

B.Sc. I (With Credits)-Regular-Semester 2012 Sem II  
**2SCS-T2 - Computer Science -II : Paper-II**  
**(Structured Programming with C)**

P. Pages : 2

Time : Three Hours



**GUG/S/16/5572**

Max. Marks : 50

- Notes :
1. All questions are compulsory and carry equal marks.
  2. Draw neat and labelled diagram wherever necessary.

**1. Either**

- a) Discuss the input statement scanf ( ) in C. 5
- b) Explain the decremental operator with suitable example. 5

**OR**

- c) Write C statement to evaluate the equations. 5
- i)  $\text{Torque} = \frac{2m_1 m_2}{m_1 + m_2} \times g$
- ii)  $\text{Energy} = \text{mass} \left[ \text{accl} * \text{height} + \frac{\text{velocity}^2}{2} \right]$
- d) Define a constant. Explain the integer constants in detail. 5

**2. Either**

- a) Explain the else if ladder with suitable example. 5
- b) Write a program to sum the n terms of a series 5
- Series:  $1 + \frac{2}{3} - \frac{4}{5} + \frac{6}{7} - \frac{8}{9} + \frac{10}{11} \dots\dots$

**OR**

- c) Explain the do-while structure with suitable example. 5
- d) Write a C program to calculate all the roots of a quadratic equation 5
- $ax^2 + bx + c = 0$  where  $a \neq 0$ , a, b, c are coefficients of quadratic equation.

**3. Either**

- a) Write a C program to reverse all array elements of size n. 5
- b) Explain the Nested structure with suitable example. 5

**OR**

- c) Explain the initialization of two dimensional array with suitable example. 5
- d) Write a C program to count the no. of vowels (a, e, i, o, u or 'A', 'E', 'I', 'O', 'U') in a string. 5

**4. Either**

- a) Explain the structure of a user defined function with suitable example. 5
- b) Write a program using pointers to read in an array of integers and display all array values. 5

**OR**

- c) Write a function prime ( ) that returns 1 if its arguments is prime and returns zero otherwise. 5
- d) What are the different types of errors that might be encounter while processing files? Explain. 5

**5. All questions are compulsory.**

- a) Discuss the hierarchy of Arithmetic operator. 2½
- b) Discuss the static storage class variables lifetime, scope, initial value and storage area. 2½
- c) How does a structure differ from an array? Explain. 2½
- d) What is 'this' pointer? Explain with suitable example. 2½

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