

B.TECH.
(SEM I) THEORY EXAMINATION 2018-19
COMPUTER SYSTEM & PROGRAMMING IN C

Time: 3 Hours

Total Marks: 100

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

- 1. Attempt all questions in brief. 2 x10 = 20**
- a. Write differences between Compiler and Interpreter.
 - b. Explain the basic structure of a C program.
 - c. Differentiate between ROM and RAM.
 - d. Distinguish between actual arguments and formal arguments with the help of example.
 - e. Draw a flow chart to find the greatest number among three numbers
 - f. Draw the memory hierarchical structure of a computer system
 - g. What do you mean by recursion?
 - h. What is string in C programming language?
 - i. Explain any five string manipulation functions.
 - j. Differentiate between syntax error and logical error.

SECTION B

- 2. Attempt any three of the following: 10 x 3 = 30**
- a. What are Application software? What are the differences between Application and System Software? Justify your answer with suitable example.
 - b. What is meant by storage classes of a variable? Define all types of storage classes with example.
 - c. Differentiate call by value and call by reference with suitable example.
 - d. Explain the difference between Structure and Union. Create a structure to specify data of customers in a bank. The data to be stored is: Account no. , Name, Balance in account. Assuming maximum of 200 customers in the bank. Write a program to print the Account number & Name of the customers with balance below Rs. 100.
 - e. What are Macros? How is it substituted? Also explain macro act as a variable and macro act as a function with the help of example.

SECTION C

3. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) What is digital computer? Draw block diagram of digital computer and explain each component of it.
 - (b) Define operating system. What are the various functions performed by an operating system?
4. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) What is the role of SWITCH statement in c programming language? Explain with example.
 - (b) What are the different types of operators in c language and also write down the difference between the associativity and precedence of operators?
5. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) Describe about the types of looping statements in C with necessary syntax.
 - (b) What are the type of functions? Write a C program to find a factorial of a given number using recursion.
6. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) What is an array? Give the classification of arrays with suitable example. Also write a program to find the largest element in an array of size 10.
 - (b) Write a program to multiply two matrices (read size and number of element of matrices from the keyboard).
7. **Attempt any *one* part of the following:** **10 x 1 = 10**
- (a) What do you mean by pointers? How pointer variables are initialized? Write a program to sort given numbers using pointers.
 - (b) What do you mean by File Handling? What are the different file opening modes in C. Write a program to copy the contents of one file into another file?