

## Assignment 2

### Data Flow Diagrams

**Draw the Context Diagram and the Level 0 of the Data flow diagram of the following narratives:**

1. Given a Hospital Pharmacy System, Draw a context diagram and level-0 diagram for the following hospital pharmacy system. The pharmacy at Mercy Hospital fills medical prescriptions for all patients and distributes these medications to the nurse station responsible for the patient's care. Medical prescriptions are written by doctors' and sent to the pharmacy. A pharmacy technician reviews the prescriptions and sends them to the appropriate pharmacy station. Prescriptions for drugs that must be formulated are sent to lab station, prescription for off-the-shelf are sent to shelving station and prescription for narcotics are sent to secure station. At each station a pharmacist reviews the order, checks the patient file to determine the appropriateness of the prescriptions, and fills the order if the dosage is at safe level and it will not negatively interact with the other medications or allergic indicated in the = Patient's file. If the pharmacist does not fill the order, the prescribing doctor is contacted to discuss the situation. In this case the order may ultimately be filled or the doctor may write other prescriptions depending on the outcome of the discussion. Once filled, a prescription label is generated listing the Patient's name, the drug type and dosage, an expiration date, and any special instructions. The label is placed on the drug container and the order is sent to the appropriate nurse station. The patient's admission number, the drug type and amount dispensed and the cost of the prescription are then sent to the billing department.
2. Given the Customer Order Management System. The Customer will place the order. The order placed by customer will be validated by order manager. Once the order is confirmed, the customer makes payment as respective of the order. Things to consider as external entity will be Customer, Order Manager.

3. A college offers correspondence courses to students. Each course lasts 20 weeks and is based on a weekly study module and progress test. At the end of the course students sit an invigilated examination. The college Registrar deals with enquiries and applications, and students applying who have sufficient qualifications are asked to register by completing and submitting an application form. After approval by the Academic Director, the application form is returned to the Registrar who creates a student file. The Accounts department receive the application form and using information from the student file creates an invoice that is sent to the student. Payments made are registered on the invoice file. The first batch of student material and tests is issued from the library only to students who have paid fees (this information is taken from the invoice file). Progress tests are marked by academic staff and the results, together with comments, are sent out to student with next week's study block. The library will only issue study material/progress tests when a student has returned test answers from the previous week.

4. The stock supervisor of a large government department described the procedures carried out by his staff as follows: “Customers (that is other sections within our department) can order items by completing a standard 3-part, multi-line customer demand form. When the customer demand form is received by Sue, she checks to ensure the form has been completed correctly. She then sequentially registers the customer demand on the demand register sheet as well as filling in details such as customer number and date received, on the sheet. Sue then fills out a demand receipt slip, which includes the demand registration number and date received, and returns the slip to the customer. The original copy of the customer demand is filed in the customer demand file. The other 2 copies, or the customer demand set as they are called, are put into Sue’s out tray awaiting collection by Bill, the warehouse clerk, three times a day. For each item on a customer demand, Bill searches the stock cards to see if stocks exist in the warehouse to satisfy the demand line. He fills out the amount available for dispatch column on the demand line with the amount available from stock. Bill creates a back order for any outstanding quantities and files these back orders awaiting receipt of a delivery from the manufacturer. Bill adjusts the balances on the stock cards by the amount noted for dispatch. Also, he adds the remaining quantity demanded, if any, to the due out column on the stock card. Each time the stock records are changed, the new stock item balance is compared to the reorder level on the stock card. If the item stock balance is below this level, a manufacturer’s order form is filled in and sent to the manufacturer. Bill sends the customer demand set with completed dispatch amounts to the delivery staff, who select, pack and deliver the goods to the customer. The customer signs the delivery copies of the customer demand set and retains the first copy for their records. The second signed copy is returned to Sue who matches the delivery copy with the original customer demand.”