Nepal College Of Information Technology
DBMS
Assignment-1

1. What do you mean DBMS? List some significant differences between a file-processing system and a DBMS.
2. List five responsibilities of a database management system. For each responsibility, explain the Problems that would arise if the responsibility were not discharged.
3. What are main functions of a database administrator (DBA)? List six major steps that you would take in setting up a database for a particular enterprise.
4. Explain the distinctions among the terms primary key, candidate key, and superkey.
5. A university registrar's office maintains data about the following entities: (a) courses, including number, title, credits, syllabus, and prerequisites; (b) course offerings, including course number, year, semester, section number, instructor(s), timings, and classroom; (c) students, including student-id, name, and program; and (d) instructors, including identification number, name, department, and title. Further, the enrollment of students in courses and grades awarded to students in each course they are enrolled for must be appropriately modeled. Construct an E-R diagram for the registrar's office. Document all assumptions that you make about the mapping constraints.
6. Explain the difference between a weak and a strong entity set.
7. Design an E-R diagram for keeping track of the exploits of your favorite sports team. You should store the matches played, the scores in each match, the players in each match and individual player Statistics for each match. Summary statistics should be modeled as derived attributes.
8. UPS prides itself on having up-to-date information on the processing and current location of each shipped item. To do this, UPS relies on a company-wide information system. Shipped items are the heart of the UPS product tracking information system. Shipped items can be characterized by item number (unique), weight, dimensions, insurance amount, destination, and final delivery date. Shipped items are received into the UPS system at a single retail center. Retail centers are characterized by their type, uniqueID, and address. Shipped items make their way to their destination via one or more standard UPS transportation events (i.e., flights, truck deliveries). These transportation events are characterized by a unique scheduleNumber, a type (e.g, flight, truck), and a deliveryRoute. Please create an Entity Relationship diagram that captures this information about the UPS system. Be certain to indicate identifiers and cardinality constraints.
9. Compare between Conceptual, Logical and Physical Data models