FY.B.Sc Sem I Nov. 2017
Comp sci. paper -I
DBMS

Q. P. Code: 12182

(Time: 2 ½ Hours) [Total Marks: 75]

N.B. 1) All questions are compulsory.
2) Figures to the right indicate marks.
3) Illustrations, in-depth answers and diagrams will be appreciated.
4) Mixing of sub-questions is not allowed.
5) Assume suitable data if necessary and state it clearly.

Q. 1 Attempt All. **(15M)**

(a) Multiple Choice Questions

1. **A _____ in a table represents a relationship among a set of values.**
   A) Column
   B) key
   C) Row
   D) Entry
2. **Consider attributes ID, CITY and NAME. Which one of this can be considered as a super key?**
   A) NAME
   B) ID
   C) CITY
   D) CITY , ID
3. **Which of the following is used to denote the selection operation in relational algebra?**
   A) Pi(Greek)
   B) Sigma(Greek)
   C) Lambda(Greek)
   D) Omega (Greek)
4. **Which of the following query is correct for using comparison operators in SQL:**
   A) SELECT sname, coursename FROM studentinfo ;
   B) SELECT sname, coursename FROM studentinfo
      WHERE age>50 && age <80;
   C) SELECT sname, coursename FROM studentinfo
      WHERE age>50 & WHERE age<80;
   D) None of the above

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5 **In 2NF**

A) No functional dependencies exist.
B) No multivalued dependencies exist.
C) No partial functional dependencies exist
D) No partial multivalued dependencies exist

(b) **Fill in the blanks.**

1. Field is otherwise called as ..... of the record. data item
2. The .....is related to the concept of multi-valued dependency. fourth normal form
3. The union operator takes the results of two queries and returns only rows that appear in both result sets.
4. Architecture of the database can be viewed as Three levels.
5. ..... is a full form of SQL Structured Query lang.

(c) **Short Answers**

1. State any two examples based on derived attribute. 3-4 [c]
2. Write syntax of select operation of relational algebra. 7-2 [b]
3. What is the output produce by date () function? 10-7
4. Explain the string function ltrim () with example.
5. Define the term DBMS. 1-2

Q. 2 Attempt the following (Any THREE) **(15M)**

(a) State the drawback of traditional file processing systems.

(b) **Show an E-R diagram illustrating the use entity sets listed.**

Galleries keep information about artists, their names (which are unique), birthplaces, age, and style of art. For each piece of artwork, the artist, the year it was made, its unique title, its type of art (e.g., painting, lithograph, sculpture, photograph), and its price must be stored. Pieces of artwork are also classified into groups of various kinds, for example, portraits, still lifes, works by Picasso, or works of the 19th century; a given piece may belong to more than one group.
Each group is identified by a name (like those just given) that describes the group. Finally, galleries keep information about customers. For each customer, galleries keep that person's unique name, address, total amount of dollars spent in the gallery (very important!), and the artists and groups of art that the customer tends to like.

(c) List and explain List and explain different database users.

(d) What do you mean by Null constraint, Check constraint? Discuss with suitable example? 4-5 [B]

(e) List and explain different types of mapping cardinalities. 3-7

(f) Draw an ER diagram showing movie ticket management system.
[Assume suitable data and state them clearly.]

Q. 3 Attempt the following (Any THREE) **(15M)**

(a) Giving 2 examples explain 1 NF. 6-12

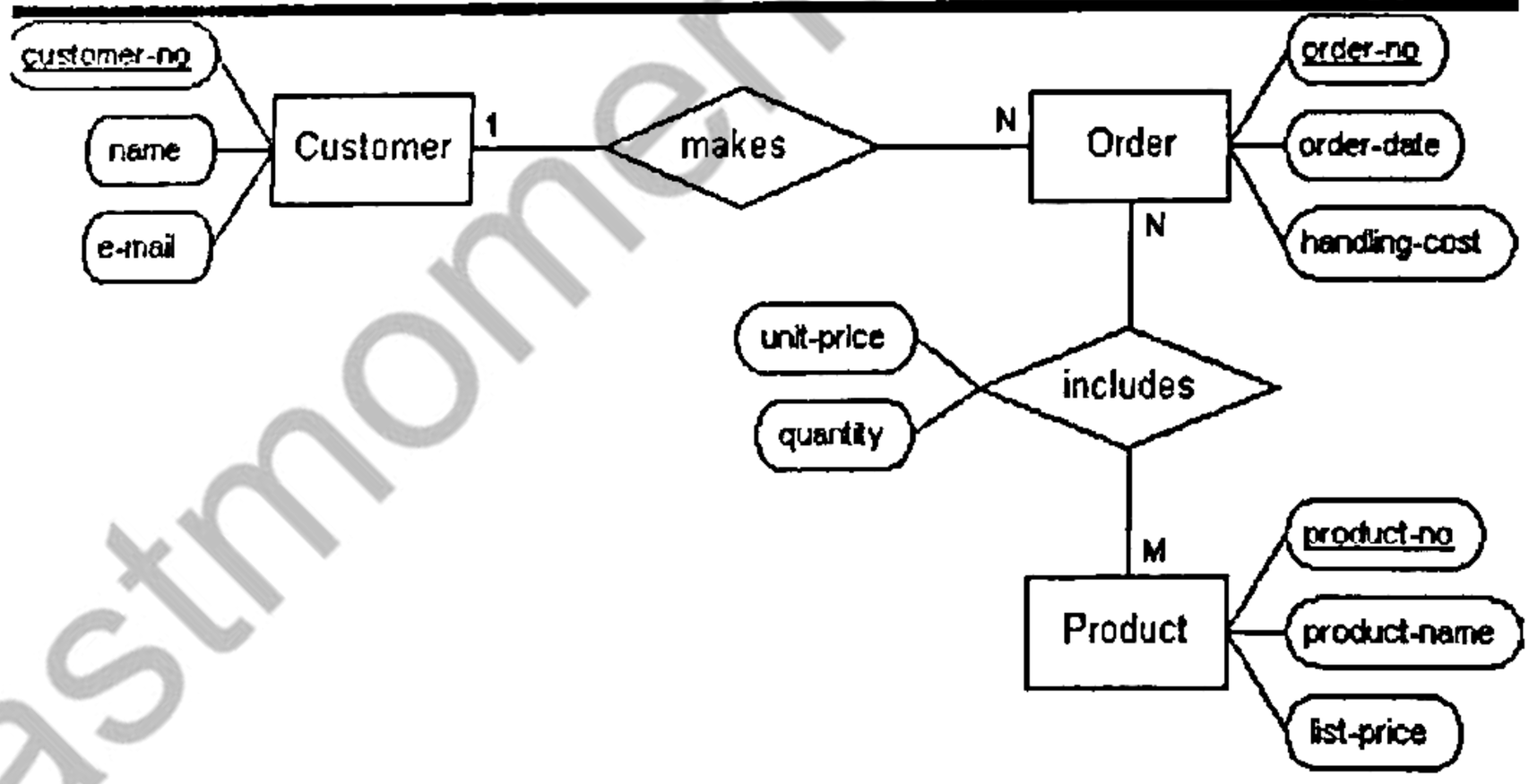
(b) Explain any 3 aggregate functions with examples. 9-15, 9-16

(c) Discuss cross product, union operations from relational algebra with suitable example. 7-8, 7-4

(d) Perform following using mysql
1) Create a table student (rollno, name, address) rollno is PK.
2) Insert 2 records
3) Delete a record whose rollno is 3.
4) Find a record whose name starts with a.

(e) How to perform commit and rollback operation give example to support your answer.

(f)



Construct tables from the above ER diagram. **[assume suitable mapping cardinalities and mention them.]**

C. Explain the following terms in one or two lines **(5M)**

i. Nurturing hobbies at work
ii. communication
iii. Ideas for Learning
iv. Leadership Trends
v. Individual Interview

Q.2 Attempt the following: (Any THREE) **(15M)**

A. Briefly outline the importance of creativity and motivation.
B. Write a note on significance of communication.
C. Highlight on the methods of communication in a digital world.
D. Write a note on etiquette at meetings.
E. Write a note on skills to develop emotional intelligence.
F. Write a note on Johari's Window.

Q.3 Attempt the following: (Any THREE) **(15M)**

A. Briefly describe how to develop a cover letter.
B. List and explain in brief the different types of resumes.
C. Briefly outline about the measures to coping up with Stage Fright and Anxiety.
D. Write a note importance of work ethics.
E. Write a short note on using visual aids in presentation.
F. Write a note on zones of learning.

Q.4 Attempt the following: (Any THREE) **(15M)**

A. Write a note on Post-interview Behavior.
B. Write a note on Web interview Etiquette.
C. What are the steps of decision making? Explain.
D. What are the healthier ways to Combat Stress?
E. List some important Preparatory steps for Job Interviews.
F. Highlight on the important aspects of Group Discussions.

Q.5 Attempt the following: (Any THREE) **(15M)**

A. List steps of Pre-interview Preparation.
B. What are the problems in the absence of work ethics?
C. List and explain about the team development stages.
D. Write a note on types of group discussion.
E. What are the key aspects of informal interview?

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(b) Write queries in relational algebra form:

1) Find the information of name "ram" from student table.
2) Select the records from student table who has marks > 60
3) Find all students having marks< 40 from student table.
4) Rename student table to SST.
5) Find name from student whose address is virar.

(c) Discuss avg (), max (), min () functions with suitable example. 3-15, 3-16

(d) Write a note on sub-query and provide example. 1 2-1

(e) Define the terms data, information, entity, attribute, relationship.

3-1 3-3 3-6

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