Consider the following database of student enrollment in courses and books adopted for

each course.

STUDENT (regno: String, name: String, major: String, bdate: date)

COURSE (course #: int, cname: String, dept: String)

ENROLL (regno: String, cname: String, sem: int, marks: int)

BOOK\_ADOPTION (course #: int, sem: int, book-ISBN: int)

TEXT(book-ISBN:int, book-title: String, publisher:String, author:String)

i) Create the above tables by properly specifying the primary keys and the foreign keys.

ii) Enter at least five tuples for each relation.

iii) Demonstrate how you add a new text book to the database and make this book be

adopted by some department.

iv) Produce a list of text books (include Course #, Book-ISBN, Book-title) in the

alphabetical order for courses offered by the ‘CS’ department that use more than two

books.

v) List any department that has all its adopted books published by a specific publisher.

vi.) Create a View which contains(Course, TotalBook-ISBN,Publisher)from the above

relation schemas.

vii.) Retrieve the Course Names where that Courses are Published by Springer Publisher.

CREATE DATABASE student\_enroll;

USE student\_enroll;

CREATE TABLE student(

reg\_no VARCHAR(10) PRIMARY KEY,

name VARCHAR(20),

major VARCHAR(10),

bdate date

);

CREATE TABLE course(

course\_no INT PRIMARY KEY,

cname VARCHAR(20),

dept VARCHAR(20)

);

CREATE TABLE enroll(

reg\_no VARCHAR(10),

course\_no INT,

marks INT,

sem INT,

PRIMARY KEY(reg\_no, course\_no),

FOREIGN KEY(reg\_no) REFERENCES student(reg\_no) ON DELETE CASCADE,

FOREIGN KEY(course\_no) REFERENCES course(course\_no) ON DELETE CASCADE

);

CREATE TABLE text(

book\_isbn INT PRIMARY KEY,

book\_title VARCHAR(20),

publisher VARCHAR(20),

author VARCHAR(20)

);

CREATE TABLE book\_adoption(

course\_no INT,

sem INT,

book\_isbn INT,

FOREIGN KEY(course\_no) REFERENCES course(course\_no) ON DELETE CASCADE ON UPDATE CASCADE,

FOREIGN KEY(book\_isbn) REFERENCES text(book\_isbn) ON DELETE CASCADE ON UPDATE CASCADE

);

INSERT INTO student VALUES('CS01','RAM','DS','1986-03-12');

INSERT INTO student VALUES('IS02','SMITH','USP','1987-12-23');

INSERT INTO student VALUES('EC03','AHMED','SNS','1985-04-17');

INSERT INTO student VALUES('CS03','SNEHA','DBMS','1987-01-01');

INSERT INTO student VALUES('TC05','AKHILA','EC','1986-10-06');

select \* from student;

INSERT INTO course VALUES(11,'DS','CS');

INSERT INTO course VALUES(22,'USP','IS');

INSERT INTO course VALUES(33,'SNS','EC');

INSERT INTO course VALUES(44,'DBMS','CS');

INSERT INTO course VALUES(55,'EC','TC');

select \* from course;

INSERT INTO enroll VALUES('CS01',11,4,85);

INSERT INTO enroll VALUES('IS02',22,6,80);

INSERT INTO enroll VALUES('EC03',33,2,80);

INSERT INTO enroll VALUES('CS03',44,6,75);

INSERT INTO enroll VALUES('TC05',55,2,8);

select \* from enroll;

INSERT INTO text VALUES(1,'DS and C','Princeton','Reddy');

INSERT INTO text VALUES(2,'Fundamentals of DS','Princeton','Shanbhag');

INSERT INTO text VALUES(3,'Fundamentals of DBMS','Princeton','Robin');

INSERT INTO text VALUES(4,'SQL','Princeton','Cotran');

INSERT INTO text VALUES(5,'Electronic circuits','TMH','Tripathi');

select \* from text;

INSERT INTO book\_adoption VALUES(11,4,1);

INSERT INTO book\_adoption VALUES(11,4,2);

INSERT INTO book\_adoption VALUES(44,6,3);

INSERT INTO book\_adoption VALUES(44,6,4);

INSERT INTO book\_adoption VALUES(55,2,5);

select \* from book\_adoption;

/\* QUERY1: Demonstrate how you add a new text book to the database and make this book be

adopted by some department. \*/

INSERT INTO text VALUES(7,'Linear alzebra','Pearson','Narayana');

INSERT INTO course VALUES(77,'LA','CS');

INSERT INTO book\_adoption VALUES(77,4,7);

SELECT \* FROM book\_adoption;

/\* QUERY2: Produce a list of text books (include Course #, Book-ISBN, Book-title) in the

alphabetical order for courses offered by the ‘CS’ department that use more than two

books. \*/

SELECT c.course\_no,c.cname FROM course c,text t,book\_adoption b

WHERE c.course\_no=b.course\_no

AND

b.book\_isbn=t.book\_isbn

AND

c.dept='CS'

GROUP BY c.course\_no

HAVING COUNT(b.course\_no)>=2

ORDER BY t.book\_title;

/\* QUERY3: List any department that has all its adopted books published by a specific publisher.

\*/

SELECT c.course\_no,c.dept,b.book\_isbn,t.publisher FROM course c,book\_adoption b,text t

WHERE c.course\_no=b.course\_no

AND

b.book\_isbn=t.book\_isbn

AND

t.publisher='Princeton';

/\* QUERY4: Create a View which contains(Course, TotalBook-ISBN,Publisher)from the above

relation schemas. \*/

CREATE view publisherview as

SELECT c.cname, b.book\_isbn, t.publisher from book\_adoption b

inner join course c

on c.course\_no= b.course\_no

inner join text t

on t.book\_isbn= b.book\_isbn;

/\* QUERY5: Retrieve the Course Names where that Courses are Published by Springer Publisher. \*/

SELECT c.cname from book\_adoption b

inner join course c

on c.course\_no= b.course\_no

inner join text t

on t.book\_isbn= b.book\_isbn

WHERE t.publisher= "springer";