Enroll	nent No: Exam Seat No:									
	C.U.SHAH UNIVERSITY									
Winter Examination-2018										
Subjec	Name: Computer Oriented Numerical Methods (CONM)									
Subjec	Code: 5CS03MCN1 Branch: MCA									
Semest	er: 3 Date: 27/11/2018 Time: 02:30 To 05:30 Marks: 70									
(2) (3)	Use of Programmable calculator and any other electronic instrument is prohibited. Instructions written on main answer book are strictly to be obeyed. Draw neat diagrams and figures (if necessary) at right places. Assume suitable data if needed.	-								
	SECTION – I	(07)								
	Attempt the Following questions	(07)								
	What is Decimal Number?	01								
	Define Error Convert $(11001)_{10} = ($ $)_2$	01 01								
	Define Binary Addition	01								
	What is Octal Number?	01								
f.	List types of Error	01								
g.	Convert $(25)_2 = ()_{10}$	01								
	Attempt all questions	(14)								
a.	Given that one root of the equation $X^3 - 4X - 5 = 0$, find the root correct to three significant digits. (Newton Raphson method)	05								
b.	Compute the following equation using Modify Eulor's Method $dy/dx = X + Y$ where $Y_0 = 1$, $X_0 = 0$, $h = 0.05$, $X = 0.2$, Find the Value of $Y = ?$	05								
c.	Describe types of Error in brief OR	04								

Q-2 Attempt all questions

Q-1

Q-2

(14)

05

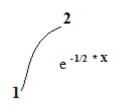
a. Find the value of Y Using Following Table(Y on X Curve Fitting Method)

X 2 3 4 5

b. Given that one root of the equation $X^2 - 3X - 6$, find the root correct to three significant digits. (Regula-False method)

c. Compute the Following Table Value using Simson's 1/3 Rule with 4 interval where **04**





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	A	.aatiama							
	Attempt all questions								
a. Find the value of Y when $X = 0.390$ using Langrange Interpolation Method									
	X	20	2	5	30	35			
	Y	0.342	0.4	123	0.500	0.650			
b.	Find the value	of Y using foll	lowing Table(1	Forward Diff	erence Table)				
	X	3	3.5	4	4.5	5			
	Y	4	7	8	11	14			
			O	R	·				
a.	Find the value	of X when Y =	= 17 using Lan	grange Inver	rse Interpolation	Method			
	X	8	1	0	15	20			
	Y	3		3	12	14			
b.	Find the value	of Y using foll	lowing Table()	Backward Di	fference Table)				
	X	2.5	3	3.5	4	4.5			
	Y	9.75	12.45	15.70	19.52	23.57			
			SECTION	I - II					
f.	What is Differed Define Numerical								
0	List Methods o	•							
0		f Difference T							
a.	Attempt all qu Compute the fo	f Difference T nestions ollowing equat	able ion using R –	K 2 nd Order	Method				
a.	Attempt all questions Compute the ford $dy/dx = X^2 + Y^2$	f Difference T nestions bllowing equat Y^2 where $Y_0 = 0$	Table ion using $R - 3$, $X_0 = 1$, $h = 0$	25, X = 2, Fi	nd the Value of				
O	Attempt all questions Compute the ford $dy/dx = X^2 + Y$. Given that one	f Difference T nestions bllowing equat Y^2 where $Y_0 = 0$ root of the equ	Table ion using $R - 3$, $X_0 = 1$, $h = 0$	25, X = 2, Fi	Method nd the Value of root correct to				
a. b.	Attempt all questions Compute the ford $dy/dx = X^2 + X^2$. Given that one digits. (Bisection	f Difference T nestions bllowing equat Y^2 where $Y_0 = 0$ root of the equation method)	Table ion using $R - 3$, $X_0 = 1$, $h = 0$ uation $X^2 - 2X$	25, X=2, Fi 1-5, find the	nd the Value of `e root correct to				
a.	Attempt all questions Compute the ford $dy/dx = X^2 + Y$. Given that one	f Difference T nestions bllowing equat Y^2 where $Y_0 = 0$ root of the equation method)	Table ion using R $-$ 3, $X_0 = 1$, h=0 uation $X^2 - 2X$ ith an appropr	25, $X=2$, Fi x=5, find the iate example	nd the Value of `e root correct to				
a. b. c.	Attempt all questions Compute the ford $\frac{dy}{dx} = X^2 + X^2$. Given that one digits. (Bisection Explain Simson	root of the equation method) n's 3/8 Rule w	Table ion using R – $3, X_0 = 1, h = 0$ uation $X^2 - 2X$ ith an appropr	25, $X=2$, Fi 1-5, find the iate example 1	nd the Value of `e root correct to	two significant			
a. b.	Attempt all questions Compute the ford $dy/dx = X^2 + Y$. Given that one digits. (Bisection Explain Simson Find the value)	root of the equation method) n's 3/8 Rule w	Table ion using R – $3, X_0 = 1, h = 0$ uation $X^2 - 2X$ ith an appropr	25, $X=2$, Fi 1-5, find the iate example 1	nd the Value of `e root correct to yperbola Method	two significant			
a. b. c.	Attempt all questions Compute the ford $\frac{dy}{dx} = X^2 + X^2$. Given that one digits. (Bisection Explain Simson	root of the equation method) n's 3/8 Rule w	Table ion using R – 3, $X_0 = 1$, h=0 uation $X^2 - 2X$ ith an appropr Ollowing Table	25, X= 2, Fi - 5, find the state example on the state of	nd the Value of Se root correct to sperbola Method	two significant			
a. b. c.	Attempt all questions Compute the ford $\frac{dy}{dx} = X^2 + Y$. Given that one digits. (Bisectic Explain Simson Find the value $\frac{X}{Y}$	restions collowing equate Y ² where Y ₀ = 2 root of the equate on method) n's 3/8 Rule w of Y Using Form 7 3.1	Table ion using R – 3, $X_0 = 1$, h=0 uation $X^2 - 2X$ ith an appropr Ollowing Table 8 3.2	25, X= 2, Fi 2-5, find the state example of R (Fitting a Hy) 9 3.3	nd the Value of `e root correct to yperbola Method	two significant			
a.b.c.a.	Attempt all questions of the value $X = X^2 + X$. Compute the formula $X = X$. Attempt all $X = X$. The value $X = X$ are the formula $X = X$.	destions leading equations allowing equatio	ion using R – 3, $X_0 = 1$, $h = 0$ uation $X^2 - 2X$ ith an approprod llowing Table 8 3.2 ion using Eule	25, X= 2, Fi 2-5, find the siate example of R (Fitting a Hy) 9 3.3 or's Method	nd the Value of Se root correct to sperbola Method	two significant			



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

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X	4	6	8	9	10	12	14
Y	1.1	1.2	1.3	1.4	1.5	1.6	1.7

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

$$2X1 + 8X2 + 2X3 = 14$$

$$X1 + 6X2 - X3 = 13$$

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

Q-6 Attempt all Questions

a. Find out the X1,X2 and X3 using Gauss Jordan Method,

$$4X1 - X2 + X3 = 14$$

$$5X1 + 2X2 + 4X3 = 22$$

$$X1 + 4X2 - 9X3 = 20$$

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

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the equation is of

