PES
UNIVERSITY

DECEMBER 2017: END SEMESTER ASSESSMENT (ESA) MCA. V SEMESTER

UC15MC612- Advanced Database Management Systems

Time: 3 Hrs		Answer All Questions	Max Marks: 100
1	a)	What is an index? Discuss the following types of indexes with an example each: i. Clustered indexes ii. Primary and Secondary indexes	2+4+4
	b)	Construct a B+ Tree with key values 5,8,4,16,23,10,15(n=3, no.of pointers) [Implement rules of insertion where ever required]	6
	c)	Describe static hashing with an example. (or) problem on primary/secondary indexing.	4
2	a)	What is Concurrency Control? Why Concurrent Control is needed? Explain in brief.	10
	b)	What are the properties a transaction should possess? Describe in brief.	5
	c)	What is a schedule? What is serializable schedule? Check whether the following schedule is serial or not. S1: R1(A), W1(A), R1(B), W2(A), R2(A), W1(B), R2(B), W2(B)	5
3.	a)	What is the goal of query optimization? How does DBMS represent a relational query evaluation plan?	3+7
	b)	What is a query optimizer? Describe its components in brief	1+5
	c)	Translate the following SQL query into Relational Algebra Select Lname,Fname from Employee where salary>(Select max(salary) from Employee where Dno=5);	4
4.	a)	What is a PL/SQL Block? Explain different sections of PL/SQL block with an example each	1+6
	b)	Write a PL/SQL code block to calcuate net_salary if basic salary is taken as input (Assume allowance as DA 20% of basic, HRA 30% of basic, pf is 7% of basic and tax deduction is 10% of basic)	7
	c)	What is exception handling?List out the exceptions supported by PL/SQL? Describe the process of Exception Handling in PL/SQL.	6
5.	a)	What is a procedure? How it is created and implemented in PL/SQL? Create a simple procedure to increase salary by 2000 for all employees working in Marketing Dept.	8
	b)	What is a Cursor? Explain in brief how explicit cursor is created and implemented with an example	6
	c)	What is a Trigger? Explain the process of trigger creation and implementation with an example	6