1.6 List four applications you have used that most likely employed a database system

to store persistent data. Answer(University system, PSC data system, Bank, airlines …

1.7 List four significant differences between a file-processing system and a DBMS. Answer(there is no redundant data, efficient query processing is there in DBMS, DBMS has more security mechanisms as compared to the file system, in DBMS data indepence exists)

1.8 Explain the concept of physical data independence and its importance in

database systems. Answer( If we want change some data, it will be hard in file system, in data bases is easy)

1.9 List five responsibilities of a database-management system.For each responsibility, explain the problems that would arise if the responsibility were not dis charged. Answer(

1.Interaction with file manager

No DBMS co do without this, if there in no file manager interaction then nothing stored in the files can be retrieved.

2.Integrity enforcement

Consistency constraints may not be satisfied, account balances could go below the minimum allowed, employees could earn too much evertime(e.g., hours >80 hours) or, airline pilots may fly more hours than allowed by the law.

3.Security enforcement

Unaythorized users may acces the databases, or users authorized to access part of the database may be able to access part of the database may be able to access parts of the database for which they lack authority. For example, a high school student could get access to national defence secret codes, or employees could find out what their supervisors earn.

4.Backup and recovery

Data could be last permanently, rather than at least being available in a consistent state that existed prior to a failure.

5.Concurrency control

Consistency constraints may be violated despite prorer integrity enforcement in each transaction. For example, incorrect bank balances might be reflected due to simultaneous withdrawals and deposits, an so on.

1.11 Assume that two students are trying to register for a course in which there is only one open seat. What component of a database system prevents both students from being given that last seat? Answer(

The component of the database that prevents both students from getting the last seat is: transaction isolation)

1.15 Describe at least three tables that might be used to store information in a social networking system such as Facebook. Answer(Table that save username, name, surname, age, gender)(Table that containing images, post, content)(Table that save user’s friend)