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Set No. 2

I B.Tech Examinations, December 2010 INTRODUCTION TO COMPUTERS Common to CE, ME, CHEM, MECT, MEP, AE, AME, MMT Time: 3 hours

Max Marks: 80

Answer any FIVE Questions All Questions carry equal marks

1. (a) Using Lagrangian interpolation formula find the values of y at x = 1.25 and x=1.45 given the following set of data.

x:	1.2	1.3	1.4	1.5
y:	1.063	1.091	1.119	1.145

(b) Write Newton's forward interpolating cubic polynomial for the following data (0.0,1.0), (0.5, 1.276), (1.0, 1.5431)and (1.5, 2.3534).[8+8]

2. Explain the following terms:

i. 1011.11₈ ii. 1101.101₈

3.

Code No: RR10106

- (a) Global & Local variables. (b) Formal & Actual arguments. (c) Automatic & static variables. (d) Global & external variables $[4 \times 4 = 16]$ (a) Give various character codes with an example. (b) Briefly discuss about operating system. (c) Convert the following numbers into binary. [4+4+8]
- 4. (a) What is a personal computer? What are its advantages?
 - (b) Compare and contrast RAM and ROM.
 - (c) Describe working principle of laser printer. [4+4+8]
- (a) Explain for loop with example. 5.
 - (b) Write a program to display first N Fibonacci numbers. [6+10]
- 6. Solve the following system of equations using.
 - (a) Jacob's and (b) Gauss Seidal iteration methods. [8+8] $6X_1 - X_2 - X_3 = 11.33$ $-X_1 + 6X_2 - X_3 = 32$ $-X_1 - X_2 + 6X_3 = 42.$
- 7. (a) Write an algorithm for Newton Raphson method.

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Code No: RR10106

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Set No. 2

(b) If an approximate root of the equation $x (1 - log_e x) = 0.5$ lies between 0.1 & 0.2 find the value of the root correct to 3 decimal places. [8+8]

8.	(a) Find	the value of	$\int_{-1}^{5} f(x) dx $ u	sing the follow	ving tabula	r values
	x: y:	1 2.876	2 2.877	3 2.878	4 2.880	5 2.881

(b) Apply Runge-Kutta 4^{th} order method to obtain the solution of $y' = -xy^2$, y(0) = 2 using h = 0.2. [8+8]

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Set No. 4

[6+10]

[4+4+8]

I B.Tech Examinations, December 2010 INTRODUCTION TO COMPUTERS Common to CE, ME, CHEM, MECT, MEP, AE, AME, MMT Max Marks: 80

Time: 3 hours

Code No: RR10106

Answer any FIVE Questions All Questions carry equal marks

- 1. (a) Explain for loop with example.
 - (b) Write a program to display first N Fibonacci numbers.
- 2. (a) Give various character codes with an example.
 - (b) Briefly discuss about operating system.
 - (c) Convert the following numbers into binary.
 - i. 1011.11₈
 - ii. 1101.101₈
- 3. (a) What is a personal computer? What are its advantages?
 - (b) Compare and contrast RAM and ROM.
 - (c) Describe working principle of laser printer. [4+4+8]
- 4. (a) Write an algorithm for Newton Raphson method.
 - (b) If an approximate root of the equation x $(1 log_e x) = 0.5$ lies between 0.1 & 0.2 find the value of the root correct to 3 decimal places. [8+8]
- 5. Solve the following system of equations using.
 - (a) Jacob's and
 - (b) Gauss Seidal iteration methods. [8+8] $6X_1 - X_2 - X_3 = 11.33$ $-X_1 + 6X_2 - X_3 = 32$
 - $-X_1 X_2 + 6X_3 = 42.$
- 6. (a) Using Lagrangian interpolation formula find the values of y at x = 1.25 and x=1.45 given the following set of data.

X:	1.2	1.3	1.4	1.5
y:	1.063	1.091	1.119	1.145

- (b) Write Newton's forward interpolating cubic polynomial for the following data (0.0,1.0), (0.5, 1.276), (1.0, 1.5431) and (1.5, 2.3534).[8+8]
- 7. Explain the following terms:
 - (a) Global & Local variables.
 - (b) Formal & Actual arguments.

RR

Set No. 4

- (c) Automatic & static variables.
- (d) Global & external variables. $[4 \times 4 = 16]$
- 8. (a) Find the value of $\int_{1}^{5} f(x) dx$ using the following tabular values 4 1 52 3 x: 2.878 2.876 2.880 y: 2.877 2.881
 - (b) Apply Runge-Kutta 4^{th} order method to obtain the solution of $y' = -xy^2$, y(0)= 2 using h = 0.2. [8+8]

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I B.Tech Examinations, December 2010

Set No. 1

Time	INTRODUCTION TO COMPUTERS Common to CE, ME, CHEM, MECT, MEP, AE, AME, MMT :: 3 hours Max Marks: 80 Answer any FIVE Questions All Questions carry equal marks *****					
1.	(a) What is a personal computer? What are its advantages?					
	(b) Compare and contrast RAM and ROM.					
	(c) Describe working principle of laser printer. [4+4+8]					
2.	Explain the following terms:					
	(a) Global & Local variables.					
	(b) Formal & Actual arguments.					
	(c) Automatic & static variables.					
	(d) Global & external variables. $[4 \times 4 = 16]$					
3.	(a) Explain for loop with example.					
	(b) Write a program to display first N Fibonacci numbers. [6+10]					
4.	(a) Find the value of $\int_{-5}^{5} f(x) dx$ using the following tabular values					
1.	x: 1 2 3 4 5					
	x. 1 2 3 4 3 y: 2.876 2.877 2.878 2.880 2.881					
	(b) Apply Runge-Kutta 4^{th} order method to obtain the solution of $y' = -xy^2$, $y(0) = 2$ using $h = 0.2$. [8+8]					
5.	(a) Give various character codes with an example.					
	(b) Briefly discuss about operating system.					
	(c) Convert the following numbers into binary. [4+4+8]					
	i. 1011.11 ₈					
	ii. 1101.101 ₈					
6.	(a) Using Lagrangian interpolation formula find the values of y at $x = 1.25$ and $x=1.45$ given the following set of data. x: 1.2 1.3 1.4 1.5 y: 1.063 1.091 1.119 1.145					

- (b) Write Newton's forward interpolating cubic polynomial for the following data (0.0,1.0), (0.5, 1.276), (1.0, 1.5431) and (1.5, 2.3534). [8+8]
- 7. Solve the following system of equations using.

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Set No. 1

- (a) Jacob's and
- (b) Gauss Seidal iteration methods. $6X_1 - X_2 - X_3 = 11.33$ $-X_1 + 6X_2 - X_3 = 32$ $-X_1 - X_2 + 6X_3 = 42.$
- 8. (a) Write an algorithm for Newton Raphson method.
 - (b) If an approximate root of the equation $x (1 log_e x) = 0.5$ lies between 0.1 & 0.2 find the value of the root correct to 3 decimal places. [8+8]



[8+8]

RR Set No. 3

Time		I B.Tech Examinations,December 2010 INTRODUCTION TO COMPUTERS ommon to CE, ME, CHEM, MECT, MEP, AE, AN hours Answer any FIVE Questions All Questions carry equal marks ****	/E, MMT Max Marks: 80		
1.	(a)	Find the value of $\int_{-5}^{5} f(x) dx$ using the following tabular value	ues		
		x:1234y: 2.876 2.877 2.878 2.880 2	5 2.881		
	(b)	Apply Runge-Kutta 4^{th} order method to obtain the solution = 2 using $h = 0.2$.	on of $y' = -xy^2$, $y(0)$ [8+8]		
2.	(a)	What is a personal computer? What are its advantages?			
	(b)	1	[4 + 4 + 0]		
	(c)	Describe working principle of laser printer.	[4+4+8]		
3.		Using Lagrangian interpolation formula find the values or x=1.45 given the following set of data. x: 1.2 1.3 1.4 1.5 y: 1.063 1.091 1.119 1.145 Write Newton's forward interpolating cubic polynomial for			
	(0.0,1.0), (0.5, 1.276), (1.0, 1.5431) and (1.5, 2.3534).				
4.	· · /	Explain for loop with example.	[6+10]		
(b) Write a program to display first N Fibonacci numbers.					
5.		Write an algorithm for Newton - Raphson method.			
	(b)	If an approximate root of the equation $x (1 - log_e x) = 0.5$ 0.2 find the value of the root correct to 3 decimal places.	lies between 0.1 & [8+8]		
6.	Solv	re the following system of equations using.			
	(a)	Jacob's and			
	(b)	Gauss Seidal iteration methods. $6X_1 - X_2 - X_3 = 11.33$ $-X_1 + 6X_2 - X_3 = 32$ $-X_1 - X_2 + 6X_3 = 42.$	[8+8]		
7.	(a)	Give various character codes with an example.			
		Briefly discuss about operating system.	_		
	(c)	Convert the following numbers into binary.	[4+4+8]		

- i. 1011.11₈
- ii. 1101.101_8
- 8. Explain the following terms:
 - (a) Global & Local variables.
 - (b) Formal & Actual arguments.
 - (c) Automatic & static variables.
 - (d) Global & external variables.

 $[4 \times 4 = 16]$

Set No. 3

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