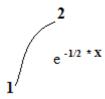
Instructions:

- (1) Use of Programmable calculator and any other electronic instrument is prohibited.
- (2) Instructions written on main answer book are strictly to be obeyed.
- (3) Draw neat diagrams and figures (if necessary) at right places.
- (4) Assume suitable data if needed.

SECTION - I

				SECTIO	N-1			
Q-1		Attempt the F	ollowing ques	stions			((07)
	a.	What is Decim	al Number?					01
	b.	Define Floating	g Point Repres	entation				01
	c. Convert $(110111)_{10} = ($ $)_2$ d. Define Binary Subtraction							
	e.	What is Hexa l	Decimal?					01
	f.	List out types of	of Error					01
	g.	Convert $(55)_2$	$t = ($ $)_{10}$					01
Q-2		Attempt all qu	iestions				((14)
-	a. Given that one root of the equation $X^2 - 2X - 5 = 0$, find the root correct to the significant digits. (Newton Raphson method)							05
	b.							
	c. Describe types of Error in brief							04
				OR				
Q-2		Attempt all qu	iestions				((14)
	a. Find the value of Y Using Following Table(Y on X Curve Fitting Method)							05
		X	3	4	5	6		
		Y	1.6	1.9	2.3	2.5		
	b. Given that one root of the equation $X^3 - 4X - 5$, find the root correct to three significant digits. (Regula-False method)							05
	c.							04
		1 6						





X

			1							
		the equation is	1							
Q-3		the equation is	etions							(14)
Q-3	a.	• •						07		
	a.	X	25	- 3.3 us	3111g Lai		linerpe	40	50	U7
		Y	52						94.1	
			l							07
	b.			Using following Table(Forward Difference Table)						
		X	2		2.25 2.5			2.75	3	
		Y	9	10	0.6	11.2	25	12.56	14	
		T 1 1 1 1		0.000	0					
Q-3	a.	Find the value of	_	= 0.390			ge Inve			07
		X	20			25		30	35	
		Y	0.342			0.423		0.500	0.650	0=
	b.	Find the value of						1		07
		X	2.5		3	3.5		10.52	4.5	
		Y	7.75	12	2.45	15.70		19.52	29.57	
					CTION	I - II				
Q-4		Attempt the Fo	llowing ques	stions						(07)
		What is Curve?								01
		Define Numerica								01
		What mean by C	•					es		01
		Write down a for			Simson	s 3/8 Ku	ile			01
		What is Differen			f Causa	Elimin o	4: a.a. M			01
		Write down two	* 1			EIIIIIIIIa	uon w	emod		01
	g. List out Methods of Difference Table 01									VI
Q-5		Attemnt all que	etione							(14)
Q-5	a.	 Attempt all questions a. Compute the following equation using R – K 2nd Order Method 							05	
	dy/dx = X^2 - Y where $Y_0 = 2$, $X_0 = 1$, h=0.25, X= 2, Find the Value of Y = ?								0.0	
	b. Given that one root of the equation $X^3 - 4X - 9$, find the root correct to two significant							05		
	•	digits. (Bisection method)								
	c.								04	
	OR									
Q-5	a.						05			
	The state of the s									



1.2

2.2

dy/dx = X + Y where $Y_0 = 1$, $X_0 = 0$, h = 0.02, X = 0.1, Find the Value of Y = ?

1.1

2.1

b. Compute the following equation using Eulor's Method

Describe Successive Approximation Method with an example

1.3

2.3

1.4

2.4

05

04

Q-6 Attempt all questions

(14) 07

a. Find the value of X Using Following Table(X on Y Curve Fitting Method)

	8			
X	3	4	5	6
Y	1.6	1.9	2.3	2.5

b. Find out the X1,X2 and X3 using Gauss Elimination Method,

07

$$2X1 + X2 + X3 = 10$$

$$3X1 + 2X2 + 3X3 = 18$$

$$X1 + 4X2 + 9X3 = 16$$

OR

- Q-6 Attempt all Questions
 - a. Find out the X1,X2 and X3 using Gauss Jordan Method,

07

$$2X1 - 2X2 + 5X3 = 13$$

$$2X1 + 3X2 + 4X3 = 20$$

$$3X1 - X2 - 3X3 = 10$$

b. Compute the Following Table Value using Trapezoidal Rule with 10 interval where

07

the equation is of

