Indian Maritime University

(A Central University, Govt of India)

End Semester Examinations – December 2023

Programme Name: B Tech (ME)

Semester: I

Subject Code: UG11T4103

Subject Name: COMPUTERS

Date: 20.12.2023 Max Marks: 70

Duration: 03 Hrs Pass Marks: 35

General Instructions

(i) All Sections (A, B & C) are to be attempted.

(ii) Options, if any, are specified in respective section.

Section A

Answer all the question multiple choice (MCQs)/Fill in the Blanks

10x1=10 Marks

1.One Gigabyte (GB) is equal to ___

a) 1024 KB
b) 1024 MB
c) 1,024 TB
d) 1024 bytes

2._____ perform special functions such as managing system resources and improving efficiency

a) compiler
b) application software
c) loader
d) Utility program

3._____ refers to those application that use/combine text, graphics, images, sound/audio, animation and/or video

a) Hypertext
b) multimedia
c) both a and b
d) None of the above

4. Which of the following statements about ROM is true?

a) It is volatile memory
b) It is used for temporary data storage
c) It retains data even when the power is turned off
d) It can be written to and erased multiple times.

5. A device that allows users to feed data into a computer for analysis and storage and to give commands to the computer is called

a) Output device
b) Input device
c) Memory
d) storage device

6. Which logic gate has a single input and produces the opposite output?

a) AND gate
b) OR gate
c) NOT gate
d) XOR gate

7.Which topology uses a single cable which connects all the nodes?

a) bus
b) star
c) ring
d) none of the above

8. What is the result of the expression 10 / 4.0 in C?

a) 2
b) 2.5
c) 2.0
d) none of the above

9. The output of following C code is

```
{
int x, a= 8, b= 3;
x= (a>b)?a : b;
}
```

a) x= 3
b) x= 8
c) x= 7
d) x= 2

10.In C a pointer variable to a char can be declared as

a) char p*;
b) char *p;
c) char +p;
d) char $p;

Section B

Answer all the Five Questions **5X2=10Marks**

11. Explain two differences between magnetic hard disk drives (HDDs) and magnetic tapes
12. List any four advantages of Multimedia
13. Represent the floating point number 101.11 in explicit normalise form. Total bit size is 16 bit, 5 bit is exponent and 1-bit sign bit.
14. What is the use of network Routers?
15. Define constant in C language. Give an example

Section C

Answer Seven Questions of 10 Marks each of which any 05 questions to be answered.

16. a) Convert the decimal number 273.5 to its equivalent hexadecimal (3 marks)

b) Convert the binary number10111011.101 to its equivalent decimal (3 marks)

c) Represent 154 using IEEE 754 floating point standard (32 bit) (4 marks)

17. a) What is backup? What are the advantages of backup? (5 marks)

b) Explain the types of backup (5 marks)

18. a) Compare & Contrast between Serial Access Memory(SAM) & Random Access Memory(RAM) (5 marks)

b) What are the different technologies used in different generations of processors? (5 marks)

19. a) Explain any 2 logic gates with diagram and truth table (5 marks)
b) Explain analogue to digital converter (5 marks)

20. a) Write short notes on DNS (domain naming system) and Modem (5 marks)

b) Write a C program that checks if a given number is even or odd and prints an appropriate message using conditional operator (?:) ? (5 marks)

21. a) Explain the primary datatype of C programming language (6 marks)
b) Explain switch statement with an example (4 marks)

22. a) Write a C Program to find the largest element in an Array using for loop (5 marks)

b) Describe function declaration and definition with suitable example (5 marks)