

I B.Tech Supplementary Examinations, November/December 2005
INTRODUCTION TO COMPUTERS
(Common to Civil Engineering, Mechanical Engineering, Chemical Engineering, Mechatronics, Metallurgy & Material Technology and Production Engineering)

Time: 3 hours

Max Marks: 80

Answer any FIVE Questions
All Questions carry equal marks

1. (a) Explain ALU of computer [4M]
(b) Compare and contrast CISC and RISC processors [8M]
(c) What is a system bus? [4M]
2. (a) What is multitasking operating system? Give an example. [4M]
(b) Give the range of integers that can be represented in 16 bit 2's complement form [4M]
(c) Convert the following into decimal [8M]
 - i. $9C2.FC_{16}$
 - ii. $234.AC_{16}$
3. (a) Differentiate the following [10M]
 - i. integer and int
 - ii. int and long int
 - iii. 'a' and "a"
 - iv. '\\and'/'/'
 - v. Keywords and Identifiers
(b) When do you say that a variable is a valid variable? [2M]
(c) Write the declaration statements for each of the following: [4M]
 - i. integer variables: x,y,z
 - ii. character variable: name of 10 characters
 - iii. floating point variables: p,q
 - iv. double type variable: m= -2.5×10^3
4. Explain the following string handling functions with an example for each. [16M]
 - (a)strupr ()
 - (b)strcpy()
 - (c)strncmp()
 - (d)strcat()
5. (a) Write an algorithm for bisection method. [8M]

- (b) Find the real root of the equation $x^3 + x^2 - 1 = 0$ by iteration method. [8M]
6. Solve the following system of equations using.
- (a) Jacobis and [8M]
- (b) Gauss - Seidal iteration methods. [8M]
- $3X + 4Y + 15Z = 54.8$
 $X + 12Y + 3Z = 39.66$
 $10X + Y - 2Z = 7.74$
7. (a) Derive normal equations to fit the straight line $y = a + bx$. [6M]
- (b) Given the table of points use least squares regression to fit a straight line. [10M]

X	0	2	4	6	8	12	16	20
Y	10	12	18	22	20	30	26	30

8. (a) Evaluate $\int_2^2 \frac{dx}{x}$ using Trapezoidal rule taking $h = 0.1$. [8M]
- (b) Compare Runge-Kutta and Prediction correction method. [8M]
