NagpurStudents

www.nagpurstudents.org

B.E. (Computer Science & Engineering (New)) Third Semester (C.B.S.)

Advanced C Programming & Logic Design

P. Pages : 2 **NIR/KW/18/3323**

Time : Three Hours * 1 8 9 4 * Max. Marks : 80

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. Assume suitable data whenever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.

1. a) Differentiate between structure and union with example. **6**

b) Write a program to find and display largest and smallest element in 1D Array. **7**

OR

2. a) Write a program to generate transpose of a matrix. **6**

b) Explain following string functions with example. **7**
i) strlen ( ) ii) strcpy ( )
iii) strrev ( ) iv) strcmp ( )

3. a) Write a program to read a number from file and calculate and display its factorial. **7**

b) What are the different types of files? Also explain various file opening modes? **7**

OR

4. a) Explain following file functions with example. **8**
i) fgetc ( ) ii) fscanf ( )
iii) fputs ( ) iv) fprintf ( )

b) Write a program to copy the content of one file into another. **6**

5. a) Write a program to explain pointer within structure. **7**

b) What is pointer? Explain how you can initialize a structure using pointer? **6**

OR

6. a) Write a program to calculate addition of 1D Array elements using pointer to array. **7**

b) Explain with example how you can use a pointer for 1D and 2D array. **6**

7. a) Write a program to draw five concentric circles on screen. **6**

b) Explain with example : **8**

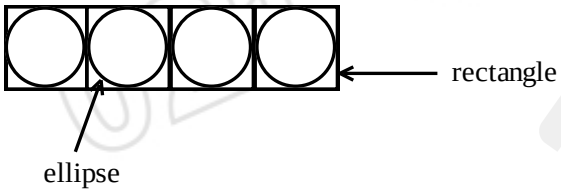
i) line ( ) ii) circle ( )

iii) rectangle ( ) iv) set color ( )

OR

8. a) Explain initgraph ( ), getmaxx ( ) and getmaxy ( ) graphic function in detail with example. **6**

b) Write a program to display below image on screen. **8**



Assume suitable data as parameter for graphic function.

9. a) Using mathematical induction, prove that **7**

$$1^3 + 2^3 + 3^3 + ----+n^3 = \left[\frac{n(n+1)}{2}\right]^2.$$

b) What is Algorithm? Explain properties of an Algorithm? **6**

OR

10. a) List and explain various computational model in detail. **7**

b) Differentiate between entry control and exit control loop with example. **6**

11. a) What is OOP? Explain its features in detail. **6**

b) Declare a structure bank with fields ACC-no, name, ACC-type, balance. Write a program to create at least 20 account in a bank and display complete detail available in bank. **7**

OR

12. a) Differentiate between procedural and object oriented programming. **6**

b) Write short notes on :

i) Time complexity. **4**

ii) Space complexity. **3**

****

www.nagpurstudents.org

Itâ€™s hard to beat a person who never gives up.

~ Babe Ruth