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

P. Pages : 2

Time : Three Hours

KNT/KW/16/7238

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.

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

b) What is array? What are the different types of the array. Draw memory map for 1-D and 2-D array. **7**

OR

2. a) Write a program to check whether entered string is palindrome or not. **7**

b) Explain following with example. **6**
i) Enumerations ii) Typedef

3. a) Write a program to count number of words, vowels, consonants and other characters from a file. **8**

b) Explain what are command line arguments with example. **5**

OR

4. a) Write a program to create abc. txt and xyz. txt and merge content of abc.txt & xyz.txt into a file pqr.txt. **8**

b) Explain syntax of fopen ( )? What are different file opening modes. **5**

5. a) Write a user defined function to copy one string into another string using pointer. **7**

b) Write a program to find largest element from an array using pointers. **6**

OR

6. a) Write short note on.

i) Dynamic memory allocation. **5**

ii) Static memory allocation. **4**

iii) Pointer to array and array of pointers. **4**

7.	a)	Write a program to draw the pentagon and fill it with different colors. every time a key is pressed. Program should terminate when escape key is pressed.	**8**
	b)	Explain initgraph( ) with syntax & example in detail.	**6**

<div align="center">**OR**</div>

8.	a)	Write a menu driven program to draw line, circle, rectangle, ellipse & arc on the screen.	**8**
	b)	What is the difference between graphics mode & text mode.	**3**
	c)	Explain syntax of "Putimage" with example.	**3**

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)	On what parameters algorithms are evaluated? Explain those parameters.	**6**

<div align="center">**OR**</div>

10.		Write short note on.	
	i)	Computational model.	**5**
	ii)	Properties of algorithm.	**4**
	iii)	Notion of algorithm.	**4**

11.	a)	Explain basics of imperative style programming.	**7**
	b)	Explain Assertions and loop invariants with example.	**7**

<div align="center">**OR**</div>

12.	a)	Declare a structure of an employee and accept 10 elements from user having fields emp-id emp-name, emp-dept, emp-basic, emp-gross. Find gross salary of an individual employee using formula. Gross salary = HRA + DA where HRA = 20% of Basic salary DA = 90% of Basic salary	**8**
	b)	What is OOP? How it differs from Procedure oriented programming.	**6**

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