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

Advanced C & Programming Logic Design

P. Pages : 2 **NJR/KS/18/4378**

Time : Three Hours * 0 1 3 6 * 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.

1. a) What is an array? Explain how one dimensional and two-dimensional array are stored in memory. Give example of each. **7**

b) Write a program to find transpose of a matrix. **6**

OR

2. a) What are structures? Give different way to declared them. When does compiler know to reserve space in memory for members of structures. **7**

b) Explain **any three.** **6**
i) Enumeration.
ii) Typedef.
iii) Bitfield.
iv) Sizeof.

3. a) Write a program to copy abc.txt file into xyz.txt file. **5**

b) Explain topen( ) function in detail with proper example. **5**

c) List various error handling function in files. **4**

OR

4. a) Write a program to count number of lines, words present in the file "PQr.txt" **5**

b) Explain command line argument with example. **5**

c) Write following function: **4**
i) ftell( )
ii) ferror( )
iii) fputs( )
iv) fclose( )

5.	a)	Compare static memory allocation with dynamic memory allocation.	**7**
	b)	Explain calloc( ), malloc( ), realloc( ), and free( ) function with syntax.	**6**

OR

6.	a)	What are pointers? Also explain pointer arithmetic and pointers operators.	**7**
	b)	Write a program to swap two numbers using pointer.	**3**
	c)	Differentiate pointer to structure and structure pointer.	**3**
7.	a)	What is the difference between graphics mode and text mode.	**5**
	b)	Explain initgraph( ) and closegraph( ) with example.	**5**
	c)	Explain video Adapter in detail.	**3**

OR

8.	a)	Write a menu driven program to draw line, circle, rectangle, ellipse and arc on the screen.	**7**
	b)	Write a program to draw five chains of circles with different colors.	**6**
9.	a)	Compare recursion and iteration.	**5**
	b)	Define model of computation. List and explain various model of computations.	**5**
	c)	Explain notion of algorithm.	**4**

OR

10.	a)	What are the correctness and efficiency issues in programming. Explain in detail.	**8**
	b)	Difference between iterative approach and functional approach with respect to following: i) Programmer focus. ii) State changes. iii) Order of execution.	**6**
11.	a)	List and discuss features of object oriented programming.	**7**
	b)	Explain imperative procedural and declarative programming with example.	**6**

OR

12.	a)	Explain in detail Assertion and loop invariants.	**7**
	b)	Write a program to create a structure student with field roll no, name and marks with 5 subjects and calculate percentage, result and grade and display it in proper form.	**6**

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High expectations are the key to everything.

~ Sam Walton