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Question 1:

a) No, because this is not a BT (965 < 969)

b) Yes, because this one is a BT

c) No, because this is not a BT (404>356)

d) Yes, because this is a BT

e) Yes, because this is a BT

Question 2:

a) No, because the node 30 > 25 (parent).

b) Yes, because this one is nearly complete binary tree.

c) Yes, because this one is nearly complete binary tree.

d) No, because the node 20 > 18 (parent).

Question 3:

a) No, this is not a BT due to the values of "In-order" are not ascending (90 > 80)

No, this is also not a AVL BT due to this is not a BT.

b) Yes, this is a BT due to the values of "In-order" are ascending.

Question 4:

|  |  |  |
| --- | --- | --- |
| Reference node | Direction | Pre-order list |
| 70 | Left | 100,90,70,60,80,200 |
| 100 | Right | 90,70,60,80,100,200 |