

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 233 & Operating System**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

Differentiate between program and process. How many types of schedulers are available in CPU scheduling method? 'There are four conditions to occur deadlock in any operating system' - Explain the statement.

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSIT 331 & Advance Computer Network**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

How can you classify different types of functions of Network management system? 'SNMP is the best protocol used in network management system' - Describe the statement. Differentiate between symmetric key cryptography and asymmetric key cryptography.

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSIT 225 & Data Communication**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

'Line coding is the process of converting digital data to digital signal' - Explain the statement. Describe the concept of Pulse code modulation technique. Consider the following data and convert the data into digital signal using NRZ, RZ, AMI, Pseudoternary method:

1100110

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 131 & Digital Electronics**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

Construct a Octal to Binary Encoder and Explain its features. How can you differentiate between Multiplexer and De-Multiplexer? How can you design a 16:1 multiplexer using 8:1 multiplexer and 2:1 multiplexer?

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: MSCSE  
**Course Code & Title: MS 641 & Software Engineering and Project Management**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

‘Software system requirements are classified into functional requirement and non-functional requirement’-Explain the statement. Give the concept of Software project management plan. Distinguish between software verification and software validation technique.

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: MSCSE  
**Course Code & Title: MS 513 & Computer Organization and Assembly Programming**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

Classify different types of instructions with examples. What are the different components of instruction format? Explain, why instruction with short lengths are always more preferable than long length instructions. What is the importance's of Input-Output interface unit?

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: MSCSE  
**Course Code & Title: MS 602 & Visual and Internet programming**  
**Course Teacher: Subhra Prosun Paul (01675932517, subhra.paul@royal.edu.bd)**

### Assignment

Assignment Topic:

What is the importance's of Visual basic programming language? ‘As a web programming language, ASP.NET is an efficient language’-Justify your opinion. How can you differentiate between ASP.NET and object-oriented programming language?

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: EEE 106-Telecommunication**  
**Course Teacher: Ahmed Abdullah (01680076500, ahmed.abdullah@royal.edu.bd)**

### Assignment

Assignment Topic:

Write down the technical comparisons between Satellite and Terrestrial communication. Demonstrate a design to calculate footprint of a satellite. Given that, cell cluster size,  $N=7$ , frequency reuse factor= $1/7$ . Total number of channels is 490. How many channels per cell are number of channels in that system?

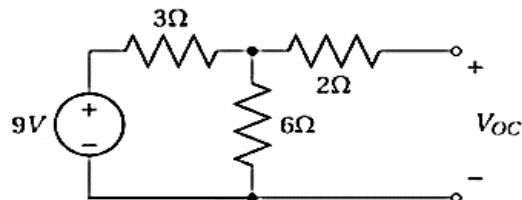
Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: EEE 101 & Electrical Engineering**  
**Course Teacher: Ahmed Abdullah 01680076500, ahmed.abdullah@royal.edu.bd**

### Assignment

Assignment Topic:

Write down steps of Thevenin conversion. Draw Thevenin, Norton & maximum power transfer for the following circuit.



Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: EEE 103: Electronics Engineering (Bhairab)**  
**Course Teacher: Ahmed Abdullah 01680076500, ahmed.abdullah@royal.edu.bd**

### Assignment

Assignment Topic:

Write down the differences between majority and minority carrier. Explain the operations of no bias, reverse and forward bias. Draw LED construction and pin diagram.

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA

Program: MSCSE

**Course Code & Title: MS 691: Data Mining & Warehousing**

Course Teacher: Rowjatul Zannat Eshita

(Contact No: 01675742407, Mail: rowjatul.eshita@royal.edu.bd)

**Assignment (Submission deadline: 10<sup>th</sup> September, 2020)**

Assignment Topic:

What is classification? Discuss about the issues regarding data classification and prediction process and illustration different categorization of Major Clustering Methods. Describe data integration and transformation process while processing any data.

ROYAL UNIVERSITY OF DHAKA

Program: B.Sc. (HON'S) in CSE/CSIT

**Course Code & Title: CSE 223: Theory of Computing (Evening)**

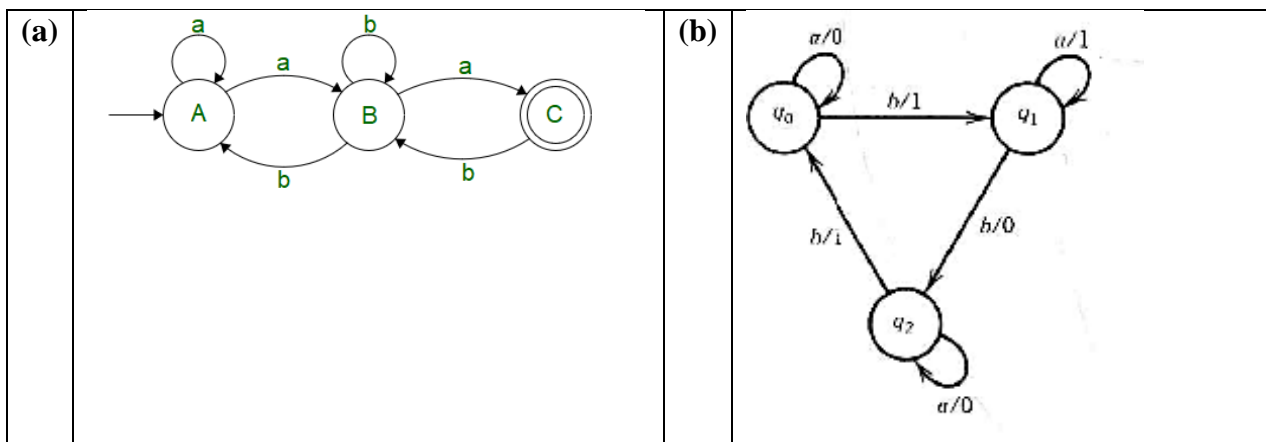
Course Teacher: Rowjatul Zannat Eshita

(Contact No: 01675742407, Mail: rowjatul.eshita@royal.edu.bd)

**Assignment (Submission deadline: 10<sup>th</sup> September, 2020)**

Assignment Topic:

Convert the following Regular Expressions into their equivalent DFAs:  $c^*a(d+bc^*a)^*$ ,  $b^*(aa^*(bb^*+\epsilon) + \epsilon)$ ,  $(ab + b(a+bb))^*$ ,  $aa^* + ba^*$ ,  $(a+b)(a+b)(a+b)^*$ . Using Arden's Theorem construct a regular expression corresponding to the automata for the figure (a) and Construct a Moore machine for the following Mealy machine given in figure (b).



ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: EEE 109: Microcontroller (Day & Evening)**  
Course Teacher: Rowjatul Zannat Eshita  
(Contact No: 01675742407, Mail: rowjatul.eshita@royal.edu.bd)

**Assignment (Submission deadline: 10<sup>th</sup> September, 2020)**

Assignment Topic:

What is Resistor Value for SSD? If you want to show digit 7 at the display window in the common anode seven-segment display, what will be the configuration? Describe the working procedure of a DC motor. Draw a timing diagram for 8-bit serial in, parallel out shift registers for the input 11001010. Distinguish between different types of Arduino.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSIT 325: Management Information System (Day)**  
Course Teacher: Rowjatul Zannat Eshita  
(Contact No: 01675742407, Mail: rowjatul.eshita@royal.edu.bd)

**Assignment (Submission deadline: 10<sup>th</sup> September, 2020)**

Assignment Topic:

Describe different forms of Electronic Commerce with proper examples. How can customers pay for products and how you will Risk Mitigation for online transaction? Discuss about different key personal attributes for an Entrepreneur. Is SDLC always the best approach for system development? What other methodologies could be used?

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: MS 671 - Object Oriented Programming**  
**Course Teacher: Mosharrof Hussain Masud (01904335169), (mh.masud@royal.edu.bd)**  
Assignment

Assignment Topic:

Write a complete Program or Class (executable) for the following Object Oriented Concepts: Inheritance, Overloading, Polymorphism, Encapsulation, Constructor, Writing into a file and Reading from a file.

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 329 - Compiler Design (Day)**  
**Course Teacher: Mosharrof Hussain Masud (01904335169), (mh.masud@royal.edu.bd)**  
Assignment

Assignment Topic:

Discuss the types of parsing in details. Define the Context Free Grammar (CFG) with an example. Derive a string “abbbbbaaabb” on CFG both in algebraic and graphical methods that starts and ends with different symbols.

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 329 - Compiler Design (Evening)**  
**Course Teacher: Mosharrof Hussain Masud (01904335169), (mh.masud@royal.edu.bd)**  
Assignment

Assignment Topic:

Write the steps of error handling and recovery strategies in compiler design. Define the Context Free Grammar (CFG) with an example. Derive a string with 5 ones and 3 zeros “11111000” on CFG both in algebraic and graphical methods.

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 329 - CSE 339 - Simulation & Modelling**  
**Course Teacher: Mosharrof Hussain Masud (01904335169), (mh.masud@royal.edu.bd)**  
Assignment

Assignment Topic:

Design a simulation model to evaluate the performance of a system. You can include the technical ground, flow chart, algorithm, result analysis, and write the discussion in a comprehensive approach.

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSIT 333: Computer Graphics (Eve)**  
**Course Teacher: Mosharrof Hussain Masud (01904335169), (mh.masud@royal.edu.bd)**  
Assignment

Assignment Topic:

Define the computer animation. Discuss the designing of animation sequences with the example of layout and objects considering the path specification. Distinguish between morphing and twinning with flowcharts.

Submission deadline: 10<sup>th</sup> September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSIT 331: Advance Computer Network (Day)**  
**Course Teacher: Md. Nur-E-Arefin (01675025549, nur.arefin@royal.edu.bd)**

### Assignment

**Instruction: Assignment must be done by hand writing.**

**Assignment Topic:**

- What is OSI model? Describe the most complicated layer of OSI model.
- Discuss about IPv4 and IPv6. Explain different classes of IPv4.
- What is Encryption? Explain different encryption keys.
- Write short notes on image, audio and video compression.
- Discuss briefly about session layer.

**Submission deadline: 10th September, 2020.**

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 231 & Computer Algorithm**  
**Course Teacher: Md. Nur-E-Arefin (01675025549, nur.arefin@royal.edu.bd)**

### Assignment

**Instruction: Assignment can be done by hand writing or computer compose.**

**Assignment Topic:**

- Sort the step by step array using bubble sort.

13	2	9	4	18	45
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- Sort the array step by step using selection sort.

12	13	16	11	8	9
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- Sort the array using insertion sort. (show step by step)

4	2	8	3
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- With the help of counting sort, sort the following array:

1	5	6	3	7	5	2
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- Sort the following array by merge sort:

24	85	32	45	50	31	28	19
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**Submission deadline: 10th September, 2020.**

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 335: Multimedia System Design**  
**Course Teacher: Md. Nur-E-Arefin (01675025549, nur.arefin@royal.edu.bd)**

### Assignment

**Instruction: Assignment must be done by hand writing.**

**Assignment Topic:**

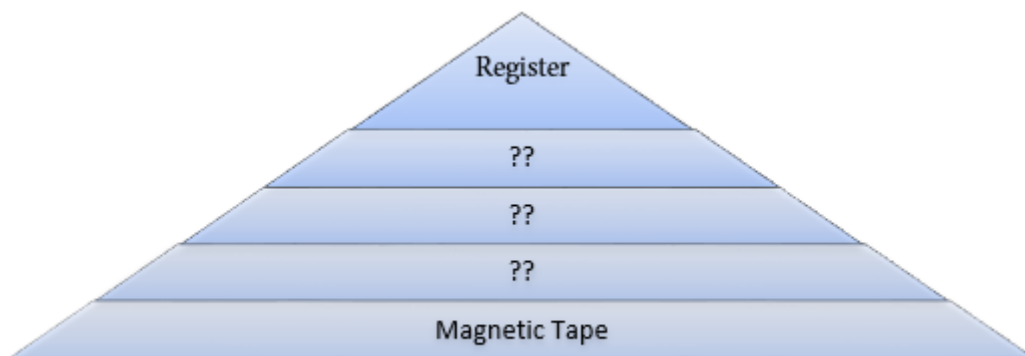
- Describe the different modes of media transmission.
- Narrate shortly about RTF, pixel bit depth, resolution and audio sampling process.
- Write short notes on text, graphics, audio and animation.
- Write down about concepts of information and information structures.
- Describe global structure of multimedia system.

**Submission deadline: 10th September, 2020.**



ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT / BBA / B.A. (HON'S) in English, HMT  
**Course Code & Title: CSE 109: Computer Application / CSE 111: Computer Fundamentals**  
**Course Teacher: Shormee Saha (01817561452, shormee.saha@royal.edu.bd)**  
Assignment

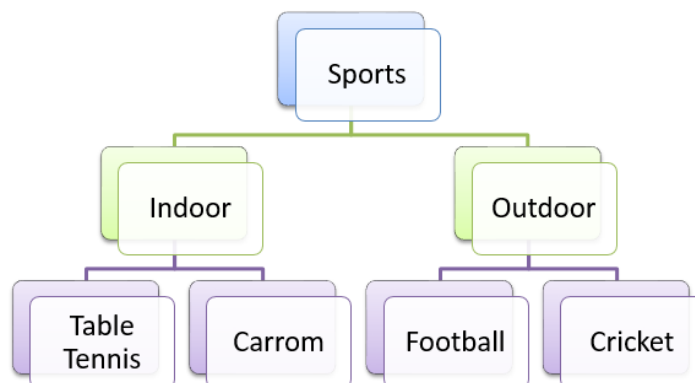
**Assignment Topic:** Complete the following diagram with the missing parts and explain it with proper example. When I look at my Dell Inspiron 15 series laptop, I see 5 kinds of ports. What might be these ports? Describe their features and uses.



**Submission deadline:** 10th September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
**Course Code & Title: CSE 213: Object Oriented Programming (EVE)**  
**Course Teacher: Shormee Saha (01817561452, shormee.saha@royal.edu.bd)**  
Assignment

**Assignment Topic:** What are the kind of inheritance you can identify from the following diagram? Name and explain each of them. Write a Java code to represent the following diagram with necessary class and methods.

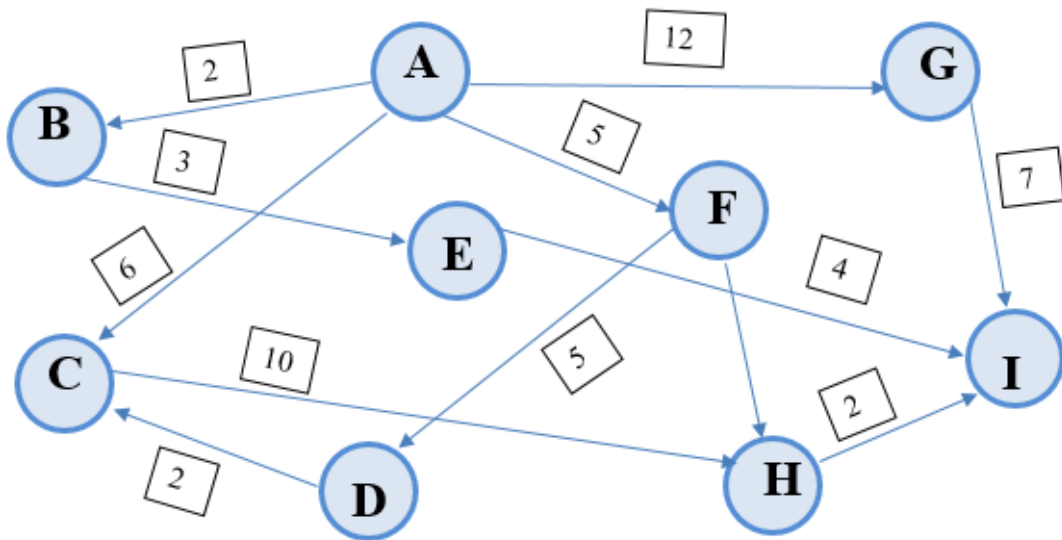


**Submission deadline:** 10th September, 2020.

ROYAL UNIVERSITY OF DHAKA  
Program: B.Sc. (HON'S) in CSE/CSIT  
Course Code & Title: CSE 316: Artificial Intelligence (Eve)  
Course Teacher: Shormee Saha (01817561452, shormee.saha@royal.edu.bd)

Assignment

**Assignment Topic:** Let's assume A postman has to deliver letters to all the nodes. His initial node is 'A'. Perform DFS, BFS and Best First Search and examine which path is best to choose so that the time and space complexity is minimum.



**Submission deadline:** 10th September, 2020.