

B.E/B.TECH DEGREE EXAMINATIONS: JUNE 2010

First Semester

CSE101: PROGRAMMING WITH 'C'

(Common to All Branches)

Time: Three hours**Maximum Marks: 100****Answer ALL Questions:-****PART A (10 x 1 = 10 Marks)**

- Which of the following is application software?
a) Microsoft Word b) Compiler c) Device driver d) Windows XP
- In OOP, _____ is the ability of a function or object to behave differently in different situations.
a) Abstraction b) Encapsulation c) Polymorphism d) Inheritance
- Which is the incorrect variable name?
a) break b) age c) name d) cha_r
- What will be the output of the program?

```
main ()
{
  int a,b;
  a=300*300/300;
  b=20;
  printf(“%d”,a,b);
}
```

a) 300 b) 20 c) 300 20 d) 20 300
- What will be the output of the program?

```
int sum(int n)
{
  if (n<1) return n;
  else return (n+sum(n-1));
}
main()
{ printf(“%d”, sum(5));
}
```

a) 10 b) 16 c) 14 d) 15
- If CPU fails to keep the variables in CPU registers, the variables are assumed
a) automatic b) external c) static d) register
- A character array always ends with
a) NULL character b) full stop c) question mark d) &
- Which of the following is true after execution of the following program?

```
int a[6]={4,5}, *b;
b=a;
(*b)++;
```

a) The value of a[0] will be 4 b) The value of a[0] will be 5
c) The value of a[1] will be 6 d) Pointer gets moved to a[1]

9. The member variable of structure is accessed by using
- a) dot (.) operator
 - b) question (?) operator
 - c) asterisk (*) operator
 - d) ampersand (&) operator

10. The fscanf () statements reads data from

- a) file
- b) keyboard
- c) both (a) and (b)
- d) printer

PART B (10 x 2 = 20 Marks)

- 11. What is called application software? Give two examples.
- 12. What is an algorithm? How is it different from flowchart?
- 13. Explain about the conditional operator.
- 14. Give the syntax for do-while statement and explain its working.
- 15. What is a function prototype? Explain about its use.
- 16. What is a two-dimensional array? How will you declare it?
- 17. What is the difference between strcmp () and strcmp() functions?
- 18. Explain about malloc() function.
- 19. What is a bit field?
- 20. Distinguish between fread() and fwrite() functions.

PART C (5 x 14 = 70 Marks)

21. a) (i) Explain about Program Development Life cycle. (10)
(ii) Write an algorithm to find the largest of 2 numbers. (4)

(OR)

- b) (i) Explain about the types of system software. (10)
(ii) Define firmware and open source software. (4)

22. a) Explain about arithmetic, relational and logical operators with their order of precedence.

(OR)

- b) (i) Explain about “for” statement. (4)
(ii) Write a program to compute the following series using **for** loop

$$\text{Cos}(x) = 1 - \frac{x^2}{2!} + \frac{x^4}{4!} - \frac{x^6}{6!} + \dots \quad (10)$$

23. a) Write a program to perform multiplication of two n x n matrices and print the product matrix and also its transpose.

(OR)

- b) (i) Write a program to display odd numbers from 1 to 99 using user-defined function. (8)
(ii) Write a recursive function and use it to find the factorial of an input number. (6)

24. a) (i) Write a C program to find string length, reverse and concat without using built-in functions. (10)

(ii) How is arithmetic operation like addition done with pointers? Explain. (4)

(OR)

b) (i) Write a C program to perform Strcmp() function using pointers. (8)

(ii) Explain about the functions – calloc(), free() and realloc(). (6)

25. a) (i) Write a short note on enumerated data type. (4)

(ii) Explain how an array of structures is created and individual members accessed.

Use student example. Every student's name, roll number, marks in 2 subjects should be stored in it. Write a scanf () statement to read one set of their values.

(10)

(OR)

b) (i) Explain about fopen() statement and the modes used to open text files. (6)

(ii) Write a C program using command line arguments to perform "type" command of DOS. (8)
