



PRESIDENCY COLLEGE
(Autonomous)



*Reaccredited by
NAAC with A+*

TREES INTRODUCTION

Presidency
Group

OVER
40
YEARS
OF ACADEMIC
WISDOM



PRESIDENCY COLLEGE

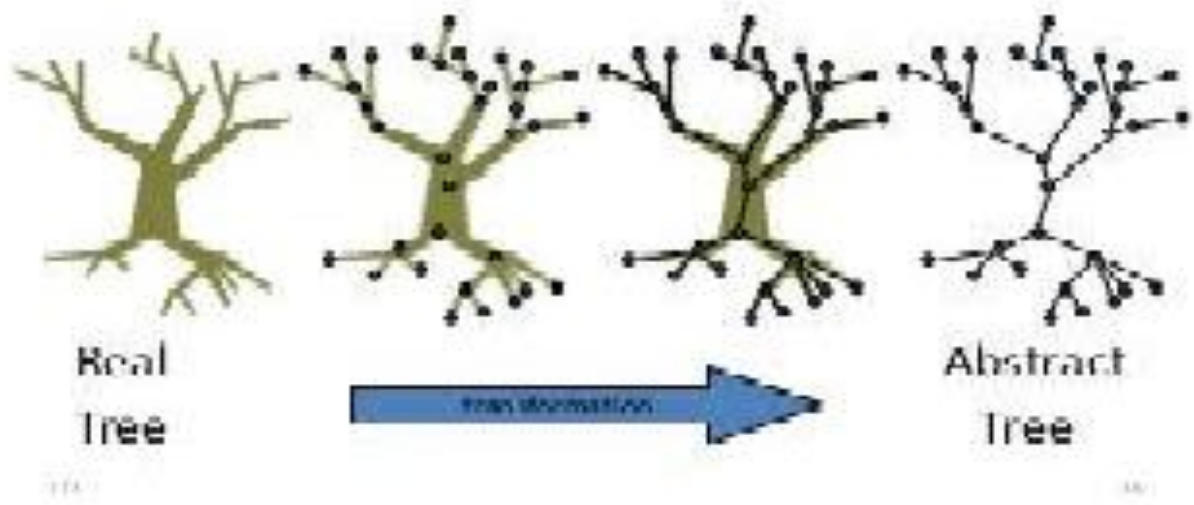
(AUTONOMOUS)

AFFILIATED TO BENGALURU CITY UNIVERSITY, APPROVED BY AICTE, DELHI & RECOGNISED BY THE GOVT. OF KARNATAKA

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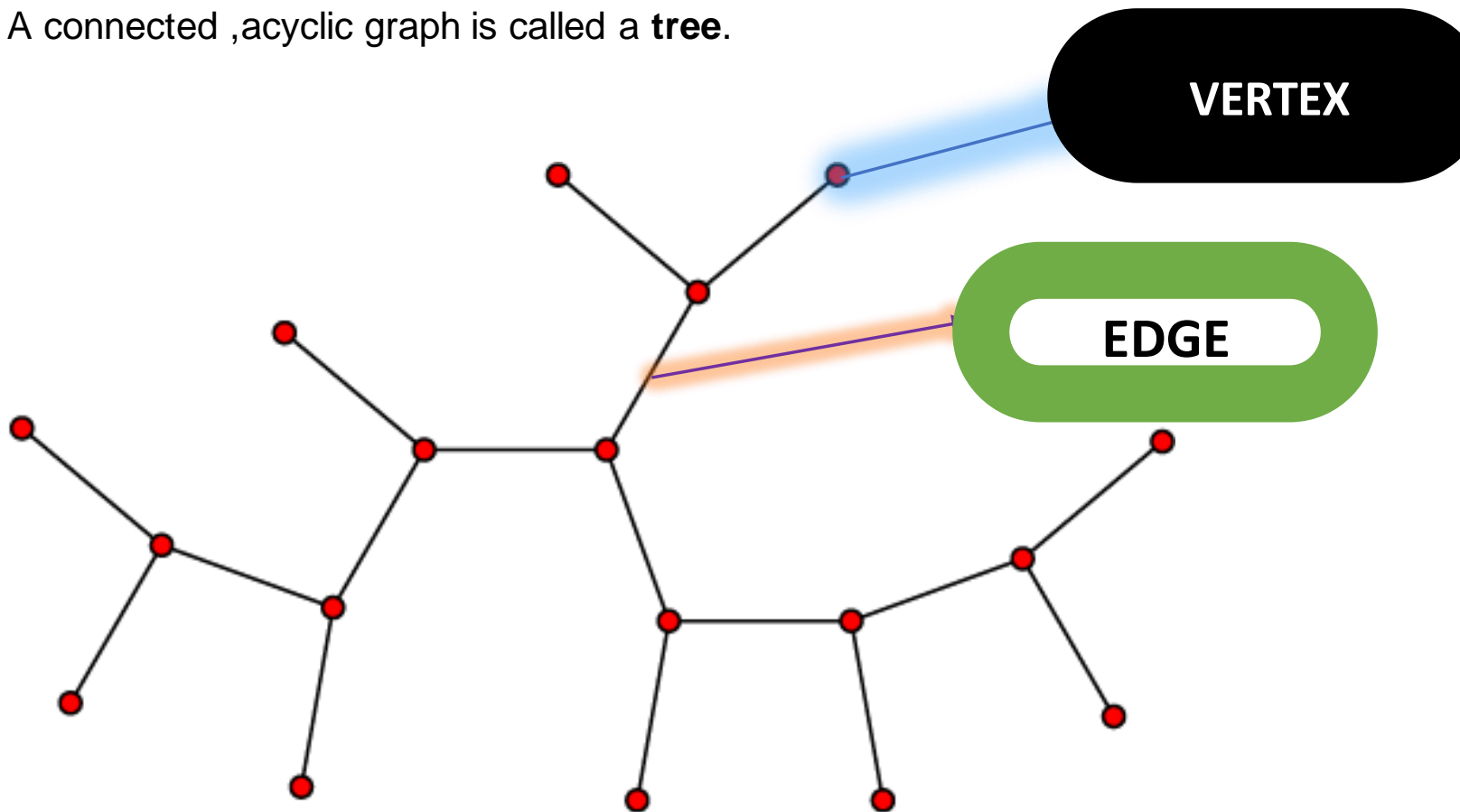


TREES



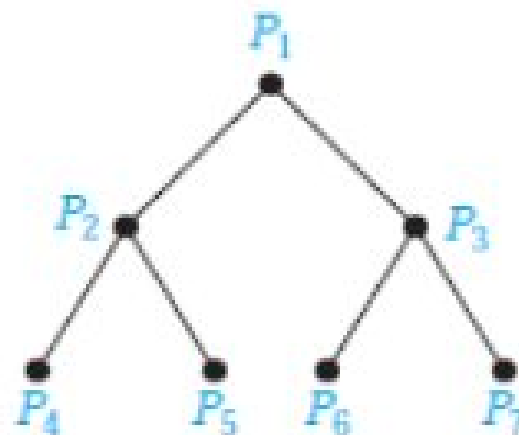
WHAT IS A TREE ?

A connected ,acyclic graph is called a **tree**.



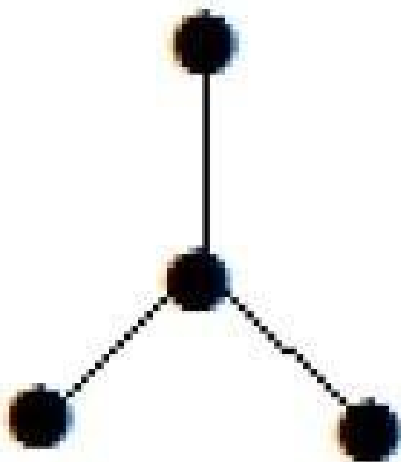
WHAT IS A CONNECTED GRAPH?

A connected graph is a graph in which there is a path from every vertex to every other vertex.



Example :

The graph shown here is a tree.



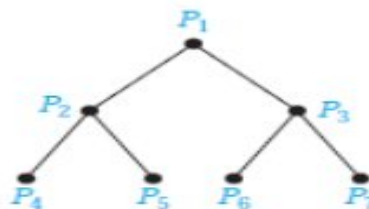
Note – Every tree has at least two vertices of degree one.

- The edges of a tree are known as **branches**.
- Vertices or elements of trees are called their **nodes**.



Properties of TREES

- a) Tree has no cycles.
- b) Tree with n vertices has $n-1$ edges.

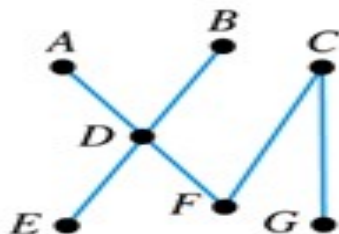


- c) Tree is a connected graph without any cycle.
- d) Every tree is a graph but every graph is not a tree.
- e) There is only one path between each pair of vertices of a tree.



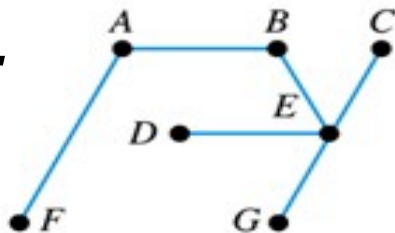
WHICH OF THE FOLLOWING GRAPHS ARE TREES AND WHY?

1:



ANS: *It is a tree because it is connected and has no cycle.*

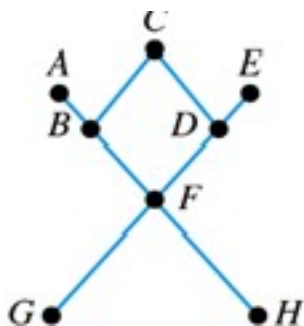
2:



ANS: *It is a tree because it is connected and has no cycle.*

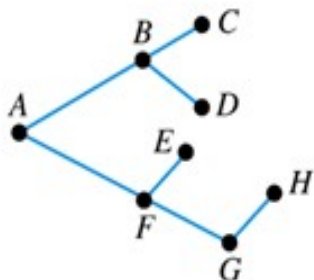


3:



ANS: *It is not a tree because it forms a cycle*

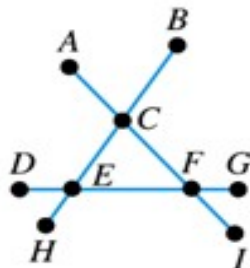
4:



ANS: *It is a tree because it is connected and has no cycle.*

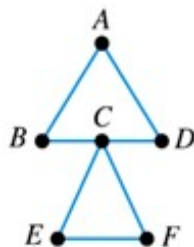


5:



ANS: It is not a tree because it forms a cycle.

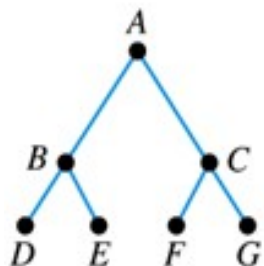
6:



ANS: It is not a tree because it forms a cycle.

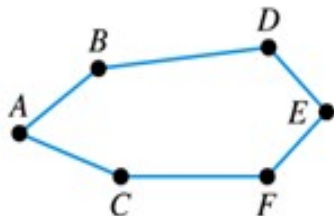


7:



ANS: *It is a tree because it is connected and has no cycle.*

8:



ANS: *It is not a tree because it forms a cycle.*





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THANKYOU

1. ABHIRUP BISWAS
2. DEBAJYOTHI DEBMALYA CHATERJEE

