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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:** | **6-Feb-18** | **Weight** | **4** |
| **Section:** | **E** | **Page(s):** | **1** |
| **Exam:** | **Quiz 1(b)** | **Roll No:** |  |
| **Section:** |  |
|  | | | | |

**True/False Justify your answer**

1. n2  = Θ (4lgn) True as 4lgn = 22lgn = 2lgn2 = n2
2. n2  = O (4lgn) True
3. n2  = Ω (4lgn) True
4. nlg n = Θ (ln nn) True since change in log base does not change asymptotic bounds
5. nlg n = Ω (ln n!) True as lgn! = Θ(nlgn)