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

Time: 3 hours
Max Marks: 80

## 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.
2. Define ADT. Explain with an example.
3. (a) Using Lagrange's formula find $f(6)$ given

| $\mathrm{X}:$ | 2 | 5 | 7 | 10 | 12 |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\mathrm{~F}(\mathrm{x})$ | 18 | 180 | 448 | 1210 | 2028 |

(b) If the interval of differencing is unity, prove that $\Delta \sin x=2 \sin 1 / 2 \cos (x+1 / 2)$.
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 $y=a x^{2}+b x+c$ 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.
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 $\int_{0}^{\pi} \sin x d x$ by Trapezoidal rule and Simpson's rule.
(b) Using Milne's method find y (4.4) given $5 x y^{\prime}+y^{2}-2=0$ 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?

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