Question 1

Draw a state chart diagram for the below given description**.**

A bid object is initially in new state. While in the state, bid details are updated. After updating the details, if the bid is approved the state changes to active state. To approve a bid, all the conditions should be satisfied. If not, the bid is rejected. Bid object in the new state can move to Ignored state after one month of not been accepted or rejected. After the bid being updated with an approval, it can change the state to active state. If the bid is not updated, then it change it state to reject when it expired. When entering to active state, the bid is added to the upcoming bids list. While in the state, auction timer is set and bidders are invited for the auction. The bid object can move to Inactive state from active state, by canceling the auction. Once it is rescheduled, it will move back to Active state. The bid object can move to Bidding state from Active state once the auction timer starts. Bidding is a composite state with sequential sub states Start, Assess and Accepted. These states follow in order within the composite state. While in the start state, the object stores the bid details bidders provide. When the auction time is over, timer is stopped and bid is closed which result in object to change its state to Assess. Assess is a composite states by itself which is shown with hidden decomposition indicator icon. The highest bid is evaluated in the assess state. After

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evaluation, if no bid offer is accepted, then the bid is again open for bidding. Once a bid is accepted after evaluation, the object will move to accepted state. Then the bidders of the accepted bid offer are informed. After that, Bidders need to make the payment they offered. Once the payment is made the object moves to Paid state from bidding state. Once the payment is valid, it will be authorized. Then the bid will be closed. If the payment is invalid the state changes back to Bidding state. After accepting the bid, if the bidders want to withdraw the offer, they need to make a valid penalty payment which make the state change to Retract state. For the bids in the retract state can move to active state once it is activated with a valid authorization.

Question 2

Draw an Object Diagram for the following Class diagram. Show Multiplicity and Values for attributes.

Lecturer

+ ID: String

+ Name: String

+ Age: Integer

+ saveDetails(id,name,age): void

+ getDetails(): String

Research Project

+ ProjectID: String

+ Name: String

+ Duration: Integer

+ saveProjectDetails(pid,name,duration): void

+ getDetails(): String

Permanent

+ JoinedDate: DateTime

- Salary: double

+ setDetails(date,sal): void

Contract

+ ContractYears: Integer

+ Working _Hours: double

Funded

- Amount: double

+ setAmount(amount): void

+ getAmount(): double

Non-funded

Supervisor

+ ID: String

+ Name: String

+ Number_of_Projets_Superviced: Integer

+ saveDetails(id,name,age): void

+ getDetails(): String

Organization

+ Name: String

+ Address: String

+ saveDetails(name,address): void

+ getDetails(): String

1..*   0..*

1

0..1

1..*

1