

F 3156

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Reg. No.....

Name.....



B.TECH. DEGREE EXAMINATION, NOVEMBER 2014

Third Semester

Branch : Applied Electronics and Instrumentation/Electronics and Communication/Electronics and Instrumentation/Instrumentation and Control Engineering

AI 010 306 }
EC 010 306 }
EI 010 306 } COMPUTER PROGRAMMING [AI, EC, EI, IC]
IC 010 306 }

(2010 Admission onwards—New Scheme)

[Regular/Improvement/Supplementary]

Time : Three Hours

Maximum : 100 Marks

Write neat and efficient C programs wherever needed.

Part A

*Answer all questions briefly.
Each question carries 3 marks.*

1. What is the output of the following ?

```
void main ()  
{  
    int i = 10 ;  
    printf ("% 4d"; ++i);  
}
```

2. Write the syntax of "for" statement and give an example.
3. Write the number of elements in :
- (i) int mat1 [5] [5] ;
 - (ii) float area [50] ;
 - (iii) char page [20] ;
4. What do you mean by pointer initialization ? Give an example.
5. Name three types of preprocessor directives.

(5 × 3 = 15 marks)

Turn over

**Part B**

*Answer all questions.
Each question carries 5 marks.*

6. Draw the flowchart to find the largest of three integers.
7. Write a recursion to find the factorial of a positive integer.
8. Write a C program to obtain the transpose of a 5×5 matrix.
9. Write a C program to find the smallest in an array of n elements using pointers.
10. With necessary truth-tables, explain the bitwise AND, OR and XOR operators.

(5 × 5 = 25 marks)

Part C

*Answer all questions.
Each full question carries 12 marks.*

11. Draw neat flowchart and write the C program to find the real roots of a quadratic equation.
Or
12. Using formatted I/O statements, write the C program to calculate the surface area and volume of a cube.
13. Write a C program to accept a message and count the number of vowels in it.
Or
14. (a) What is the need for function declaration? How does function definition differ from function declaration? Give example. (6 marks)
(b) Explain function prototype with a suitable example. (6 marks)
15. Using structures, write a C program to accept the roll number, name and marks obtained in three subjects of the 72 students of a class and display the roll number, name, marks of the three subjects and their average.

Or

16. Write a C program to check if two given matrices are conformable for multiplication and, if so, find and print the product matrix.
17. Using pointers, write a C program to compare two strings.
Or
18. Write a C program, using pointers, to read in an array of integers and print its elements in reverse order.
19. Write a C program to count the number of words in a text file.

Or

20. Write a C program that reads a file containing integers and appends at its end, the sum of all the integers.

(5 × 12 = 60 marks)