**INFORMATION RETRIVAL SYSTEMS**

**2203A51717**

**2303A51L71**

**2303A51L81**

**Good Turning Smoothing :**

Eample Sentence : "I love information retrieval system".

Apply Bi-Gram :

("I", "love")

("love", "information")

("information", "retrieval")

("retrieval", "system")

Frequency Counts :

("I", "love") = 3

("love", "information") = 2

("information", "retrieval") = 1

("retrieval", "system") = 1

Apply Good-Turing Smoothing :

1. **For ("I", "love") with r=3 :**

P∗(3) = (3+1)⋅N4 / N3 = 2

1. **For ("love", "information") with r=2:**

P∗(2) = (2+1)⋅N3 / N2 = 3

1. **For ("information", "retrieval") with r=1:**

P∗(1)=(1+1)⋅N2 / N1 = 2

1. **For ("Retrival", "Systems") with r=1:**

P∗(1) = (1+1)⋅N2 / N1 = 2

Therefore, Total Adjusted Counts = 2+3+2+1=8