Question 1

Step 1
We'll start by assuming this entire form is made of two tables, one parts and one customer

customer
customerName
customerNumber (PK)
customerType
date
time
employee

This has a PK, but not all the elements in the table describe it: date, time and employee don't describe the customer and should be in a second table. It's not in 1NF.
So we make a new table:

order_details
employee (PK)
customerNumber(PK)
date
time

parts
partNumber (PK)
partName
cageCode
quantOrdered
unitPrice

This table is in 1NF: it has a PK and all the elements describe the PK

Step 2

We now have 3 tables

customer
customerName
customerNumber (PK)
customerType

parts
partNumber (PK)
partName

cageCode
quantOrdered
unitPrice

order_details
employee (PK)
customerNumber (PK)
date
time

These appear to also be in 2NF: First 2 tables have only one PK, and table 3, with a composite PK, has 2 elements, date and time, that describe the PK: when that employee dealt with that customer

Step 3

Table one is in 3NF because everything depends on the PK, and so is table 3. But the middle table is not because quantOrdered doesn't describe the part itself but rather the order.

So we add a table:

order_amt
partNumber (PK)
quantOrdered

Final Result

customer_info
customerName
customerNumber (PK)
customerType

parts_desc
partNumber (PK)
partName
cageCode
unitPrice

order_details
employee (PK)
customerNumber (PK), (FK)
date
time

order_amt
partNumber (PK), (FK)
quantOrdered (PK)

Additional assumption: unit price refers to the price of the part, not the sum of all the ordered parts

Question 2

Step 1

staffNo	therapistName	patNo	patName	appointment		branchNo
				date	time	
S1011	Fred Smith	P100	Lily White	9/12/2022	10:00	M15
S1011	Fred Smith	P105	Jill Baker	9/12/2022	12:00	M15
S1024	Heidi Pierce	P108	Andy McKee	9/12/2022	10:00	Q10
S1024	Heidi Pierce	P108	Andy McKee	9/14/2022	14:00	Q10
S1032	Richard Levin	P105	Jill Baker	9/14/2022	16:30	M15
S1032	Richard Levin	P110	Jimmy Winter	9/15/2022	18:00	B13

Is there a primary key? It seems to be staffNo, patNo, and appointment, meaning date and time. Therefore, the table is not in 1NF: it has repeating groups (date and time in the appointment field). We can fix this by making them separate fields.

staffNo (PK)
therapistName
patNo (PK)
patName
apptDate (PK)
apptTime (PK)
branchNo
patNo

Step 2
Is the data in 2NF? No. The table has elements that are dependent on only one half of the PK (therapistName and patName respectively, which depend only on staffNo and patNo). So they must be separate tables. Additionally, branchNo does not depend on apptTime, which is part of the PK, so it should also be in a separate table.

therapist
staffNo (PK)

therapistName

patient
patNo (PK)
patName

therapist_location
branchNo (PK)
staffNo (PK), (FK)
apptDate (PK), (FK)

appt_info
patNo (PK)
staffNo (PK)
apptDate (PK)
apptTime (PK)

Assumption: any therapist only works at one branch per day (this is given in the question).

Step 3: There are no contingent dependencies, so this table is in 3NF

Question 3:

eNo	contractNo	hours	eName	eventNo	eventLoc
1135	C1024	16	Smith J	H25	Queens
1057	C1024	24	Hocine D	H25	Queens
1068	C1025	28	White T	H4	Yonkers
1135	C1025	15	Smith J	H4	Yonkers
1135	C1026	10	Smith J	H25	Queens

Step 1:

Is the table in 1NF? It needs a PK, dependency on the PK, and no repeating groups. The PK appears to be employee number and contract number, since that ensures uniqueness. There are no repeating groups and the rest of the elements are related to the employee and contract, so the table is in 1NF

Step 2:

Is the table in 2NF? No. eName depends only on eNo and not on the contractNo. Event number and event location depend only on contractNo (since a specific contract applies only to one event) but not on the employee info. So we need to create separate tables

employee_info
eNo (PK)
eName

contract_info
contractNo (PK), (FK)
eventNo
eventLoc

work_hours
eNo (PK)
contractNo(PK)
hours

Step 3:
Is this table in 3NF? No, because there's a transitive dependency in the contract_info table: event location depends on event number but not on contract number. We need a separate table for events to fix this.

Final Result:

employee_info
eNo (PK)
eName

contract_info
contractNo (PK), (FK)
eventNo (FK)

work_hours
eNo (PK)
contractNo(PK)
hours

event_info
eventNo(PK)
eventLoc