END TERM EXAMINATION

FIRST SEMESTER [BCA] DECEMBER 2017

034 2140

Paper Code: BCA-105·　　　　Subject: Introduction to Programming
　　　　　　　　　　　　　　　　Language using C

Time: 3 Hours

Maximum Marks: 75

Note: Attempt any five questions including Q.no.1 which is compulsory.
Select one question from each unit.

Q1　(a) What are the keywords in C? Give examples.　　　　　　(2.5x10=25)
　　(b) Explain various bitwise operators available in C.
　　(c) What is the function of break and continue statement in C?
　　(d) Briefly explain the concept of recursion.
　　(e) What are macros in C?
　　(f) Differentiate between function declaration and function definition.
　　(g) Name functions of standard library ctype.h.
　　(h) What are nested control statements? Give examples.
　　(i) What is the need of pre-processor directives in C?
　　(j) Differentiate between post increment and pre-increment operator with example.

Unit-I

Q2　(a) Explain loop statements in C.　　　　　　　　　　　　(6.5)
　　(b) What are different types of operators in C? Briefly explain.　(6)

Q3　(a) What is an array? Write a program to print average of all elements of an array.　　　　　　　　　　　　　　　　　　　　　　(6.5)
　　(b) Differentiate between while and do-while loop constructs with example.　(6)

Unit-II

Q4　(a) With the help of a program, explain the concept of call by value and call by reference.　　　　　　　　　　　　　　　　　　　(6.5)
　　(b) Define the following terms:　　　　　　　　　　　　(6)
　　　　(i) Static Variables
　　　　(ii) Pointers
　　　　(iii) Dynamic Memory Allocation

Q5　(a) Explain the concept of recursion by writing a program to find factorial of any given number.　　　　　　　　　　　　　　　　　(6.5)
　　(b) How array of pointer are passed as arguments in a function. Give example.(6)

Unit-III

Q6　(a) Explain the concept and need of structures in C. How is union different from structure?　　　　　　　　　　　　　　　　　　　(6.5)
　　(b) What is file handling? What are various functions used in file handling? Briefly explain.　　　　　　　　　　　　　　　　　(6)

Q7　What is file pointer? Write a program in C to create a file, write string data into it and count number of characters in that file.　　　(12.5)

Unit-IV

Q8　(a) What is array of strings? Describe various string manipulation functions with example.　　　　　　　　　　　　　　　　　　(6.5)
　　(b) What are standard libraries in C? Give examples of functions in libraries stdio.h, math.h and string.h.　　　　　　　　　　　(6)

Q9　Write a program to first compare and then concatenate two strings entered by user.　　　　　　　　　　　　　　　　　　　　　(12.5)

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END TERM EXAMINATION

FIRST SEMESTER [BCA] NOVEMBER-DECEMBER 2018

Paper Code: BCA-105	Subject: Introduction to Programming Language using C

Time: 3 Hours   Maximum Marks: 75

Note: Attempt any five questions including Q.no.1 which is compulsory.
Select one question from each unit.

Q1   Write short notes of the following (**Any Five**):   (5x5=25)
  (a) What you mean by pre-increment and post-increment operator? Example with an example.
  (b) Differentiate between structure and union. Explain the use of "extern" keyword
  (c) Explain the concept of pointer? Define the dynamic memory allocation and its various functions.
  (d) Differentiate between static and register storage class in C language.
  (e) What is a string? Write program for the concatenation of two strings.
  (f) What are preprocessor directives? from which symbol do they start?

UNIT-I

Q2   (a) Explain while loop and do-while loop with an example. Elaborate Difference between them.   (4.5)
  (b) Write a program to find the largest number among the three numbers.   (8)

Q3   (a) Explain the Switch statement, Break statement, and Continue statement with an example   (6)
  (b) Write a program to find the factorial of a number using recursion.   (6.5)

UNIT-II

Q4   (a) What do you mean by pointer? How pointer variables are initialized? Write a note on pointer arithmetic with a proper example in C language.   (6.5)
  (b) Write a program to find the out maximum number in array using pointer. (6)

Q5   (a) Explain the array of pointers to functions with suitable example.   (4.5)
  (b) Write the difference between call by value and call by reference with suitable example.   (8)

UNIT-III

Q6   (a) Explain the concept of structure. Write a C program to stores the information (name, roll, Branch, dept., and marks) of 10 students using structures. Find who has topped in the class.   (12.5)

Q7   Write a short note on each.   (12.5)
  (i) How to pass a structure to a function?   (ii) Bit fields
  (iii) Automatic storage classes   (iv) File handling

UNIT-IV

Q8   (a) Write a program to compare two strings where they are identical or not. (4.5)
  (b) Explain the following inbuild functions.   (8)
    (i) Strlen() (ii) Strcat() (iii) Strlwr() (iv) Strupr()

Q9   (a) Write a Program to find the largest and smallest word in a string.   (4.5)
  (b) Explain the following header files.   (8)
    (i) Stdlib.h (ii) Ctype.h (iii) Math.h (iv) Process.h

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END TERM EXAMINATION

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FIRST SEMESTER [BCA] Nov.-Dec. - 2019

Paper Code: BCA105   Subject: Introduction to Programming Languages Using C
Time: 3 Hours   Maximum Marks: 75
Note: Q. No. 1 is compulsory. Attempt one question from each unit.

Q1 Answer briefly (**Any Five**):-   (5x5=25)
  a) Discuss pre processor directives in c.
  b) What do you understand by dynamic memory allocation? Explain malloc(), calloc(), realloc() and free() functions with their syntax and a suitable example.
  c) Write a short note on storage classes in c.
  d) Discuss the various operators in c.
  e) Explain the different loop structures in c through suitable examples.
  f) Distinguish between a structure and a union through a suitable example.

UNIT I

Q2. a) Explain the if..else statement with all its variations. Compare it with switch..case. Write a c program that demonstrates the difference between the two.   (7)
   b) Write a c program to test whether a given integer is a prime number or not. Display an appropriate message in the output.   (5.5)

Q3.a) What do you understand by type casting? Why is it required? Explain using an example.   (6)
  b) Write a C program to display the following pattern (for n lines):   (6.5)

```
1
1   2
1   2   3
1   2   3   4
1   2   3   4       5
```

UNIT II

Q4.a) Write a short note on recursion.   (5.5)
  b) Write a complete c program that displays the first n Fibonacci numbers through a recursive function Fibonacci.   (7)

Q5.a) Differentiate between call by value and call by reference methods of passing parameters to functions using an appropriate example.   (7)
  b) Write a c function that searches for an element x in an array of integers.   (5.5)

UNIT III

Q6.a) What are structures and what are Bit Field structures? How are they different from Unions?   (4)
  b) Explain how structures can be passed as parameters to functions, by value and by reference? And how they can be returned from function? (6)
  c) What do you understand by pointers to structures? How can we access the elements of a structure through a pointer to the structure?   (2.5)

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Q7.a) Write a c program that creates and displays a text file on screen.   (7.5)
   b) Discuss the following file handling functions, through syntax and examples: (5)
    i) fopen()
    ii) fclose()
    iii) fseek()
    iv) fwrite()
    v) fread()

UNIT IV

Q8. a) Write a c program that counts the number of occurrences of a character in a given string without the use of any string handling library functions.   (7.5)
   b) Explain any five string handling functions from string.h with syntax and example.   (5)

Q9. a) Write a short note on header files.   (2.5)
   b) Explain any two functions each from the following header files: Stdio.h, math.h, stdlib.h, ctype.h, string.h   (10)

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END TERM EXAMINATION

FIRST SEMESTER [BCA] FEBRUARY-MARCH 2023

Paper Code: BCA103	**Subject: Programming Using in 'C' Language**
Time: 3 Hours	**Maximum Marks: 75**

Note: Attempt five questions in all including Q.No.1 which is compulsory. Select one question from each unit.

Q1 Answer the following: **[5x5=25]**
- a) What is the use of #define preprocessor?
- b) Explain the usage of break, labelled break, continue & labelled continue statements?
- c) Write example code to declare two-dimensional array.
- d) Differentiate between Local and Global variable in C.
- e) What is the difference between ++a and a++?

UNIT-I

Q2 Explain various types of operators used in C with example? **[12.5]**

Q3 a) What is recursion? Explain with the help of a program in C. **[6]**
   b) Explain various looping statements in C with the help of suitable example. **[6.5]**

UNIT-II

Q4 a) Differentiate between scanf() and gets() function with the help of an example? **[6.5]**
   b) Explain the storage classes in C with example programs? **[6]**

Q5 a) What are the various dynamic memory allocation functions in C? Explain with an example. **[6.5]**
   b) What is a pointer? Explain array of pointers to function with suitable example. **[6]**

UNIT-III

Q6 a) Differentiate between formatted and unformatted input and output functions? **[3.5]**
   b) Write short notes on: **[3x3=9]**
      - i) structure and Union
      - ii) passing structure to functions
      - iii) file access modes

Q7 a) What is the use of atoi() function? Explain with an example. **[6]**
   b) Compare arrays and structures. Justify your comparison with an example. **[6.5]**

P.T.O.

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UNIT-IV

Q8 a) Explain the syntax & usage of inbuilt string functions with suitable example? **[7.5]**

b) Write a program to identify the largest and smallest word in a string. **[5]**

Q9 a) Explain the following header files: **[2.5x3=7.5]**
   i) Math.h   ii) stdlib.h   iii) time.h

b) Write a program in C to check whether the input word is a palindrome or not? **[5]**

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END TERM EXAMINATION

FIRST SEMESTER (BCA) JANUARY-2024

Paper Code: BCA-103   **Subject: Programming Using 'C' Language**

Time: 3 Hours   **Maximum Marks: 60**

**Note: Attempt five questions in all including Q. no.1 which is compulsory.
Select one question from each unit.**

Q1 Write short notes of the following: (2x10=20)

(a) What are shorthand assignment operators?

(b) What is #define and write its syntax?

(c) Differentiate between call by value and call by reference.

(d) Name the language necessarily need heap allocation in the run time environment and why?

(e) Define static storage class.

(f) What is typecasting?

(g) Define self-referential structure.

(h) Name functions of standard library process.h.

(i) Write usage of command line arguments.

(j) Define memory allocation for structure and array.

UNIT-I

Q2 (a) Write a C program to check Least Significant Bit (LSB) of a number is set or not.   (5)

(b) Explain nested control structure with an example.   (5)

Q3 (a) Explain labelled continue statement with flow diagram.   (5)

(b) Write a program to check whether the number is even or not and print using the goto statement.   (5)

UNIT-II

Q4 (a) Write a C program to calculate sum of array elements using pointers.   (5)

(b) Explain the pointers for inter-function communication.   (5)

Q5 (a) Write a program to find out maximum number in array using pointer.   (5)

(b) What are callback functions and how functions can be passed to other functions as an argument.   (5)

P.T.O.

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P1/2

UNIT-III

Q6 (a) Write a C program to access members of a structure using pointers.   (5)

(b) Why do we need File Handling? Write types of files and functions in file operations.   (5)

Q7 (a) Write a C program using passing structure by reference.   (5)

(b) Explain file positioning functions.   (5)

UNIT-IV

Q8 (a) Write a C program to calculate the sine of an argument.   (5)

(b) Explain string library functions with suitable example.   (5)

Q9 (a) Write a program in C that write 10 integers in data.txt file and copy into the duplicate.txt file.   (5)

(b) Define virtual functions. Explain wide char and library functions.   (5)

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