

Question 1.

Linear probing is done correctly and somewhere in between calculation mistake has happened--
5 marks

Answer correct--- 5

Question 2

Approach : Getting the size of B according to different pivot elements - 5 marks
Derivation and simplified answer - 5 marks

Question 3

Getting the representative node v with r rank - 5 marks
Finally showing the presence of all n nodes in subtree - 5 marks

Partial marks of 1 or 2 is given is the outline intuition seems correct.