Total No. of Questions : 8]	200	SEA

[Total No. of Pages: 4

P-1542

## [6002]-171

## S.E. (Information Technology) DATABASE MANAGEMENT SYSTEM (2019 Pattern) (Semester - IV) (214452)

*Time* : 2½ *Hours*]

[Max. Marks : 70

Instructions to the candidates:

- 1) Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.
- 2) Near diagrams must be drawn wherever necessary.
- 3) Figure to the right side indicate full marks.
- 4) Assume suitable data, if necessary.
- Q1) a) Describe Circumstances under which you would choose to use Embedded SQL than normal SQL or only a general purpose programming Language. [4]
  - b) Differentiate between:

[6]

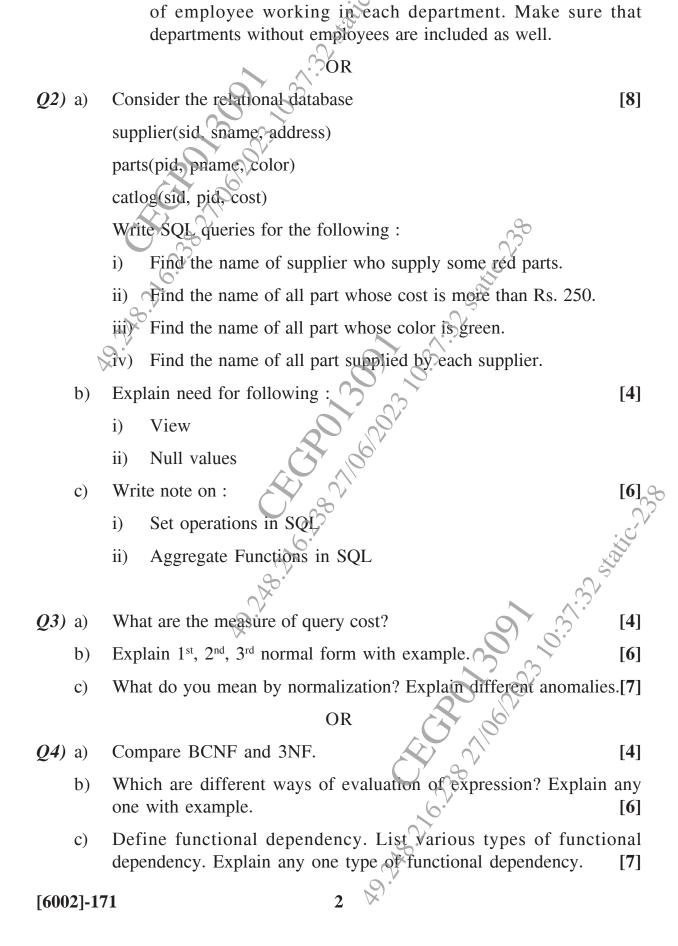
- i) Trigger & stored procedure
- ii) Embedded SQL and Dynamic SQL
- c) Consider the following relations:

**78** 

Departments(Department\_id, Department\_name, manager\_id, Location\_id) Employees(Employee\_id, Employee\_name, mphone\_number, Hire\_Date, Job\_Id, Salary, commission\_PCT, manager\_Id, Department\_Id)

Write SQL queries for the following:

- i) Show the name, job, salary and commission of those employee who earn commission. Sort the data by the salary in descending order.
- ii) Show the department names, locations, names, job titles and salaries of employees who work in location 1800.



How many employees have a name that ends with an "n"?

Show the names and locations for all departments and the number

iii)

iv)

Q5) a) Give test for conflict serializability. Check whether following schedule is conflict serializable. [8]

T1	Т2
Read(A)	
Write(A)	5.
0, 3	Read(A)
	Write(A)
Read(B)	
Write(B)	
O' 35	Read(B)
6.	Write(B)

b) What is concurrency control? Explain time stamping method. [4]

c) When do deadlock happens? How to prevent them?

**Q6)** a) Check whether given schedule is view serializable.

[6]

**[6]** 

T1 T2	Т3
Read(Q)	
Write(Q)	
6.	Write(Q)
Write(Q)	

b) Explain the concept of Transaction. Describe ACID properties of transaction. [8]

c) Explain Deferred database modification.

[4]

Q7) a) State which database system architecture you will prefer for following application- support your answer with brief explanation: [6]

i) Railway Reservation System.

ii) Search Engine

iii) College admission system

	b)	List and Explain any one Architecture of Parallel databases with diagram.	neat <b>[6]</b>
	c)	What are the benefits of NOSQL databases.	[5]
		ØR.	
Q8)	a)	Write a note on SQL Lite database.	[6]
	b)	Explain Architecture of Distributed database system.	[6]
	c)	Explain two-tier and three-tier architecture.	[5]
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