

ROYAL UNIVERSITY OF DHAKA
Program: B.Sc. (HON'S) in CSE/CSIT
Course Code & Title: CSIT 326 - System Analysis & Design (Day)
Course Teacher: Md. Nur-E-Arefin (01675025549, nur.arefin@royal.edu.bd)
Assignment

Assignment Topic:

Explain DFD, Flow chart and E-R diagram. Describe attributes and cardinality of E-R diagram. Draw level 1 DFD for library management system.

ROYAL UNIVERSITY OF DHAKA
Program: B.Sc. (HON'S) in CSE/CSIT
Course Code & Title: CSE 133 - Data Structure & Algorithm (Eve)
Course Teacher: Md. Nur-E-Arefin (01675025549, nur.arefin@royal.edu.bd)
Assignment

Assignment Topic:

Explain graph with its types. Explain array stack and queue. Describe the terminology of a tree. What are different operations on linked list?

ROYAL UNIVERSITY OF DHAKA
Program: B.Sc. (HON'S) in CSE/CSIT
Course Code & Title: MS 601 - Distributed Database Query Optimization (Masters)
Course Teacher: Md. Nur-E-Arefin (01675025549, nur.arefin@royal.edu.bd)
Assignment

Assignment Topic:

What are the main layers of query processing? Explain with diagram. What are the steps of query decomposition? Describe briefly. Narrate global query optimization.

ROYAL UNIVERSITY OF DHAKA
Program: B.Sc. (HON'S) in CSE/CSIT
Course Code & Title: MS 631 - Computer Networks (Masters)
Course Teacher: Md. Nur-E-Arefin (01675025549, nur.arefin@royal.edu.bd)
Assignment

Assignment Topic:

Explain scope of computer security. What are the types of security? Describe network attacks and web attacks. Describe online mobile spy.

ROYAL UNIVERSITY OF DHAKA
Program: B.Sc. (HON'S) in CSE/CSIT
Course Code & Title: CSIT 221 - Microprocessor & Assembly Language (Eve)
Course Teacher: Kanti Bhusan Roy Kawshik (01924008069,
kanti.kawshik@royal.edu.bd)
Assignment

Assignment Topic:

Explain 8087 Numeric Data Processor.

ROYAL UNIVERSITY OF DHAKA
Program: B.Sc. (HON'S) in CSE/CSIT
Course Code & Title: EEE 103 - Electronics Engineering (Eve)
Course Teacher: Kanti Bhusan Roy Kawshik (01924008069,
kanti.kawshik@royal.edu.bd)
Assignment

Assignment Topic:

Explain the Darlington Transistor Configurations.

ROYAL UNIVERSITY OF DHAKA
 Program: B.Sc. (HON'S) in CSE/CSIT
Course Code & Title: EEE 105 - VLSI Design (Day)
Course Teacher: Kanti Bhusan Roy Kawshik (01924008069,
kanti.kawshik@royal.edu.bd)

Assignment

Assignment Topic:

In CMOS circuit why need to worry about power?

ROYAL UNIVERSITY OF DHAKA
 Program: B.Sc. (HON'S) in CSE/CSIT
Course Code & Title: CSIT 107: Optical Fiber Communication (Eve)
Course Teacher: Ahmed Abdullah (01680076500, ahmed.abdullah@royal.edu.bd)
 Assignment

Assignment Topic:

Sketch the following equations:

- I. $X(n) = U_r(n) - U_r(n+9) - \partial(n-3)$
- II. $X(n) = U(n) - U(n+4) + \partial(n-3)$
- III. $X(n) = 2^n [U(n) - U(n+4) + \partial(n-3)]$

ROYAL UNIVERSITY OF DHAKA
 Program: B.Sc. (HON'S) in CSE/CSIT
Course Code & Title: CSE 121: Structured Programming Language (Eve)
Course Teacher: Ahmed Abdullah 01680076500, ahmed.abdullah@royal.edu.bd
 Assignment

Assignment Topic:

Write C program for design a 3 -D Array summation.

ROYAL UNIVERSITY OF DHAKA
 Program: B.Sc. (HON'S) in CSE/CSIT
Course Code & Title: MS 571: Data Structure & Algorithm (M.Sc.)
Course Teacher: Ahmed Abdullah 01680076500, ahmed.abdullah@royal.edu.bd
 Assignment

Assignment Topic:

Describe the following dataset using any algorithm.

Dataset: <https://tinyurl.com/awcrx9xy>

ROYAL UNIVERSITY OF DHAKA
 Program: B.Sc. (HON'S) in CSE/CSIT
Course Code & Title: MS 593: Discrete Mathematics (M.Sc.)
Course Teacher: Ahmed Abdullah 01680076500, ahmed.abdullah@royal.edu.bd
 Assignment

Assignment Topic:

Using truth tables to prove that $(p \rightarrow q)$ and $\neg p \vee q$ are logically equivalent, i.e.

$$(p \rightarrow q) \equiv \neg p \vee q$$

p	q	$\neg p$	$\neg p \vee q$	$p \rightarrow q$
T	T	F	T	T
T	F	F	F	F
F	T	T	T	T
F	F	T	T	T

ROYAL UNIVERSITY OF DHAKA
Program: B.Sc. (HON'S) in CSE/CSIT

Course Code & Title: GED 102: Research Project Proposal

Course Teacher: Ahmed Abdullah 01680076500, ahmed.abdullah@royal.edu.bd

Assignment

Assignment Topic:

Define Case Study. Discuss the types, procedures and subjects of case study research.

ROYAL UNIVERSITY OF DHAKA

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

Course Code & Title: GED 501: Social Work in Life Cycle Problem Solving Process

Course Teacher: Ahmed Abdullah 01680076500, ahmed.abdullah@royal.edu.bd

Assignment

Assignment Topic:

Define Social Case Work. Discuss the Different Elements of Social Case Work..

ROYAL UNIVERSITY OF DHAKA

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

Course Code: CSE-111, Course Name: Computer Fundamentals

Course Teacher: Shaikh Afnan Birahim (01711027668, afnan.birahim@royal.edu.bd)

Assignment for Final-Term

Assignment Topic:

Why NAND and NOR gates are called universal gates? What is a microprocessor and what are registers? Name some commonly used registers and describe the function of each. What is an interpreter and how does interpreter differ from a compiler?

ROYAL UNIVERSITY OF DHAKA

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

Course Code: CSIT-211, Course Name: Digital Logic Design

Course Teacher: Shaikh Afnan Birahim (01711027668, afnan.birahim@royal.edu.bd)

Assignment for Final-Term

Assignment Topic:

What is multiplexer, demultiplexer and edge triggered jk flip flop? Implement full subtractor using half subtractors. Explain gray code and comparators.

ROYAL UNIVERSITY OF DHAKA

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

Course Code: CSIT-225, Course Name: Data Communication (Day+Evening)

Course Teacher: Shaikh Afnan Birahim (01711027668, afnan.birahim@royal.edu.bd)

Assignment for Final-Term

Assignment Topic:

Define and describe Composite Signal and Bandwidth. Is throughput and bandwidth same? If not, then write down the differences between them. What is Pulse Code Modulation (PCM)? Describe the processes for PCM.

ROYAL UNIVERSITY OF DHAKA

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

Course Code: MAT-105, Course Name: Statistics and Probability**Course Teacher: Shaikh Afnan Birahim (01711027668, afnan.birahim@royal.edu.bd)****Assignment for Final-Term**

Write down the difference between measures of location and measures of central tendency. What are the disadvantages of mean deviation? What do you mean by mutually exclusive events?

Comment on the skewness of the given data and measure coefficient of kurtosis.

Class Interval	10-15	15-20	20-25	25-30	30-35
Frequency	5	11	18	25	8

ROYAL UNIVERSITY OF DHAKA

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

Course Code & Title: CSE 231: Computer Algorithm (Eve)**Course Teacher: Hasan Abdullah (01681523656, hasan.abdullah@royal.edu.bd)****Assignment**

Assignment Topic:

What is graph and explain the graph terminology. Briefly explain the corollary theorem and proof it. Briefly explain Prim's algorithm using a graph and find the minimum spanning value.

ROYAL UNIVERSITY OF DHAKA

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

Course Code & Title: CSE 311: Database Management System (Day)**Course Teacher: Hasan Abdullah (01681523656, hasan.abdullah@royal.edu.bd)****Assignment**

Assignment Topic:

Draw and explain an E-R diagram for a university where the main entity sets are student, course, course offering and instructors. Write a short note on i) 3rd normal form and ii) Boyce-Codd normal form. Write the basic SQL queries.

ROYAL UNIVERSITY OF DHAKA

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

Course Code & Title: MAT 101 - Coordinate Geometry & Differential Equation (Day)**Course Teacher: Dr. Abu Saleh Abdun Noor (01712051947, dr.noor@royal.edu.bd)****Assignment**

Assignment Topic:

1. Discuss the difference between an Ordinary Differential Equation and a Partial Differential Equation with some examples. What do you mean by a general solution and a particular solution of a Differential Equation?

Form the Differential Equation of all circles of radius r in a plane.

ROYAL UNIVERSITY OF DHAKA

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

Course Code & Title: MAT 101 - Coordinate Geometry & Differential Equation (EVE)**Course Teacher: Dr. Abu Saleh Abdun Noor (01712051947, dr.noor@royal.edu.bd)**

Assignment

Assignment Topic:

Define Order and Degree of a Differential Equation with some examples. Discuss the general solutions and particular solutions of Differential Equations analytically.

$$\text{Solve the DE: } \ln\left(\frac{dy}{dx}\right) = 3x + 4y$$

ROYAL UNIVERSITY OF DHAKA

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

Course Code & Title: MAT 102 – Integral Calculus & Differential Calculus (EVE)**Course Teacher: Dr. Abu Saleh Abdun Noor (01712051947, dr.noor@royal.edu.bd)**

Assignment

Assignment Topic:

Define a Homogeneous function. State Euler's theorem.

If $u = \cos^{-1}\left(\frac{x+y}{\sqrt{x}+\sqrt{y}}\right)$, using Euler's theorem show that

$$x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} + \frac{1}{2} \cot u = 0$$

Evaluate $\int e^{ax} \cos bx \, dx$

ROYAL UNIVERSITY OF DHAKA

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

Course Code & Title: CSE 315 – Artificial Intelligence (day)**Course Teacher: Nazia Nuzhat (01705829945, nazia.nuzhat@royal.edu.bd)**

Assignment

Assignment Topic:

1. What is knowledge base of an expert system? Describe about it.

Solve the problem below:

Let, $KB = A \wedge \neg C, B \vee C$

$\alpha = A \wedge B$

DOES: $KB \models \alpha$?

A	B	C
False	False	False
False	False	True
False	True	False
False	True	True
True	False	False
True	False	True
True	True	False

ROYAL UNIVERSITY OF DHAKA

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

Course Code & Title: CSE 311 – Database Management System (eve)**Course Teacher: Nazia Nuzhat (01705829945, nazia.nuzhat@royal.edu.bd)****Assignment**

Assignment Topic:

1. What are the differences between DDL and DML?

Make the following data table in the second normal form (2NF).

TEACHER_ID	SUBJECT	TEACHER_AGE
25	Chemistry	30
25	Biology	30
47	English	35
83	Math	38
83	Computer	38

ROYAL UNIVERSITY OF DHAKA

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

Course Code & Title: CSIT 215 – Computer Organization and Architecture (eve)**Course Teacher: Nazia Nuzhat (01705829945, nazia.nuzhat@royal.edu.bd)****Assignment**

Assignment Topic:

1. What is parallel pipeline processing? Describe the three segment instruction cycle of pipeline.

Show the parallel pipeline processing with proper diagram for following equation:

$$Q+A-M/C$$

ROYAL UNIVERSITY OF DHAKA

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

Course Code & Title: CSIT 326 – System Analysis & Design (eve)**Course Teacher: Nazia Nuzhat (01705829945, nazia.nuzhat@royal.edu.bd)****Assignment**

Assignment Topic:

1. What is a context diagram? What do you mean by good design and bad design?

Construct a Diagram 0 DFD based on the below scenario.

The university is starting a new sports center service: Personal Training. Your challenge is to design an application to help manage reservations for this new service. Your partner created the below context diagram based on your fact-finding notes. Take your partner's work to the next level using the following documentation which you recorded after interviewing the sport center director:

"The system will mainly perform four functions: create a new session based on a customer's request, post the personal trainer availability to the database, reserve equipment based on the personal trainer's input, and confirm session and equipment with the customer. The system must have separate data for sessions and equipment as equipment are shared between this and other services provided by the center."

ROYAL UNIVERSITY OF DHAKA

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

Course Code: CSE-323, Course Name: Theory of Computing

Course Teacher: Md Khirul Islam Badal (01748864767, Khirul.badal@royal.edu.bd)

Assignment for Final (Day)

Assignment Topic:

1. Define the NP-hard and NP-complete language and explain the Cook-Levin theorem.

ROYAL UNIVERSITY OF DHAKA

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

Course Code: CSE-233, Course Name: Operating System

Course Teacher: Md Khirul Islam Badal (01748864767, Khirul.badal@royal.edu.bd)

Assignment for Final (EVE)

Assignment Topic:

1. a) What is a scheduling algorithm? Write down the priority scheduling algorithm with an example.
b) Describe SJFS disk scheduling algorithm.

ROYAL UNIVERSITY OF DHAKA

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

Course Code: CSE-315, Course Name: Artificial Intelligence

Course Teacher: Md Khirul Islam Badal (01748864767, Khirul.badal@royal.edu.bd)

Assignment for Final (EVE)

Assignment Topic:

1. a) What is an Agent? Describe the Different types of Agents.
b) Write down the difference between fully observable and partially observable environment.

ROYAL UNIVERSITY OF DHAKA

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

Course Code: MAT 106, Course Name: Numerical Method

Course Teacher: Md Khirul Islam Badal (01748864767, Khirul.badal@royal.edu.bd)

Assignment for Final (EVE)

Assignment Topic:

- 1) Find the best fit values of a and b so that $y = ae^{bx}$ fits the given data in the table –

x	0	5	10	-4
y	1	2	3	4