

TCS101

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ODD SEMESTER EXAMINATION 2019-20
B. TECH I SEM BACK PAPER (OLD SYLLABUS)
FUNDAMENTAL OF COMPUTER PROGRAMMING

Time: 3 Hours

Max. Marks: 100

Total no. of printed pages: 2

Note: Attempt all the questions. All questions carry equal marks

Q1. Attempt any four parts of the following: (5*4=20)

a) Perform following operations:

(i) $(AF64.B5)_{16} = (\quad)_8$

(ii) $(72.45)_8 = (\quad)_2$

(iii) $(110110.100)_2 = (\quad)_{16}$

(iv) $(51.32)_8 = (\quad)_{16}$

(v) $(110100100)_2 = (\quad)_8$

b) What is memory? What are different type's memories available in computer?

c) Draw the block diagram of digital computer and explain its various components.

d) What is IEEE floating point representation? How can we store -123.56 in 4 bytes of memory?

e) What is an Operating System? What are its functions?

Q2. Attempt any four parts of the following: (5*4=20)

a) What is an algorithm? Write an algorithm to find occurrence of a number in an array.

b) What is Flowchart? Explain the meaning of different symbols used in flowchart. Draw a flowchart to print number entered by user is prime or not.

c) Write salient features of High Level Programming Languages.

d) Compare compiler, assembler and interpreter.

e) Write short notes on (any two):

(i) Stack Pointer

(ii) Accumulator

(iii) Program Counter

Q3. Attempt any two parts of the following: (10*2=20)

a) (i) What are different types of storage classes available in C. Explain its importance?

(ii) Write a program to find number entered by user is Armstrong or not.

b) (i) What is Recursion? Write a recursive function to find factorial of a number.

(ii) What is a Command line argument? Write a program to show its usage.

P.T.O

- c) Explain Call by Value and Call by Reference method with the help of a program to reverse digits of a number

Q4. Attempt any two parts of the following: **(10*2=20)**

- a) What is the difference between structure and union? Declare a structure "EMPL" having employee name, age and salary as data member. Write a program in C to input data of 10 employees and find out average age of employees whose salary is below ten thousand.
- b) Explain String functions. Write a program which takes list of word as input and gives output the number of palindrome in a given list.
- c) What is an Array? How two dimensional Arrays are stored in one dimensional computer memory? Write a program in C for matrix multiplication.

Q5. Attempt any two parts of the following: **(10*2=20)**

- a) What are pointers explain with example. Write a program in C to explain the use of pointers in functions.
- b) What is meant by file handling? What are different modes in which file can be opened. Write a program to copy contents of one file into another.
- c) Write short notes on:
1. Dynamic memory allocation
 2. Multiple Indirection in pointers
