MANIPAL UNIVERSITY
JAIPUR
(University under Section 2(f) of the UGC Act)

FIRST STATE PRIVATE UNIVERSITY IN RAJASTHAN
A+ NAAC
3.28 SCORE

B.TECH SECOND YEAR

ACADEMIC YEAR: 2022-2023

COURSE NAME: ENGINEERING MATHEMATICS-III

COURSE CODE : MA 2101

LECTURE SERIES NO :

CREDITS : 3

MODE OF DELIVERY : ONLINE (POWER POINT PRESENTATION)

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PROPOSED DATE OF DELIVERY:

MANIPAL UNIVERSITY
JAIPUR

VISION
Global Leadership in Higher Education and Human Development

MISSION
- Be the most preferred University for innovative and interdisciplinary learning
- Foster academic, research and professional excellence in all domains
- Transform young minds into competent professionals with good human values

VALUES
Integrity, Transparency, Quality,
Team Work, Execution with Passion, Humane Touch

SESSION OUTCOME

"KNOWLEDGE OF DIFFERENT PROPERTIES OF GRAPHS "

ASSESSMENT CRITERIA'S

ASSIGNMENT

QUIZ

MID TERM EXAMINATION –I & II

END TERM EXAMINATION

PROGRAM OUTCOMES MAPPING WITH CO2

PO 1

ENGINEERING KNOWLEDGE: APPLY THE KNOWLEDGE OF MATHEMATICS, SCIENCE, ENGINEERING FUNDAMENTALS, AND AN ENGINEERING SPECIALIZATION TO THE SOLUTION OF COMPLEX ENGINEERING PROBLEMS.

Walk, Path, Circuit

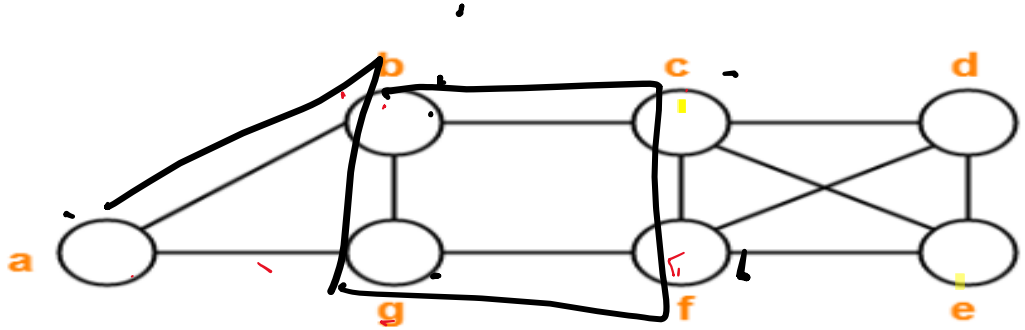
A **walk** is defined as a finite alternating sequence of vertices and edges, beginning and ending with vertices. No edge appears more than once. It is also called as an edge train or a chain.

An open walk in which no vertex appears more than once is called **path**. The number of edges in the path is called **length of a path**.

A closed walk in which no vertex (except initial and final vertex) appears more than once is called a **circuit**. That is, a circuit is a closed, nonintersecting walk.

Walk, Path, Circuit

Consider the following graph-



Decide which of the following sequences of vertices determine walks.

For those that are walks, decide whether it is a circuit, a path, a cycle or a trail.

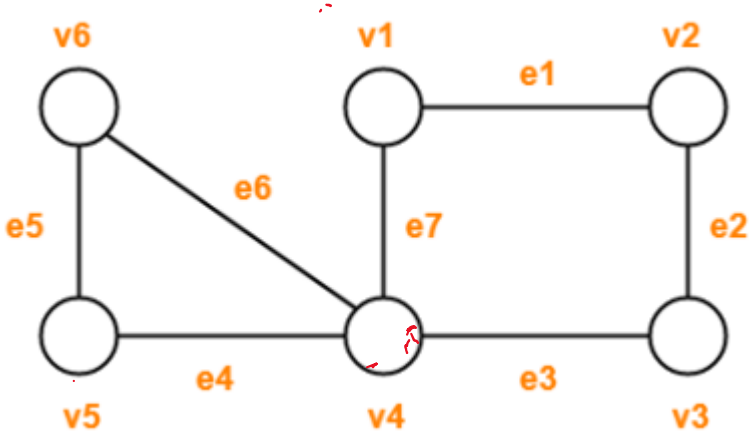
1. a , b , g , f , c , b
2. b , g , f , c , b , g , a
3. c , e , f , c
4. c , e , f , c , e
5. a , b , f , a
6. f , d , e , c , b

Solution-

1. Trail
2. Walk
3. Cycle
4. Walk
5. Not a walk
6. Path

Walk, Path, Circuit

Consider the following graph-



Observe the given sequences and predict the nature of walk in each case-

1. v1e1v2e2v3e2v2
2. v4e7v1e1v2e2v3e3v4e4v5
3. v1e1v2e2v3e3v4e4v5
4. v1e1v2e2v3e3v4e7v1
5. v6e5v5e4v4e3v3e2v2e1v1e7v4e6v6

Solution-

1. Open walk
2. Trail (Not a path because vertex v4 is repeated)
3. Path
4. Cycle
5. Circuit (Not a cycle because vertex v4 is repeated)

Subgraph, Walk, Path, Circuit