Graphs :

Defn :

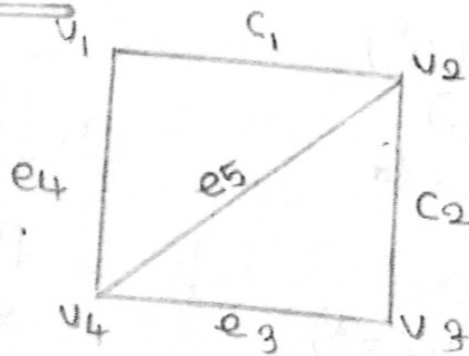### Graphs :

A Graph $G = (V, E)$ consists of V, a not empty set of vertices V and a set of edges E.

ie) The graph G is an order triple (V, E, ϕ) consist of a not empty set V is called the vertices of the graph G, E is said to be the set of edges of the graph G, and ϕ is a mapping from the set of edges E to a set of order or unordered pairs of elements of V.
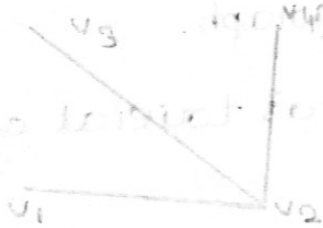
Example :

Defn:- Adjust and vertices;

Any pair of vertices which are connected by on edge in a graph is called adjacent and vertices.
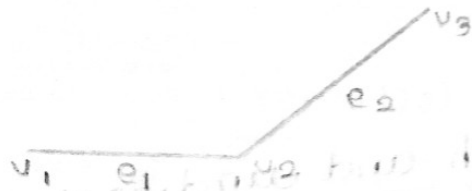
Adjacent vertices:

Here v_1v_2, v_2v_3, v_2v_4 are adjacent vertices

v_1, v_2, v_1v_4, v_3v_4 are not adjacent vertices.

Adjacent edges:-

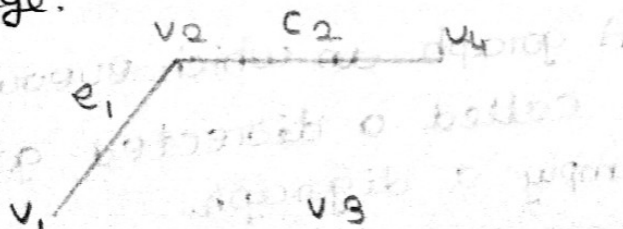If two distinct edges are incident with common vertex the they are called adjacent edges.

Here e_1 and e_2 are incident with a common vertex v_2

Defn: Isolated vertex:

In any graph a vertex which is not adjacent to any other vertex is called an isolated vertex other wise the vertex has no incident edge.

Here v_9 has no incident edge there fore the vertex v_9 is called isolated vertex.

Note

1. A graph with p vertices and q edges is called a (p,q) graph.

2. The graph $(p,0)$ is trivial or null graph.

3. If any two edges are intersected then their intersection is not considered as a vertex.

4. The set of edges in a null graph is empty