

## ***B. Tech Degree I & II Semester Examination in Marine Engineering, May 2008***

### **MRE 109 COMPUTER FUNDAMENTALS**

Time : 3 Hours

Maximum Marks : 100

- I. (a) Explain the typical functions of an Operating System. (10)  
 (b) Explain the typical architecture of a digital computer. (10)  
**OR**
- II. (a) What are the various internet connection schemes? (10)  
 (b) What are the various network topologies? (10)
- III. (a) Explain in detail the various data types in C including all sub types and example in a tabular form. Show the various ranges too wherever applicable. (10)  
 (b) Write a C program to print first 10 prime numbers. Show test data working too. (10)  
**OR**
- IV. (a) Explain the various looping structures in C. (10)  
 (b) Write a C program to print multiplication table for any number n?. Show the working with test data too. (10)
- V. (a) Explain the storage classes in C with examples. (10)  
 (b) Write a C program to demonstrate recursion. Explain the working with test data. (10)  
**OR**
- VI. (a) Distinguish call by reference and call by value. (15)  
 (b) Demonstrate static storage class with an example. (5)
- VII. (a) Explain selection sort and linear search with example. Clearly show various stages. (10)  
 (b) Write a C program to find the transpose of a matrix and multiply with another matrix. Use a menu driven approach. Make your assumptions clearly. Explain the working with test data. (10)  
**OR**
- VIII. (a) Distinguish structures and unions with examples. (10)  
 (b) Write a C program to demonstrate pointer to an array and array of pointers. Show the working with test data and diagrams. Explain the syntax clearly. (10)
- IX. (a) Explain the important OOPS features. (10)  
 (b) Write a C++ program to demonstrate operator overloading. Explain the working with test data. (10)  
**OR**
- X. (a) Explain the advantages of a DBMS over file systems. (10)  
 (b) Assume S(S#, Sname, City) P(P#, Pname, Color), SP(S#, P#, QTY)  
 Write SQL's to  
 (i) Get all suppliers from 'LONDON'  
 (ii) Get all supplier names who supply more than 500 units of a particular part. (10)

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