Daffodil International University
Department of Computer Science and Engineering
Faculty of Science and Information Technology (FSIT)
Final Examination, Semester: Fall-2019
Course Code: CSE311 (Day)   Course Title: Database Management Systems

Time: 120 minutes　　　　**Answer all questions**　　　　**Total Marks: 40**

Q1: Consider the following relational Schema and Write the following queries using SQL.　　**14**

No	Name	Type	Rating	Stars	Qty	price
1	Gone with wind	Drama	G	Gable	4	39.95
2	Friday the 13th	Horror	R	Jason	2	60.95
3	Top Gun	Drama	PG	Cruise	7	49.95
4	Splash	Comedy	PG13	Hanks	3	29.95
5	Independent day	Drama	R	Turner	3	19.95
6	Risk Business	Comedy	R	Cruise	2	44.95
7	Cocoon	Sci-fi	PG	Ameche	2	31.95
8	Crocodile	Comedy	PG13	Harris	2	69.95
9	101 Dalmatians	Comedy	G	Hoffman	3	59.95
10	Tootsie	Comedy	PG	Croft	1	29.95

a) Find the total value of the movie cassettes available in the library.
b) Display a list of all movies with price over 20 and sorted by price
c) Display all the movies sorted by QTY in decreasing order.
d) Display a report listing a movie number, current value and replacement value for each movie in the above table. Calculate the replacement value for all movies as QTY * Price * 1.15
e) Count the number of movies where Rating is not "G"
f) Insert a new movie in the MOV where Price > 30.
g) Give the output of the following SQL statement
    i.   SELECT MAX(price) FROM MOV WHERE PRICE > 30
    ii.   SELECT SUM (price * qty) FROM MOV WHERE QTY < 4
    iii.   SELECT COUNT (DISTINT TYPE)

Q2: Consider the following data tables.　　**10**

Movie (title, year, length, inColor, studioName, producer_num)
StarsIn(movieTitle, movieYear, starName)
MovieStar(name, address, gender, birthdate)
MovieExec(name, address, cert_num, netWorth)
Studio (name, address, presC_num)

Write the following queries using **Relational Algebra**:
a. Find the address of MGM studios.
b. Find Sandra Bullock's birthdate (Sandra Bullock's is a movie star).
c. Find all the stars that appear either in a movie made in 1980 or a movie With "Love" in the title.

d. Find all executives worth at least $10,000,000.
e. Find all the stars who either are male or live in Miami (have Miami as a part of their address).

Q3: Give an example to explain Commit, Rollback and Savepoint of transaction.   6

Q4: Define the phases of state diagram of transition with block diagram.   4

Q5: Consider the following relational schema and normalize it up to third normal form. Be certain to indicate necessary constraints.   6

Patient_id	Patient_name	GP_no	GP_name	Apt_date	consultant name	consultant address	sample required
0101	Rafiq	101	Mirpur	3/9/20	Farnes	Mirpur	blood
				20/12/20	Farnes	Mirpur	none
				10/10/20	Edwards	Shamoli	urine
0102	Jamal	102	Shamoli	3/9/20	Farnes	Mirpur	none
				3/9/20	Russ	Jigatola	sputum
0103	Helal	103	Adabor	4/10/20	Russ	Jigatola	blood
0104	Abul	104	Motijeel	5/6/20	Russ	Jigatola	sputum
0105	Mollah	105	Mirpur	9/11/20	Edwards	Shamoli	none