

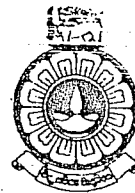
The Open University of Sri Lanka

B.Sc. Degree Program – Level 05

CSU3277: Software Engineering

Open Book Test: 2006

Duration: 1½ Hours



Date: 25-07-2006

Time: 4.00pm – 5.30pm

Answer ALL questions

(01)

- (a) What information is included in a data flow diagram?
- (b) What unique rules apply when drawing context diagrams?
- (c) Consider the hospital pharmacy system described in the following narrative:

The pharmacy at ABC Hospital provides medicine for medical prescriptions for all patients and distributes these medications to the nurse stations responsible for the patients 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 (made onsite) are sent to the lab station, prescriptions for off-the-shelf drugs are sent to the shelving station and prescriptions for narcotics are sent to the secure station. At each station, a pharmacist reviews the order, checks the patient's file to determine the appropriateness of the prescriptions and provides the medicine, if the dosage is at a safe level and it will not negatively interact with the other medications or allergies indicated in the patient's file.

If the pharmacist does not provide the medicine, the prescribing doctor is contacted to discuss the situation. In this case, the order may ultimately be provided or the doctor may write another prescription depending on the outcome of the discussion. Once a medicine is provided, 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 orders are sent to the appropriate nurse stations. The patient's admission number, the drug type and amount dispensed and the cost of the prescription are then sent to the billing department.

(i) Draw a context diagram for the above scenario.

(ii) Draw a level 0 DFD for the same.

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