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| **National University of Computer and Emerging Sciences, Lahore Campus** | | | | |
| C:\Users\saif\AppData\Local\Microsoft\Windows\Temporary Internet Files\Content.Word\final design.jpg | **Course:** | **Design and Analysis of Algorithms** | **Course Code:** | **CS302** |
| **Program:** | **BS(Computer Science)** | **Semester:** | **Spring 2018** |
| **Duration:** | **10 Minutes** | **Total Marks:** | **10** |
| **Paper Date:** | **26-April-18** | **Weight** | **3** |
| **Section:** | **E** | **Page(s):** | **1** |
| **Exam:** | **Quiz 5(b)** | **Roll No:** |  |
| **Section:** |  |
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Assume that G(V,E) is a weighted undirected graph where edge weights may not be distinct. Either proof or disproof the following statement.

If G has more than |V|-1 edges and there is a unique edge with highest weight, then this edge cannot be part of minimum spanning tree (MST).

If it is correct give the argument/justification or give a counter example if it is incorrect.

False the maximum weight edge can be part of the MST if that edge is a bridge e.g in the graph below if edge 0,3 has maximum weight then it will always be a part of MST

