

MID-TERM Assignment, Spring 2018-19

Course: Algorithm; Section: B, D, R, U

Submission Deadline: 24th February'19 Sunday

General Instruction:

1. Complete the Assignment in Hand Written format. (No printed or softcopy assignment is allowed)
2. Do not Copy. Write the assignment by your own.
3. Write Name, ID, Course, Section, **Serial Number **** on Front page properly.
4. Front page format is attached on next page. Use this printed template
5. Viva on Assignment will be taken on Week6 Lab class
**I will upload a list of your name with serial number

1. Using the definition of Big- Θ (Tight bound /Average case) notation determine

$$\text{IF } 2n^3 + n^2 = \theta(n^3)$$

2. Sort the bellow numbers using Counting Sort

- i. Write Pseudo-Code
- ii. Describe Simulation

8	5	2	1	3	5	4	2
---	---	---	---	---	---	---	---

3. What are the elements that should be present in a problem to be approached by a greedy algorithmic technique? Name Five classical problems that can be solved by greedy approach.
4. Tony needs to buy 21 liters of orange juice for his upcoming birthday party. He asked a few juice vendors and collected the information about their stock of orange juice and their price. He has some other important jobs to do and hired you to find out how he should buy 21 liters of orange juice from different vendors by spending as little as possible. The quantity and price of orange juice from each vendor is given in the following table, you need to tell Tony how much money he has to spend and from which vendor how much orange juice to be bought.

Amount (L)	16	16	10	7	1
Price (\$)	10	8	6	3	1

- i. Specify the steps of your Solution.
- ii. Write down the simulation.



AMERICAN INTERNATIONAL UNIVERSITY-BANGLADESH

Faculty of Science and Information Technology

Department of Computer Science

MID-TERM Assignment, Spring 2018-19

General Instruction:

1. Complete the Assignment in Hand Written format. (No printed or softcopy assignment is allowed)
2. Do not Copy. Write the assignment by your own.
3. Write Name, ID, Course, Section, **Serial Number** ** on Front page properly.

Name:

ID:

Course:

Section:

Faculty Name:

Serial No:

Signature:

For Faculty Use Only

Assignment

Total Marks:

Marks Obtained:

Viva

Total Marks:

Marks Obtained:

Comments: