SRM Institute of Science and Technology
College of Engineering and Technology
Department of Mathematics
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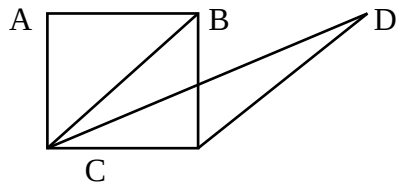
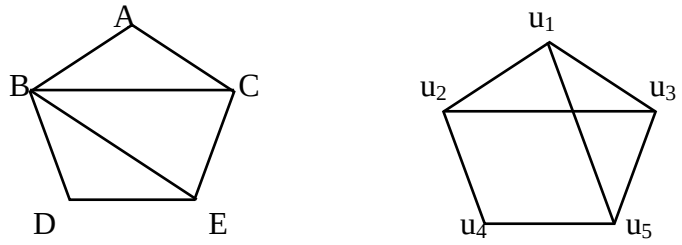
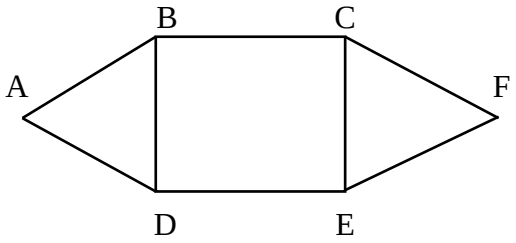
Academic Year: 2023-2024(odd)

Tutorial sheet - 2

Date: 16/10/2023

Course Code &Title: 18MAB302T - Discrete Mathematics for Engineers
Year & Sem: III/V

Q. No	Questions	Answer Keys
1	If all the vertices of an undirected graph are each of odd degree k, show that the number of edges of the graph is a multiple of k.	
2	The chromatic number of a complete bipartite graph is?	**(c) 2**
3	If G = (V, E) is an undirected graph with e edges then prove that the sum of the degrees of all vertices is equal to 2e.	
4.	Give an example of a graph that contains neither Hamiltonian circuit nor an Eulerian circuit.	
5.	If G is a null graph then $\chi(G)$ =?	**(c)**
6.	Represent the following graphs by adjacency matrix 	
7.	Draw the graphs represented by the following incidence matrix e_1 e_2 $e_3e_4e_5$ $\begin{matrix} A \\ B \\ C \\ D \end{matrix}\begin{pmatrix} 0 & 1 & 0 & 0 & 1 \\ 0 & 1 & 1 & 1 & 0 \\ 1 & 0 & 0 & 1 & 0 \\ 1 & 0 & 1 & 0 & 1 \end{pmatrix}$	
8.	Justify whether the following graphs are isomorphic or not.  G_1 G_2	

9.	Find all simple paths from A to F and all circuits in the given graph  	
10.	If a graph G has exactly two vertices of odd degree then prove that there is a path joining these two vertices.	