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

## Advanced C Programming & Logic Design

P. Pages : 2 Time : Three Hours				Max. Marks : 80	
	Note	s: 1. 2. 3. 4. 5. 6. 7. 8. 9.	Solve Question 1 OR Questions No. 2. Solve Question 3 OR Questions No. 4. Solve Question 5 OR Questions No. 6. Solve Question 7 OR Questions No. 8. Solve Question 9 OR Questions No. 10. Solve Question 11 OR Questions No. 12. Assume suitable data whenever necessary.		
1.	a)	Diffe	rentiate 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)	i) s	strlen () ii) strcpy () strrev () iv) strcmp ()	7	
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)	i) f	in following file functions with example.  Getc () ii) fscanf ()  Fputs () iv) fprintf ()	8	
	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)	Expla	in 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:
  - i) line()

ii) circle ()

iii) rectangle ()

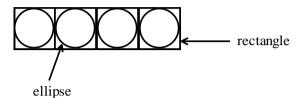
iv) set color ()

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

8



Assume suitable data as parameter for graphic function.

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

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

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

6

7

OR

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

7

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

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6

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

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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.

OR

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

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- b) Write short notes on:
  - i) Time complexity.

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ii) Space complexity.

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