

10/20/50-

**June - July 2019**  
**Bachelor of Computer Application (BCA) Examination**

Second Semester

**BCA-204 : PROBLEM SOLVING AND PROGRAMMING THROUGH C - II**

Time 3 Hours]

[Max. Marks 50

[Min. Marks 17

**Note :** Attempt all the questions. Solve any two parts from each question. All questions carry equal marks.

1. (a) Explain call by value and call by reference using suitable programming examples.  
(b) Differentiate between macro and function. Write a C program that uses:  
(i) A macro to check whether given number is even or odd; and  
(ii) A function to calculate average of three integers.  
(c) What is Recursion ? Justify the need of recursion. Write a C program that uses a recursive function to calculate factorial of a given numbers.
2. (a) Define Pointer. Compare 'pointer to array and 'array of pointer'.  
(b) What is dynamic memory allocation ? Write a C program to demonstrate dynamic memory allocation.  
(c) What is Union ? How it is different from structure ? Justify the need union as a user defined data type.
3. (a) Explain formatted console and unformatted console I/O function.  
(b) What is File ? Write a C program to count number of vowels in a text file.  
(c) Explain I/O redirection in DOS.
4. (a) Explain various video display modes.  
(b) Explain various components of a VDU.  
(c) Explain :  
(i) Color in Graphic Mode  
(ii) Video Pages.
5. (a) Write a C program to draw the following figure 1 image without coloring any object.



Figure 1

- (b) Explain various patterns available language to fill a regular shape.
- (c) Write a C program to print colored message "Hello" with different fonts and sizes in C.

http://www.davvonline.com

http://www.davvonline.com