$\mathbf{R07}$ 

## I B.Tech Examinations, May 2011 COMPUTER PROGRAMMING AND NUMERICAL METHODS Metallurgy And Material Technology

Time: 3 hours

Code No: R07A1EC10

Max Marks: 80

[16]

### Answer any FIVE Questions All Questions carry equal marks \*\*\*\*

- 1. (a) Write an example to explain about call by value.
  - (b) Write a factorial program using no return and no argument type. [10+6]
- 2. Define ADT. Explain with an example.
- 3. (a) Using Lagrange's formula find f(6) given

X:	2	5	7	10	12
F(x)	18	180	448	1210	2028

- (b) If the interval of differencing is unity, prove that  $\Delta \sin x = 2 \sin \frac{1}{2} \cos \left(x + \frac{1}{2}\right)$ .
- 4. (a) Find the positive root  $x^3$  x = 1 correct to four decimal places by bisection method.
  - (b) Find the parabola of the form  $y = ax^2 + bx + c$  passing through the points (0, 0), (1, 1) and (2, 2). [8+8]
- 5. What is the purpose of iterative statements? Explain about for loop with an example. [16]
- 6. (a) Write short notes on pointer to void.
  - (b) Write short notes on Address Arithmetic. [8+8]
- 7. (a) By dividing the range in to five equal parts, evaluate  $\int_{0} \sin x dx$  by Trapezoidal rule and Simpson's rule.
  - (b) Using Milne's method find y (4.4) given  $5xy' + y^2 2 = 0$  given y (4) =1, y(4.1) =1.0097, y(4.3) = 1.0143. [8+8]
- 8. (a) How can a entire structure be passed to a function?
  - (b) How can a entire structure be returned from a function? [8+8]

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