## THE COPPERBELT UNIVERSITY

## SCHOOL OF INFORMATION AND COMMUNICATION TECHNOLOGY

CS235 Database technology TEST 1

Q 1.	Sketch and label clearly the three level database architecture and hence or other describe how
	data independence is achieved through this architecture. [8 marks]

- Q 2 Briefly describe the following functions associated with a DBMS. [8 marks]
  - a) Authorization b) Integrity c) Utility and d) Concurrency control services.
- Q 3 Briefly discuss the following stages of the database system development lifecycle. [8 marks]
  - a) Database planning
- b) Requirements collection and analysis
- c) Database design
- d) Data conversion and loading
- Q 4 Define the following database terminologies. [6 marks]
  - a) Relation Schema b) Relational Database c) Cardinality Constraint d) Participation Constraint
- Q 5 Draw an ER diagram for the following requirement, showing all the necessary steps. [10 marks] Get well soon Clinic wishes to develop a database for its operations, they wish to keep track of their patients details such as name, CardNo, NRC#, address, phone, birth date and sex. When a patient visits the clinic, their details are captured by a registry clerk, A registry clerk is identified by Name, Employee number, NRC#, address, phone number and sex. The clerk will then send the details of the patient to a nurse on duty who will take and record reading such as BP level and Weight of a patient. The nurse is identified just like the registry clerk. The nurse will then send the file to the Doctor on duty, who will examine patient physically and orally and record the findings on the patients file. The findings will be recorded as an illness. The doctor's details are similar to the nurse's details. If the doctor is suspecting some illness which can only be verified through blood and other fluids being tested, he/she will send the patient's file to a lab technician, who will carry out the tests and record them on the patients file. The doctor will receive the file from the lab technician and prescribe some medicine for the patient, the file will then be sent to the pharmacist who will finally dispense the medicine to the patient. The pharmacist will indicate the medicine given out on the patient's file. The lab technician and the pharmacist's details are similar to that of the doctor.

THE END
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