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Model Question Paper II, MCA-I Sem

Table with 2 columns: Paper Code: MCA - 103, Subject: Programming in C; Time: 3 Hours, Maximum Marks: 75; Note: Attempt FIVE questions in all. Question No. 1 is compulsory and attempt one question from each unit.

- 1. Answer any ten of the following questions briefly:- 2.5 x 10 = 25
(a) Compare auto versus extern 2.5
(b) Temperature of a city in Fahrenheit degrees is input through the keyboard. 2.5
Design a function to convert this temperature into Centigrade degrees
(c) Contrast between for and while 2.5
(d) Elaborate the usage of wait() 2.5
(e) Appraise chown() with an example 2.5
(f) Evaluate the following function prototype: int main(int argc, char* argv[]); 2.5
(g) Explain the use of #define to define a symbolic constant and a macro 2.5
(h) Two numbers are input through the keyboard into two locations C and D. Design 2.5
a function to interchange the contents of C and D.
(i) Assess the advantage of make utility with an example 2.5
(j) Given three points (x1, y1), (x2, y2) and (x3, y3), develop a program to check if all 2.5
the three points fall on one straight line.
(k) Appraise the usage of const keyword in C? 2.5
(l) Detail the usage of tmpfile()? 2.5

UNIT - I

- 2. (a) Describe the term arguments? Where do arguments appear within a C program? 6
What other term is sometimes used for an argument'
(b) Appraise the different storage classes in C with help of an example 6.5
3. (a) Develop a program to check whether a triangle is valid or not, when the three 6
angles of the triangle are entered through the keyboard
(b) Design a program that will read a line and delete from it all occurrences of the 6.5
word 'the'.

UNIT - II

- 4. (a) When passing an array to a function, how must the array argument be written? 6
How is the corresponding formal argument written
(b) Elaborate pointer to pointer with an example. 6.5
5. (a) How can a list of strings be stored within a two-dimensional array? How can the 6
individual strings be processed? What library functions are available to simplify
string processing?
(b) Evaluate an array of pointer over an array of values through suitable examples. 6.5

UNIT - III

6. (a) A dequeue is an ordered set of elements in which elements may be inserted or retrieved from either end. Using an array simulate a dequeue of characters and the operations retrieve left, retrieve right, insert left, insert right. Exceptional conditions such as dequeue full or empty should be indicated. Two pointers (namely, left and right) are needed in this simulation. 6
- (b) Discuss the different program termination functions defined in `stdlib.h`. 6.5
7. (a) Implement a stack in C using linked list. Define functions to add, display and delete elements from the stack 6
- (b) Differentiate between the working of `calloc()` and `malloc()` with an example. 6.5

UNIT - IV

8. (a) Explain the different mechanisms using which a new process can be initiated from within a C program. 6
- (b) Outline mechanism to ensure that the parent process terminates after the child process. If yes, discuss and also explain why is it desirable? 6.5
9. (a) Explain the difference between process id and thread id in C. Also explain how a new thread can be created in C. Give examples as required 6
- (b) Appraise the concept of threads. Explain the complete process of thread creation through suitable codes? 6.5