

ALL QUESTIONS ARE COMPULSORY

1.a. Define the following terms

/4marks

- i. Computer
- ii. Computer Science

b. Match the following generations of computers with the technology used to develop them. **/4pts**

- | | |
|----------------------|---|
| 1. First generation | A – Very large scale integrated circuit |
| 2. Second generation | B – Thermionic valves |
| 3. Third generation | C – Transistors |
| 4. Fourth generation | D – Integrated circuits |

2. a. List any 4 ports you know

/4marks

b. Match the following items from list A with that of List B **/5marks**

List A

List B

- | | |
|------------------|---|
| i. RAM | a. A part of Central Processing Unit |
| ii. Mother board | b. Special Memory inside an Input and output |
| iii. Buffer | c. Component where all internal parts are connected |
| iv. Control Unit | d. interface between the computer and peripheral |
| v. Port | e. Secondary storage to store volatile information |

3. Explain what do you understand by the term “**Ergonomic**” **/2marks**

4. Discuss on Computer software classification **/7marks**

5. With the help of an example, Explain the computer software installation requirements **/7marks**

6. Find the binary numbers of the following numbers

/10marks

- i. $(145)_{10}$
- ii. $(721)_8$
- iii. $(A2C)_{16}$
- iv. $(11F)_{16}$
- v. $(8000)_{10}$

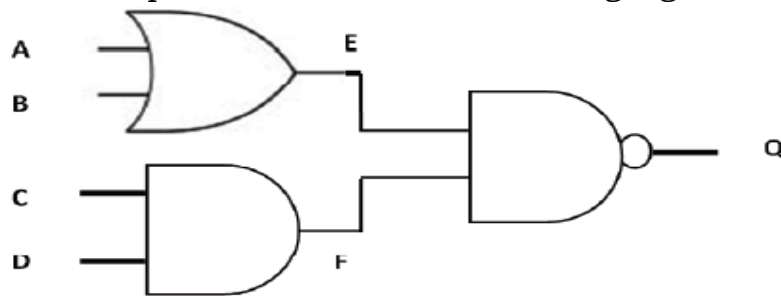
7. Design a logic circuit of the following function

/6marks

$$F(A,B,C) = \bar{A}\bar{B}C + A\bar{B}\bar{C} + ABC$$

8. Develop a truth table of the following logic circuit

/10marks



9. a. Define the following terms:

/2marks

- i. Algorithm
- ii. Variable

b. What are different rules for naming variables.

/3marks

c. List 4 data types used in programming. **/4pts**

10. i. Develop a pseudocode that will receive water temperature as input from the user and tells him the state of water as follows:

/7marks

Temperature entered by the user

Message to be displayed

- a. Below 0:
- b. Between 0 and 100:
- c. Above 100:

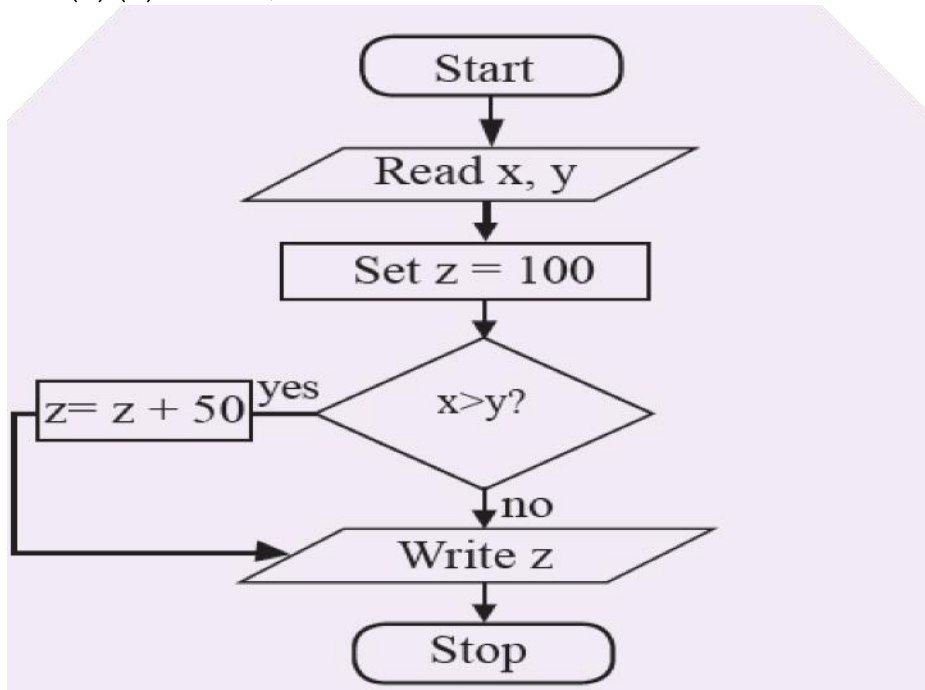
Solid
Liquid
Gas

ii. Build a flow chart corresponding to above pseudocode developed in 10(i)
/3marks

iii. Study the flowchart shown below and state the value of Z if the following

values of x and y are entered by the user: /6pts

- (a) X = 20, Y = 10
(b) X = 19, Y = 20



11. a. By using **switch case**, develop a pseudocode that takes an input from the user and display the day corresponding to it. For invalid input the message ***“Invalid input. The input must be numbers from 1 to 7”*** will be displayed! /6marks

b. Develop a pseudocode that will display the message ***“I am proud of studying computer science”*** 452 times in front of the user! /4marks

12. Briefly explain the evolution of programming languages. In each case, identify the generation and languages used. /6marks

*****END*****