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Total Number of Pages: 02

B.Tech.  
15BE2105

1<sup>st</sup> Semester Regular/Back Examination 2017-18

PROGRAMMING IN C

BRANCH: AERO, AUTO, BIOTECH,

CHEM, CIVIL, CSE, ECE, EEE, ELECTRICAL, ETC, FAT, IEE,

IT, MECH, METTAMIN, MINERAL, MME, PE, PLASTIC, TEXTILE

Time: 3 Hours

Max Marks: 100

Q.CODE: B1157

Answer Question No.1 and 2 which are compulsory and any four from the rest.

The figures in the right hand margin indicate marks.

**Q1** Answer the following questions: *multiple type or dash fill up type* (2x10)

- a) Which of the following is a User-defined data type? (210)
- a) typedef int Boolean;
  - b) typedef enum {Mon, Tue, Wed, Thu, Fri} Workdays;
  - c) struct {char name[10], int age};
  - d) all of the mentioned
- b) C programs are converted into machine level language with the help of (210)
- a) A Compiler
  - b) An Editor
  - c) An Operating System
  - d) None of these
- c) Which of the following is an invalid if-else statement? (210)
- a) if (if (a == 1)){}
  - b) if (func1 (a)){}
  - c) if (a){}
  - d) if ((char) a){}
- d) Which loop is most suitable to first perform the operation and then test the condition? (210)
- a) for loop
  - b) while loop
  - c) do-while loop
  - d) none of the mentioned
- e) Which of the following cannot be static in C? (210)
- a) Variables
  - b) Functions
  - c) Structures
  - d) None of the mentioned
- f) Which of the following is a correct format for declaration of function? (210)
- a) return-type function-name(argument type);
  - b) return-type function-name(argument type)  
{ }
  - c) return-type (argument type)function-name;
  - d) all of the mentioned
- g) Which is an indirection operator among the following? (210)
- a) &
  - b) \*
  - c) ->
  - d) .
- h) Comment on the following statement: (210)
- ```
int (*a)[7];
```
- a) An array "a" of pointers.
  - b) A pointer "a" to an array.
  - c) A ragged array.
  - d) None of the mentioned

- i) FILE reserved word is
  - a) A structure tag declared in stdio.h
  - b) One of the basic datatypes in c
  - c) Pointer to the structure defined in stdio.h
  - d) It is a type name defined in stdio.h
- j) Strcat function adds null character
  - a) Only if there is space
  - b) Always
  - c) Depends on the standard
  - d) Depends on the compiler

**Q2 Answer the following questions: *Short answer type* (2x10)**

- a) C is a structured programming language? Justify.
- b) Write a 'C' program to find the largest among two numbers using Conditional Operator.
- c) What is difference between while and do-while loops?
- d) Discuss about switch statement with an example.
- e) Differentiate between call by value and call by reference.
- f) What is the difference between assignment and equality operation?
- g) What are the limitation of array ?
- h) Give an example of structure inside another structure.
- i) How is a file pointer declared?
- j) Differentiate between binary file and text file.

**Q3 a) Define keyword and identifier in C. What is data type? Explain about different data types with examples. (10)**

- b) What are variables and constants? What are the rules for declaring the variables? (5)

**Q4 a) Explain different types of operators used in C ,with suitable examples. (10)**

- b) Write a program in C to find the factorial of a given number. (5)

**Q5 a) Differentiate between Continue and Break statement. Write a C program to calculate the grade of a student by considering the following range of marks using switch-case statement. (10)**

- b) Write a program in C to print count the odd numbers present in between 1 to 100. (5)
- O,  $90 \leq \text{Marks} \leq 100$   
 E,  $80 \leq \text{Marks} < 90$   
 A,  $70 \leq \text{Marks} < 80$   
 Grades= B,  $60 \leq \text{Marks} < 70$   
 C,  $50 \leq \text{Marks} < 60$   
 D,  $40 \leq \text{Marks} < 50$   
 F, Otherwise

**Q6 a) Explain about different parameter passing mechanisms in function with examples. (10)**

- b) Write a program to find the greatest among 3 numbers using function. (5)

**Q7 a) Explain about different string manipulation functions with examples. (10)**

- b) Write a program to find given string is palindrome or not. (5)

**Q8 a) What do you mean by Array? Explain with suitable diagram that ,how the array variables are stored in memory ? Write a program in C to add two 3 dimensional matrices. (10)**

- b) Write a program to swap two numbers using pointer concept. (5)

**Q9 a) Explain about different file operations that can be performed on files. How to read from and write to a file? Explain with examples. (10)**

- b) Differentiate between Structure and Union with suitable example. (5)