**CSE230 - Discrete Mathematics (Sec-2)**

Quiz #5

Total Marks: 15 Time: 20 minutes

**Please read the questions carefully before attempting to answer them.**

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| **NAME:** | **ID:** |

1. BCB selectors need to select a starting XI for Bangladesh National Women’s Cricket Team’s upcoming ODI home series against Pakistan Women’s Cricket Team from a total of **16 players**. Calculate the total number of ways a **starting XI** can be chosen if:
2. They want to include Salma Khatun and Khadija-tul-Kubra? [3]
3. They want to exclude Lata Mondol and Mst. Sharmin Akter Supta? [3]
4. Find the length of the shortest path from *a* to *z* in the given weighted undirected graph. [4]



1. Are the events E, that a family with three children has children of both sexes, and F, that this family has at most one boy, independent? Assume that the eight ways a family can have three children are equally likely. [5]