OLE-24006

B. Tech. 1st Semester (Common for All Branches) Examination – April, 2021

FUNDAMENTALS OF COMPUTER & PROGRAMMING IN 'C'

Paper : CSE-101-F

Time : Three Hours]　　　　　*[Maximum Marks : 100*

Before answering the questions, candidates should ensure that they have been supplied the correct and complete question paper. No complaint in this regard, will be entertained after examination.

Note : Attempt *five* questions in all, selecting *one* question from each Section. Question No. **1** is *compulsory*. All questions carry equal marks.

1. Answer the following Questions :　　　　$5 \times 4 = 20$

   (a) Explain dynamic memory allocation. Also explain calloc(), rnalloc() and realloc() functions with examples.

   (b) Explain Operating System and its functions.

(c) What are system software ? Define compiler, interpreter, linker and loader.

(d) Why internet is called network of networks. Explain TCP/IP model with diagram.

SECTION – A

2. (a) Explain how RAM, ROM and CPU interact with each other. Also explain the importance of system bus and main memory in functioning of processor.

15

(b) Compare a Cartridge with magnetic tape. 5

3. (a) Differentiate multiprogramming and multiprocessing features of operating system. 10

(b) Explain the role of an operating system as resource manager of computer system. 10

SECTION – B

4. (a) What are computer languages ? Differentiate between HLL and LLL. 10

(b) What are language translators ? Explain relationship in compiler, interpreter, loader and linker. **10**

5. (a) Explain data communication in networks. Explain all network topologies. **10**

(b) What are network connecting devices ? Explain all with diagram. **10**

SECTION – C

6. (a) What are the control statements in C ? Explain each with flowchart and example. **10**

(b) Differentiate between structure and union in C. Write a program to store the student details using union. **10**

7. (a) What are character arrays ? Write a program to count and compare the length of two strings without using inbuilt string function. **10**

(b) Write a program in C to find a string is palindrome or not without using inbuilt function. **10**

SECTION – D

8. (a) State the features of pointers. Write a C program
to sort the given numbers using pointers.   10

(b) List various file operations in C. Write a program
to count the number of characters in a file.   10

9. (a) Explain Dynamic memory allocation. Explain all
dynamic memory allocation functions in C.   10

(b) Explain array of pointer. Write a program in C to
swap two no. using call by pointer method.   10

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