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***B.Tech. Degree I & II Semester Examination in
Marine Engineering May 2018***

**MRE 1109 COMPUTER FUNDAMENTALS
(2013 Scheme)**

Time: 3 Hours

Maximum Marks: 100

(5 × 20 = 100)

- I. (a) What is the difference between a compiler and an interpreter? (5)
 (b) Explain the layering of the various types of memory in a computer. Which memory is mandatory for the normal working of a computer? (15)
- OR**
- II. Explain the following terms: (20)
 (i) Bus.
 (ii) Cache.
 (iii) Central processing Unit.
 (iv) WAN.
 (v) BIOS.
- III. (a) What are the various types of operators in C? Discuss their precedence and associativity. Provide necessary examples. (10)
 (b) What is a nested loop? Explain with a suitable example. (5)
 (c) What is break? What happens when a break is encountered in a nested loop? (5)
- OR**
- IV. Explain the following terms with example: (20)
 (i) Continue.
 (ii) Goto.
 (iii) Typecasting.
 (iv) If-else ladder.
 (v) Return.
- V. (a) Write a program for matrix multiplication. (10)
 (b) Write a program for binary search. What is the advantage of using binary search over linear search? (10)
- OR**
- VI. (a) What is the difference between array of pointers and pointer to an array? Explain with suitable examples. (10)
 (b) What are the various parameter passing mechanisms? Explain with examples. (10)
- VII. (a) What is the difference between
 (i) DROP TABLE and DELETE. (10)
 (ii) ALTER TABLE and UPDATE in SQL?
 (b) What is inheritance? What are the various types of inheritance in OOP? (10)
- OR**
- VIII. (a) What is RDBMS? Explain. (10)
 (b) What are the characteristic features of OOP not found in POP? (10)
- IX. Explain the following terms: (20)
 (i) Enumerated data type.
 (ii) Fopen.
 (iii) Union.
 (iv) Fseek.
- OR**
- X. (a) What is a structure? Explain initialization of structure. Also explain pointer to a structure. (10)
 (b) Explain how data can be randomly accessed form a data file. (10)