GOVERNMENT ENGINEERING COLLEGE,BHAVNAGAR
INFORMATION TECHNOLOGY DEPARTMENT
3130703-DATABASE MANAGEMENT SYSTEMS

ASSIGNMENT-1

1. Describe various disadvantages of file system compare to Data base management system.   CO- 1

2. What are the responsibilities of a DBA?   CO- 1

3. Explain candidate key, primary key and foreign key.   CO- 1

4. Consider following schema and represent given statements in relation algebra form.   CO- 1

course_id	sec_id	semester	year	building	room_number	time_slot_id
BIO-101	1	Summer	2009	Painter	514	B
BIO-301	1	Summer	2010	Painter	514	A
CS-101	1	Fall	2009	Packard	101	H
CS-101	1	Spring	2010	Packard	101	F
CS-190	1	Spring	2009	Taylor	3128	E
CS-190	2	Spring	2009	Taylor	3128	A
CS-315	1	Spring	2010	Watson	120	D
CS-319	1	Spring	2010	Watson	100	B
CS-319	2	Spring	2010	Taylor	3128	C
CS-347	1	Fall	2009	Taylor	3128	A
EE-181	1	Spring	2009	Taylor	3128	C
FIN-201	1	Spring	2010	Packard	101	B
HIS-351	1	Spring	2010	Painter	514	C
MU-199	1	Spring	2010	Packard	101	D
PHY-101	1	Fall	2009	Watson	100	A

Figure 6.4 The *section* relation.

ID	name	dept_name	salary
10101	Srinivasan	Comp. Sci.	65000
12121	Wu	Finance	90000
15151	Mozart	Music	40000
22222	Einstein	Physics	95000
32343	El Said	History	60000
33456	Gold	Physics	87000
45565	Katz	Comp. Sci.	75000
58583	Califieri	History	62000
76543	Singh	Finance	80000
76766	Crick	Biology	72000
83821	Brandt	Comp. Sci.	92000
98345	Kim	Elec. Eng.	80000

Figure 6.1 The *instructor* relation.

ID	course_id	sec_id	semester	year
10101	CS-101	1	Fall	2009
10101	CS-315	1	Spring	2010
10101	CS-347	1	Fall	2009
12121	FIN-201	1	Spring	2010
15151	MU-199	1	Spring	2010
22222	PHY-101	1	Fall	2009
32343	HIS-351	1	Spring	2010
45565	CS-101	1	Spring	2010
45565	CS-319	1	Spring	2010
76766	BIO-101	1	Summer	2009
76766	BIO-301	1	Summer	2010
83821	CS-190	1	Spring	2009
83821	CS-190	2	Spring	2009
83821	CS-319	2	Spring	2010
98345	EE-181	1	Spring	2009

Figure 6.7 The *teaches* relation.

course_id	title	dept_name	credits
BIO-101	Intro. to Biology	Biology	4
BIO-301	Genetics	Biology	4
BIO-399	Computational Biology	Biology	3
CS-101	Intro. to Computer Science	Comp. Sci.	4
CS-190	Game Design	Comp. Sci.	4
CS-315	Robotics	Comp. Sci.	3
CS-319	Image Processing	Comp. Sci.	3
CS-347	Database System Concepts	Comp. Sci.	3
EE-181	Intro. to Digital Systems	Elec. Eng.	3
FIN-201	Investment Banking	Finance	3
HIS-351	World History	History	3
MU-199	Music Video Production	Music	3
PHY-101	Physical Principles	Physics	4

Figure A.5 The *course* relation.

1. Find the set of all instructor who teaches in the "Physics" department.
2. Find all instructors with salary greater than $90,000
3. Find the instructors in Physics with a salary greater than $90,000
4. Find the name of all instructors in the Physics department.
5. Find the set of all courses taught in the Fall 2009 semester, the Spring 2010 semester, or both.
6. Find all the courses taught in the Fall 2009 semester but not in Spring 2010 semester
7. Find the names of all instructors in the Physics department together with the *course id* of all courses they taught.
8. Find the set of all courses taught in both the Fall 2009 and the Spring 2010 semesters.
9. Find out the sum of salaries of all instructors.
10. Find the names of all instructors in the Comp. Sci. department together with the course titles of all the courses that the instructors teach.

5. Construct E-R diagram for a hospital with a set of patients and medical CO- 1 doctors. Associate with each patient a log of various tests and examinations conducted.