European University of Bangladesh

2/4 Gabtoli, Mirpur, Dhaka 1216.

Admit Card

Name of Exam : **Final Exam Summer 2021**
Semester : **Summer 2021**
Student's Name : **Shemol Chandra Roy**
Student's ID : **210122009**
Batch : **18th Batch**
Program : **BSc in Computer Science & Engineering (Diploma)**

Courses in which to appear at:

SL	Course Title	Course Code	Credit
1	Discrete Mathematics [A]	CSE-123	3
2	Introduction to Electrical Engineering [A]	EEE-101	3
3	Physics [A]	PHY-101	3
4	Introduction to Electrical Engineering Sessional [A]	EEE-102	1.5
5	Mathematics-II (Ordinary and Partial Differential Equations) [A]	MTH-103	3
6	Physics Sessional [A]	PHY-102	1.5

S/he is allowed to sit for the above mentioned exam.

[Digitally Signed]

Controller of Examinations (EUB)

Instructions for Examinees:

1. Examinee should come to the examination hall with the Admit Card.
2. No examinee will be allowed to sit in the examination hall outside the seat plan.
3. No bag or book will be allowed in the examination hall.
4. Cell Phone must be kept switched off in the examination hall.
5. No examinee will be allowed to enter the examination hall after expiry of half an hour.
6. No examinee will be allowed to leave the exam hall within the first half an hour after the examination begins.
7. Any examinee adopting unfair means will be brought under disciplinary action including expulsion.
8. Any kind of misbehavior will be considered as a serious offence under the rules of the University.

Developed By: Pipilika Soft Printed: 12/08/2021 Coordinated By: ICT Division, EUB

European University of Bangladesh

2/4 Grabtoli, Mirpur, Dhaka-1216

Final Exam Summer - 2021

Name : Shemol Chandra Roy

ID : 210122009

Program : BSC in compuler Science and Engineering (Eve

Course Title : Discreet Mathematics

Course code : CSE-123

Section : A

Semester and year: 2nd year

Date : 20/08/2021

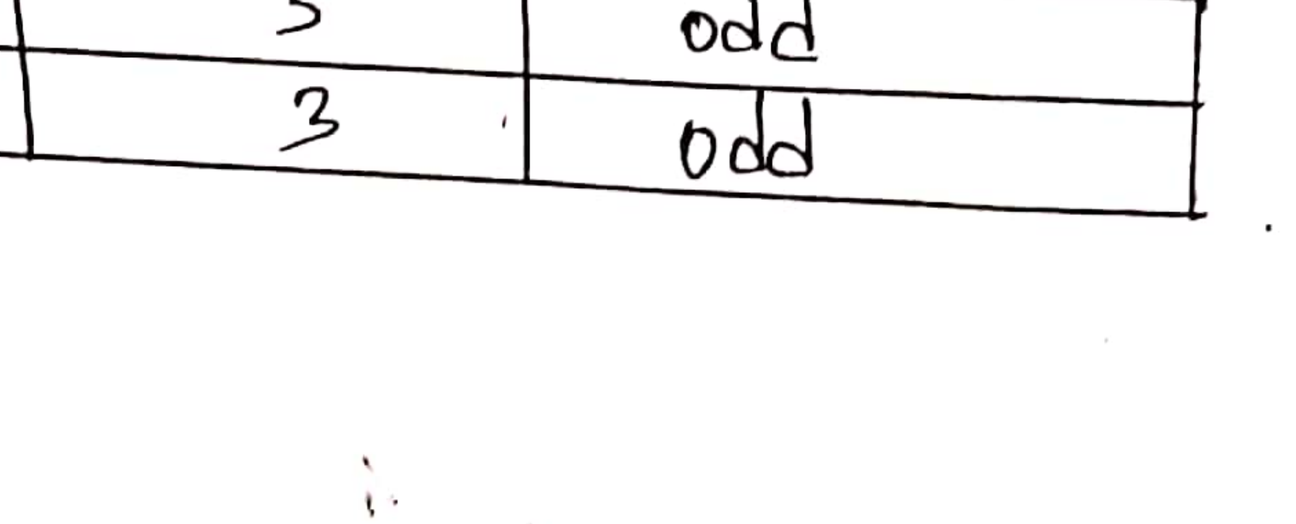
Total page no : 05

Ans to the question no: 1(a)

degree, vertex and even/odd.

Vertex	Degree	odd/ Even
R	3	odd
S	4	Even
T	2	Even
U	3	odd
V	5	odd
W	4	Even
X	3	odd
Y	3	odd
Z	3	odd

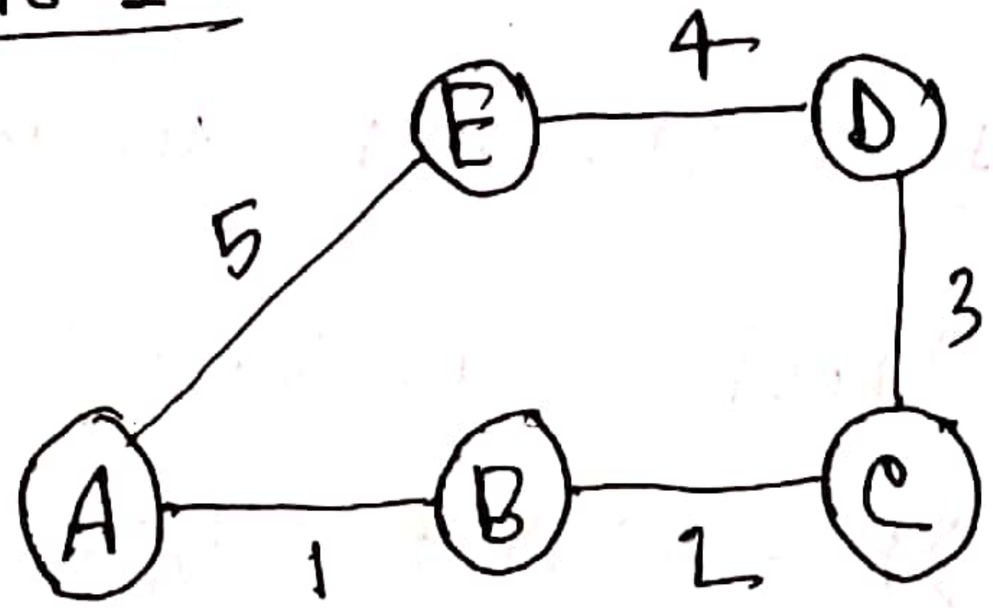
Ans to the question no: 1(b)



DFS: Z, S, T, U, V, W, X, Y,

Ans to the question no: 3(a)

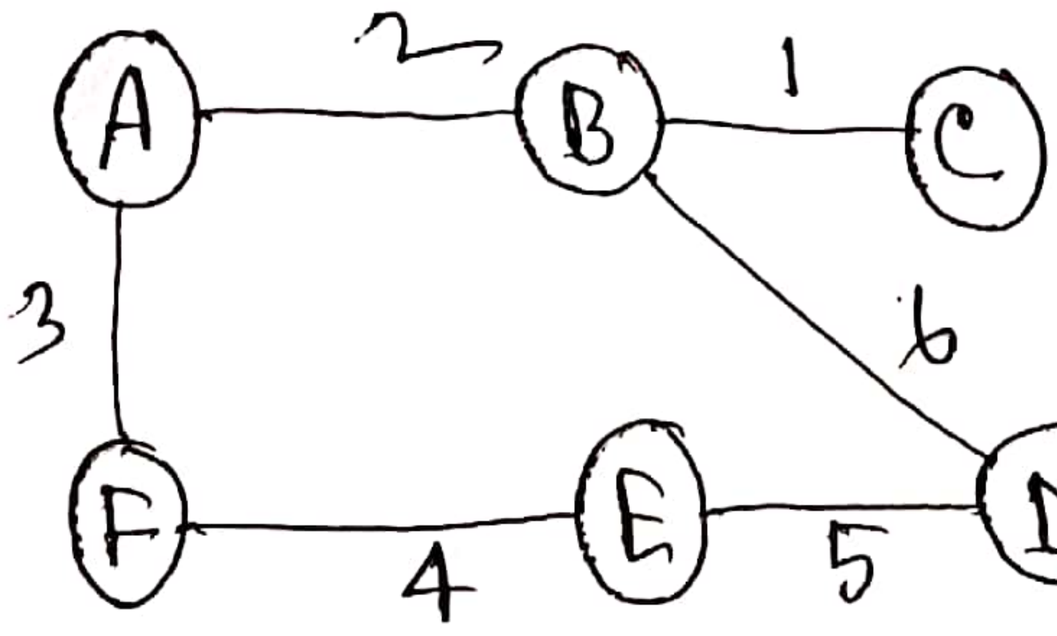
Graph 1:



This graph is Euler graph

Euler graph is. ABCDE

Graph 2:



This graph is not Euler graph

as CBAFED

Ans to the question

Ans to the question no : 3(b)

Pre order : Root → L → R 10, 12, 3, 4, 6 7, 5, 11, 2, 9

Inorder : L → Root → R 3, 12, 6, 4, 7, 10, 11, 5, 2, 9

postorder : L → R → Root 3, 6, 7, 4, 12, 11, 8, 2, 5, 1

Ans to the question no: 4(a)

$A \cup (B - A) = A \cup B$

A	B	B-A	A∪(B-A)	A∪B
0	0	0	0	0
0	1	1	1	1
1	0	0	1	1
1	1	0	1	1

Ans to the question no: 4(b)-i

Given that,

$\exists n (2n = 3n)$

we know,

set of integers number $\{-\infty, -1, -2, -0, 1, 2, -\alpha\}$

when

$n = -1$

$\therefore 2n = 3n$

$\Rightarrow 2(-1) = 3(-1)$

$\Rightarrow -2 = -3$

when

$n = 0$

$\therefore 2n = 3n$

$\Rightarrow 2.0 = 3.0$

$\Rightarrow 0 = 0$

when

$\therefore n = 1$

$2n = 3n$

$\Rightarrow 2.1 = 3.1$

$\Rightarrow 2 = 3.$

when.

$n=-1, -2=-3.$ $n=0, 0=0$ which is true

So, $\exists n(2n=3n)$ is true where the domain consists of all integers.

Ans to the question no: 4(b)-11

Given that. $\forall x(x^2+2 \geq 1)$

we know

Set of Integers number $=\{-\infty \ldots -1, -2, 0, 1, 2 \ldots \infty\}$

when.

$x=-1$

$\therefore x^2+2 \geq 1$

$\Rightarrow (-1)^2+2 \geq 1$

$\Rightarrow 1+2 \geq 1$

$\therefore 3 \geq 1$

$x=0$

$\Rightarrow x^2+2 \geq 1$

$\Rightarrow 0+2 \geq 1$

$\therefore 2 \geq 1$

$x=1$

$\therefore x^2+2 \geq 1$

$\Rightarrow (1)^2+2 \geq 1$

$\Rightarrow 1+2 \geq 1$

$\therefore 3 \geq 1$

when, $x=-1$ $3 \geq 1$

$x=0$ $2 \geq 1$

$x=1$ $3 \geq 1$

} This is true

So, $\forall x(x^2+2 \geq 1)$ is true when the domain consists of all integers.