NORTHERN COLLEGE
B A N G L A D E S H

CSE SECOND YEAR THIRD SEMESTER MID TERM-2, 2019

Data Structure

Subject code: 520201

Mid-term Examination-2

Full Marks---30

Time------- 1.50 hours

[N.B. ---- The figures in the right margin indicate full marks. Answer **any 2 set** question properly]

1. a) What is Data Structure?   2
   b) Find the complexity of linear search for (i) Best case, (ii) Worst case, (iii) Average case.   4
   c) Write about some operations of data structure.   3
   d) What is algorithm? Explain the complexity of algorithm.   6

2. a) What is Array?   2
   b) Write an algorithm for binary search.   4
   c) Define linear search and binary search.   3
   d) What is stack? Describe the basic operations of stack.   6

3. a) Define Queue and Recursion.   2
   b) Write an algorithm for fibonacci series.   4
   c) Let denote the following Agebraic expression: [a+(b-c)]*[(d-e)/(f=g-h)]. Find the pre-order and post-order traversal of this.   3
   d) Describe a Heap tree. Construct a heap tree T for the following number:
   50, 33, 44, 22, 77, 35, 60, 40.   6
   Show the min heap and max heap tree with these numbers.

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CSE SECOND YEAR THIRD SEMESTER MID TERM-2, 2019

Object Oriented Programming

Subject code: 520203

Time------- 1.50 hours   Mid-term Examination-2   Full Marks---30

[N.B. ---- The figures in the right margin indicate full marks. Answer **every** question properly]

1. a)	Define OOP. What are objects?	3
b)	What is Class? Write a basic code by using Class and Objects.	6
c)	What is constructor? Write a code on Copy constructor.	6
2. a)	Define Member function and Friend Function	3
b)	How Member function defined inside and outside the class, write code.	6
c)	Write code on Prefix increment, Postfix increment, Prefix decrement and Postfix decrement.	6
3. a)	What is Inheritance? What does inheritance mean?	3
b)	What are the types of Inheritance? Write code example.	6
c)	What is the difference between private and protected visibility? Write a code for Inheritance.	6

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CSE SECOND YEAR THIRD SEMESTER MID TERM-2, 2019

Computer Architecture

Subject code: 520205

Time------- 1.50 hours   Mid-term Examination-2   Full Marks---30

[N.B. ---- The figures in the right margin indicate full marks. Answer **any 2 set** questions properly]

1. a) What is Main memory? Discuss characteristics of main memory   5

   b) Define Flash memory, Cache memory and Virtual memory. Describe classification of ROM   5

   c) What is Associative memory? Draw the hardware structure of associative memory organization.   5

2. a) What is DMA? Explain typical DMA block diagram.   5

   b) Describe 8237A DMA controller.   5

   c) What is interrupt? Describe about different types of interrupts.   5

3. a) What do you mean by I/O module? Explain I/O module structure.   5

   b) Describe the main functional units of a digital computer.   5

   c) Draw the block diagram of control unit and describe its functions.   5

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CSE SECOND YEAR THIRD SEMESTER MID TERM-2, 2019

Ordinary Differential Equation

Subject code: 520206

Time------- 1.50 hours   Mid-term Examination-2   Full Marks---30

[N.B. ---- The figures in the right margin indicate full marks. Answer **all** questions properly]

1.

   a. Define Differential Equation.   2

   b. Find the order and degree of the equation $\sqrt[3]{\left(\frac{d^3 y}{dx^3}\right) - 5x\,\frac{d^2 y}{dx^2} + y} = \sqrt[5]{\left(\frac{dy}{dx}\right) + y^2 - x}$ 8

2.

   a. Define Order.   2

   b. Solution the first order equation $\frac{dy}{dx} = x^2 (e^{3y} - 1)$ 8

3.

   a. Define Linear and Non-Linear Equation.   2

   b. Solution the first order equation $\frac{dy}{dx} = y\tan x + y^3 \tan x$ 8

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CSE SECOND YEAR THIRD SEMESTER MID TERM EXAMINATION- 2019

(Fundamental of Business Studies)
Subject Code: 520107
Mid term Examination -2

Time------- 1.30 hours

Full Marks---30

[N.B. ---- The figures in the right margin indicate full marks. Answer any **two** questions from Section A and any **two** questions from Section B.]

Section A (Short Question)
(Answer any **two** questions 5 X 2 =10)

1. a) What is partnership Business?　　2
   b. What are the essential elements of partnership business?　　3

2. a) What is Bank?　　2
   b) Difference between central bank and commercial bank. Briefly discuss it.　　3

3. Describe the most common input and output devices.　　5

4. a) Difference between information software and information technology.　　2
   b) What do you mean by management information system?　　3

Section B (Broad Question)
(Answer any **two** questions, 2 X 10=20)

5. a. Define human resource management.　　3
   b. Describe the objectives of human resource management.　　7

6. a) What is marketing mix?　　3
   b) What are the elements of marketing mix?　　7

7. Define franchising. Write down the characteristics of franchising.　　10

8. Define computer. Difference between data and information.　　10

Good Luck

Batch 10