The status of an order when placed is “Submitted”. After qualifying by a validation team member, the status of the order is moved to “Qualified”. If the order is not qualified due to some reason, the status of the order is moved to “Rejected” and the customer is intimated about it. An order can also be cancelled or modified before it is qualified.

An order can have one or more items in it. The order processing team starts processing the order once it is qualified. Order processing team member marks each item as “Received” whenever an item is received.

When one of the items is received, the status of the order moves to “In Progress”. The order remains in “In Progress” till all the items are received. The status of the order is moved to “Completed”, when all the items are marked as “received”.

Delivery notes for the order are also entered by the order processing team members at any time. When the order is completed and delivery notes are entered, the status of the order is moved to “Ready for delivery”.

Delivery team members select the order and mark the order as “Delivered”. The customer can acknowledge the order and the status of the order is moved to “Acknowledged” once acknowledged by the customer.

Derive the state transition diagram and matrix for this requirement.

When order is placed

After Modification

To modification

Due to some reason

When item is Qualified

Item is Received

All Item Received Item in Progress item is still Receiving

Delivered notes is entered

Marks as Delivered

Acknowledged By Customer