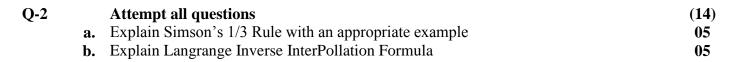
Enr	ollment No: _		Exam Seat No:	
		C.U.SHAH	I UNIVERSITY	
			xamination-2020	
Sub	ject Name : C	Computer Oriented Num	nerical Methods (CONM)	
Sub	ject Code : 50	CS03MCN1	Branch: MCA	
Semester: 3		Date: 25/02/2020	Time: 02:30 To 05:30	Marks: 70
	ructions: 1) Use of Pro	ogrammable calculator an	nd any other electronic instrument is	s prohibited.
((2) Instruction	ns written on main answe	er book are strictly to be obeyed.	o promot eu
	(2) Dagger age	4 1' 1 C' ('C		
		t diagrams and figures (if uitable data if needed.	necessary) at right places.	
		uitable data if needed.		
	(4) Assume s	uitable data if needed.	CCTION – I	
	Attempt t	uitable data if needed. SE the Following questions		
	Attempt t	uitable data if needed. SE the Following questions inary Number?		
	Attempt t a. What is B b. Define Err c. Convert (1)	uitable data if needed. SE the Following questions inary Number? ror $10110)_{10} = ()_2$		
	Attempt t a. What is B b. Define Err c. Convert (1 d. Define Bir	uitable data if needed. SE the Following questions inary Number? ror $10110)_{10} = ()_2$ nary Division		
	Attempt t a. What is B b. Define Err c. Convert (1 d. Define Bir	uitable data if needed. SE the Following questions inary Number? ror $10110)_{10} = ()_2$ nary Division ecimal Number?		
	Attempt t a. What is B b. Define Err c. Convert (1 d. Define Bir e. What is D f. List out ty	uitable data if needed. SE the Following questions inary Number? ror $10110)_{10} = ()_2$ nary Division ecimal Number?		
	Attempt t a. What is B b. Define Err c. Convert (1 d. Define Bir e. What is D f. List out ty g. Convert (Attempt a	section SE vectors of Error $(22)_2 = (0.0000000000000000000000000000000000$	CCTION – I	
	Attempt t a. What is B b. Define Err c. Convert (1) d. Define Bin e. What is D f. List out ty g. Convert (Attempt a a. Given tha	sthe Following questions inary Number? ror $10110)_{10} = ()_2$ nary Division vecimal Number? rpes of Error $22)_2 = ()_{10}$ all questions at one root of the equation	ECTION – I on $X^3 - 4X - 9 = 0$.find the root	correct to three
2	Attempt t a. What is B b. Define Err c. Convert (1 d. Define Bir e. What is D f. List out ty g. Convert (Attempt a a. Given tha significant	set the Following questions in ary Number? ror 10110) ₁₀ = () ₂ nary Division vecimal Number? res of Error 22) ₂ = () ₁₀ all questions at one root of the equation the digits. (Bisection methods)	ECTION – I on $X^3 - 4X - 9 = 0$.find the root d)	
2	Attempt t a. What is B b. Define Err c. Convert (1 d. Define Bir e. What is D f. List out ty g. Convert (Attempt a significant b. Given tha significant	SE the Following questions inary Number? ror $10110)_{10} = ()_2$ nary Division recimal Number? res of Error $22)_2 = ()_{10}$ all questions at one root of the equation at digits. (Bisection method at one root of the equation at digits. (Regula False me	ECTION – I on $X^3 - 4X - 9 = 0$.find the root d) on $X^2 - 2X - 3 = 0$.find the root	correct to three

OR





Q-3	a.	Attempt all questions a. Find the value of Y when X = 35 using Langrange Interpolation Method									(14) 07
		X		ζ 2	25	30	40	5	0		
			7	7 5	52	67.3	84.1	94	.1		
	b.	Find the value of Y using following Table(Forward Difference Table)								07	
			X	2	2.25	2.	5 2.	75	3	T	
			Y	9	10.6	11.	25 12	.56	14	Ť	
		L				OR				Т.	
Q-3	a.									07	
			2	<u> </u>	20	25	30	3	5		
			7	7 0.3	342 0).423	0.500	0.6	50		
	b.)	07
						2.1	2.2	2.		,	
			7				13.64	+			
								120.			
Q-4		Attempt the Fo	llowing c		CTIO	N – II	L				(07)
V-	a.	Attempt the Following questions . What is Curve Fitting?								01	
		List out Methods of Numerical Integration							01		
		. What is Ordinary Differential Method?								01	
	d.	List out Methods of Curve Fitting								01	
		• What is Difference Table Method?								01	
		. Define Numerical Integration								01	
	g.	List out Method	s of Diffe	rence Tal	ble						01
Q-5		Attempt all que	estions								(14)
Q-3	a.	a and a second								05	
		$dy/dx = X^2 - Y$ where $Y_0 = 2$, $X_0 = 1$, $h = 0.25$, $X = 2$, Find the Value of $Y = ?$									
	b.	Compute the following equation using Modify Eulor's Method								05	
		$dy/dx = X + Y$ where $Y_0 = 1$, $X_0 = 0$, h=0.05, X=0.1, Find the Value of Y = ?									
	c.	Explain R – K 4 th Order Method in brief OR								04	
Q-5	a.	Find the value of X Using Following Table(X on Y Curve Fitting Method)							05		
~ ~		X 1.1 1.2 1.3 1.4 1.5								Γ	0.5
				1	3		1	5		†	
			Y	. 2				,	6	L	0.5
	b.	Compute the following equation using Eulor's Method									05

c. Describe Successive Approximation Method with an example



04

 $dy/dx = X^2 + Y$ where $Y_0 = 1$, $X_0 = 0$, h = 0.02, X = 0.1, Find the Value of Y = ?

c. Describe types of error

04

Attempt all questions

Q-6

(14) 07

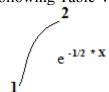
07

07

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

X	0.1	0.2	0.3	0.4	0.5	0.6
Y	5.1	5.3	5.6	5.7	5.9	6.1

b. Compute the Following Table Value using Simson's 3/8 Rule with 4 interval where



the equation is

OR

Q-6 Attempt all Questions

- a. Compute the following equation using $R K 4^{th}$ Order Method $dy/dx = X^2 Y$ where $Y_0 = 2$, $X_0 = 1$, h = 0.25, X = 2, Find the Value of Y = ?
- **b.** Compute the Following Table Value using Trapezoidal Rule with 10 interval where the equation is $\sqrt[3]{\frac{1}{y \, dx}}$

