

Faculty of Engineering & Technology
Third Semester B.E. (Computer Science Engg.)
(C.B.S.) Examination
ADVANCED "C" PROGRAMMING LOGIC
DESIGN

Time : Three Hours]

[Maximum Marks : 80

INSTRUCTIONS TO CANDIDATE

- (1) All questions carry marks as indicated.
- (2) Solve Six questions as follows :

Question No. 1 OR Questions No. 2

Question No. 3 OR Questions No. 4

Question No. 5 OR Questions No. 6

Question No. 7 OR Questions No. 8

Question No. 9 OR Questions No. 10

Question No. 11 OR Questions No. 12

- (3) Assume suitable data wherever necessary.

1. (a) What is an array ? Explain memory allocation for 1-D and 2-D array.

- (b) Write a program to reverse string without using String Handling function.

OR

(Contd.)

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2. (a) Define a structure Blood Bank containing name of donor, age of donor and blood group. Wap program which accepts information of 100 Donor and displays information of those donor having blood group "O⁺". 7
- (b) Write short notes on :—
- (i) typedef
 - (ii) enumerated data types. 6
3. (a) Write a program to copy abc.txt file into xyz.txt file. 6
- (b) Explain following with syntax and example :
- (i) getc()
 - (ii) fseek()
 - (iii) fwrite()
 - (iv) fscanf() 8

OR

4. (a) Write a program to read the content of file using command line arguments. 6
- (b) Explain fopen() function in detail with proper example. 5
- (c) Explain the following :—
- (i) feof()
 - (ii) ferror(). 3

5. (a) Write a program for the comparison of two strings by using pointers. 7
- (b) Write a function `small ()` to find smallest element from an array using pointer. 6

OR

6. (a) Explain with example, the difference between pointer to structure and pointer within structure. 5
- (b) Write short note on :—
- (i) Static memory allocation 3
 - (ii) Dynamic memory allocation 3
 - (iii) Size of () operator. 2
7. (a) Write a program in C to draw five concentric circles and fill inner most circle with RED color. 7
- (b) What is the difference between graphics mode and text mode. 3
- (c) Explain `initgraph()` in detail. 4

OR

8. (a) Write a menu driven to draw line, rectangle, arc, ellipse and circle. 6
- (b) Explain the following graphics functions with syntax and examples :
- (i) `putimage()`
 - (ii) `outtextxy()`

(iii) getmaxx()

(iv) setlinestyle() 8

9. (a) Write an algorithm to find sum and average of array elements. 6

(b) Explain basic model of computation in detail. 7

OR

10. (a) What are the correctness and efficiency issues in programming. 7

(b) Explain notion of algorithms. 6

11. (a) What is object oriented programming ? Explain difference between object oriented programming and structure oriented programming ? 7

(b) Explain the concept of polymorphism with respect to OOP with example. 6

OR

12. Write short note on :—

(a) Top down design 3

(b) Encapsulation 3

(c) Assertion and Loop Invariants 4

(d) Inheritance. 3