

- ~~(c)~~ Define Software Engineering. Describe the major steps of software development life cycle. [4]
- ~~7. (a)~~ Write the difference between system software and application software. [2]
- ~~(b)~~ Define algorithm. Write an algorithm and draw a flowchart to find the maximum number among three numbers such as a, b, c. [4]
- ~~(c)~~ What are the advantages and limitations of Assembly language over Machine Language? [3]
- ~~(d)~~ Define systems. Why do you refer to a computer as a computer system? [3]
8. (a) What is meant by HTTP and HTML? Explain with examples. [2]
- (b) What are the basic examples of a communication system? Briefly describe the Data transfer modes. [2+2]
- (c) What are the advantages and limitations of Optical fiber communication media? [2+2]
- (d) Define Computer Network. Classify Computer Network. [2]

Good Luck!!!

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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING  
UNIVERSITY OF BARISHAL  
FINAL EXAMINATION-2023

Course Title: Introduction to Computer Systems

Course Code: CSE-1101

1<sup>st</sup> Year 1<sup>st</sup> Semester; Session: 2022-23

06/02/24

Time: 3 hours

Marks: 60

Answer any five Questions from the followings. Parts of the same question should be answered consecutively.

1. a) Define Computer. Why Computer is called a Data processor? Differentiate between Data and information. [4]  
b) What is GIGO? "Computer have no IQ", describe the terminology. [4]  
c) What is a microprocessor? Draw a block diagram of a microcomputer. [4]
2. a) What do you understand by computer architecture? Is it same as computer organization? If no, explain the difference between the two. [4]  
b) What do you understand by CPU cycle? What are the main operations accomplished using the CPU cycle? [4]  
c) Define Cache Memory? How does it help computer to enhance its performance? Explain with necessary diagram. [4]
3. a) What is the difference between memory read and memory write operations? List the different steps involved in memory read and memory write operations. [6]  
b) Draw the block diagram of a computer system and explain its main components. [6]
4. a) What is the difference between volatile and non-volatile memory? Is RAM a volatile or non-volatile memory? [4]  
b) What are solid-state devices? State the advantages and disadvantages of solid-state devices. [4]  
c) Explain briefly the basic function of an MICR device. [4]
5. a) Perform the following conversions: [6]
  - i.  $(727.33)_{10} = (?)_8$
  - ii.  $(1A2F.5E)_{16} = (?)_2$
  - iii.  $(375)_8 = (?)_4$  
b) Perform the binary subtraction of the following using 2's complement method. [2]  
 $(-64)_{10} - (128)_{10} = (?)_2$   
  
c) Explain the meaning of the term memory dump. What happens when a computer divides a number by zero? [2]  
  
d) Explain the principal of duality in Boolean algebra. [2]
6. a) State the De Morgan's Theorem. Prove that NAND and NOR gates are universal gate. [4]  
b) A logic circuit has three inputs A, B and C. It generates an output 1 only when  $A=0, B=1, C=0$  or  $A=1, B=1, C=0$ . Design a combinational circuit for this system. [4]