B.E.Third Semester (Computer Science & Engineering (New)) (C.B.S.)
Advanced C & Programming Logic Design

P. Pages : 2

Time : Three Hours

0280

Max. Marks : 80

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Notes :   1.   All questions carry marks as indicated.
2.   Solve Question 1 OR Questions No. 2.
3.   Solve Question 3 OR Questions No. 4.
4.   Solve Question 5 OR Questions No. 6.
5.   Solve Question 7 OR Questions No. 8.
6.   Solve Question 9 OR Questions No. 10.
7.   Solve Question 11 OR Questions No. 12.
8.   Due credit will be given to neatness and adequate dimensions.
9.   Assume suitable data whenever necessary.
10. Illustrate your answers whenever necessary with the help of neat sketches.
11. Use of non programmable calculator is permitted.

1. a) What is an Array? Explain how one dimensional and two dimensional arrays are stored in memory, Give example of each.   **6**

b) Write a program to reverse string without using string handing function.   **7**

OR

2. a) Write a program to add two matrices & store the result in third matrix.   **7**

b) Differentiate between structure & union.   **6**

3. a) Explain following with syntax & example.   **8**
i)   getc ( )   ii)   fseek ( )
iii) fwrite ( )   iv)   fscanf ( )

b) Write a program to copy abc.txt file into xyz.txt file.   **6**

OR

4. a) Given a text file soript.txt, create another file deleting all the vowels.   **8**

b) What are the different types of file? Also explain different opening modes of file.   **6**

5. 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) Array of pointers.   **3**

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6. a) What is pointer? state its advantages. Also give details of pointer arithmetic. **7**

b) Write a program to print greatest numbers in an array using pointers. **7**

7. a) Write a program in c-to draw five concentric circles and fill the inner most circle with BLUE color. **7**

b) What is the difference between graphic mode & text mode. **3**

c) Explain Initgraph ( ) in detail, using example. **3**

OR

8. a) Explain video Adopter in detail. **7**

b) Explain following functions using example. **6**
   i)   moverel ( )   ii)   moveto ( )

9. a) Compute time and space complexity for bubble sort method. **7**

b) Prove the following by Mathematical Induction. **6**
   $$0^2 + 1^2 + 2^2 + 3^2 + - - - - - n^2 = \frac{n\,(n+n)\,(2n+1)}{6}\,.$$
OR

10. a) Explain basic models of computation. **7**

b) Explain the following. **6**

   i)   Iterative Vs Recursive process.
   ii) Functional programming.

11. a) Create a class rectangle with private data members. Length & breadth and public member function, get data ( ) to get length & breadth, Also a member function area ( ) to print area of rectangle, write main ( ) function that create an object of rectangle and print area of rectangle. **6**

b) Write short notes on.

   i)   Assertion & loop invariant. **4**
   ii) Top down & bottom up design. **3**

OR

12. a) Explain object-oriented programming features in details. **8**

b) Differentiate between structured programing and object oriented programming. **5**

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