



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 214119

Roll No.

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M. C. A.

(SEM. I) (ODD SEM.) THEORY
EXAMINATION, 2014-15

COMPUTER CONCEPTS AND PROGRAMMING

Time : 3 Hours]

[Total Marks : 100

- Note :**
1. Attempt all the questions
 2. All the questions carry equal marks

1 Attempt any four parts of the following : **5×4=20**

- (a) In C programming what do you mean by identifier and keywords.
- (b) What are the main functions of operating system? Explain any two of them.
- (c) Convert the following.
 - i) $(110101110)_2 = ()_{10}$
 - ii) $(162)_8 = ()_2$
 - iii) $(87)_{10} = ()_{16}$
 - iv) $(A9B)_{16} = ()_2$
 - v) $(43)_{10} = ()_2$
- (d) Draw a flowchart to find maximum of 3 numbers.
- (e) How compiler, linker and loader is used for the execution of a C program?

2 Attempt any four parts of the following : **5×4=20**

- (a) Explain in detail the storage, range and space occupy by all fundamental data type in 'C' language.
- (b) Write down the general characteristics of an algorithm. Write an algorithm to print the digits of a number in reverse order.
- (c) Write a program in C to read an integer number from keyboard, add 1 to it if the number read is even, again add 1 to it if number is less than 20, otherwise keep the number unchanged and print the final result.
- (d) What is an operator? What is conditional operator? Write a program to implement conditional operator.
- (e) What is a macro? How it is different from function? What are the advantages of using macro definitions in a C program?

3 Attempt any two parts of the following : **10×2=20**

- (a) (i) What do you mean by modular programming? Note down the advantages of modular programming.
- (ii) Write down a program C to find the sum of the following series
$$S = 1^2 + 2^2 + 3^2 + \dots + N^2$$
- (b) (i) Write a program in C for sorting of N positive integers.
- (ii) What are the storage classes available in C? Explain.
- (c) Write a 'C' program to multiply two matrix by using function multiply, which will accept three argument; two matrices A and B and C matrix for storing result.

4 Attempt any two parts of the following : $10 \times 2 = 20$

- a) Write a function which will check are two integer arrays identical or not. If both are identical then return 1 else return 0.
- b) What is pointer? How it access other variable? How an array can be accessed by using pointer? And discuss pointer arithmetic operations.
- c) Explain strings. How string is different from character array. Also write a program to check given string is palindrome or not.

5 Attempt any two parts of the following : $10 \times 2 = 20$

- a) What is structure in 'C'? How it is different from array? Define a structure called CRICKET that will describe the following information like, country_name, player_name, batting_average. Using CRICKET, declare an array named player with 50 elements and write a program to read the information about 50 players. Then print the names of the players whose batting average > 50.
- b) Discuss all attributes of Object oriented programming and how it differ from procedure oriented programming.
- c) Discuss any five functions used for file handling. A file named DATA.TXT contains a series of integer numbers. Write a program to read these numbers and then write all odd numbers to a file named ODD.TXT and all even numbers to a file named EVEN.TXT.