1
recording.



PES University, Bangalore (Established under Karnataka Act No. 16 of 2013)

UE16CS252

May 2018: END SEMESTER ASSESSMENT (ESA) B.TECH. UE16CS252- DBMS OATABASE MANAGEMENT SYSTEMS.

Wit phy Wr an- "Id Lill Bo N P h	Answer all questions. State any assumptions made. 14 advantages of using a DBMS approach to store and retrieve data. 15 the a suitable diagram, explain what is the three-schema architecture? What is logical and visical data independence? 16 the an ER Diagram for the following Library database. Identify all the Entities, Relationships are attributes. Underline the primary keys and mark the different constraints. You can add an attribute as a primary key for an entity to make it unique if necessary. 17 the analysis of the city, each branch having a name, address and librarian. The cooks have title, authors and publisher. A book can have multiple authors but a single publisher on that same author can write multiple books and same publisher can publish multiple books are publisher details. Each library branch can aver various number of copies of each book. A borrower, identified by a unique library cand aver various number of copies of each book. A borrower is a member of one library branch. When a borrower loans a book, the date of issue and the due date is recorded. 17 The average of the constraints specified in SQL. Give at least 4 examples. 18 The average of the constraints specified in SQL statements for the following queries.	6 10 4 6
Wit phy Wr an- "Id Lill Bo N P h	h a suitable diagram, explain when a suitable diagram, explain when a sical data independence?. The sical data independence? The sical data independence in the sical data in the	4
Wit phy Wr an- "Id Lill Bo N P h	h a suitable diagram, explain when a suitable diagram, explain when a sical data independence?. The sical data independence? The sical data independence in the sical data in the	4
Wr an- "Id Lil Bo N P h	ite an ER Diagram for the following Library database, Identify a constraints. You can add an database, Underline the primary keys and mark the different constraints. You can add an attributes. Underline the primary keys and mark the different constraints. You can add an attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make it unique if necessary. "attribute as a primary key for an entity to make i	
Lill Bo	attribute as a primary key for an entity to make a stribute as a primary key for an entity to make a stribute as a primary key for an entity to make a stribute as a number of branches in the city, each branch having a name, address and librarian. The proof of the proof of the city, each branch having a name, authors and publisher. A book can have multiple authors but a single publisher books have title, authors and publisher. A books and same publisher can publish multiple books and same author can write multiple books and same publisher details. Each library branch can ublisher has a name, address and phone number as publisher details. Each library card ave various number of copies of each book. A borrower, identified by a unique library branch. The companies are considered as a mamber of one library branch. The considered has name, address and phone number. Borrower is a member of one library branch. When a borrower loans a book, the date of issue and the due date is recorded.	
Lill Bo	attribute as a primary key for an entity to make a stribute as a primary key for an entity to make a stribute as a primary key for an entity to make a stribute as a number of branches in the city, each branch having a name, address and librarian. The proof of the proof of the city, each branch having a name, authors and publisher. A book can have multiple authors but a single publisher books have title, authors and publisher. A books and same publisher can publish multiple books and same author can write multiple books and same publisher details. Each library branch can ublisher has a name, address and phone number as publisher details. Each library card ave various number of copies of each book. A borrower, identified by a unique library branch. The companies are considered as a mamber of one library branch. The considered has name, address and phone number. Borrower is a member of one library branch. When a borrower loans a book, the date of issue and the due date is recorded.	
Lil Bo N P h	brary has a number of branches in the city, each branch having a name, address and librariant brooks have title, authors and publisher. A book can have multiple authors but a single publisher obeyen that same author can write multiple books and same publisher can publish multiple books obeyen that same author can write multiple books and same publisher details. Each library branch can sublisher has a name, address and phone number as publisher details. Each library branch can ave various number of copies of each book. A borrower, identified by a unique library branch averaged and phone number. Borrower is a member of one library branch. Sumber has name, address and phone number and the due date is recorded.	
Lil Bo N P h n	brary has a number of branches in the city, each branch raving a reach strain as single publisher. A book can have multiple authors but a single publisher books have title, authors and publisher. A book can have multiple authors but a single publisher of the publisher can publisher can publish multiple books and same publisher can publisher can library branch can ublisher has a name, address and phone number as publisher details. Each library branch can ave various number of copies of each book. A borrower, identified by a unique library card aversious number of copies of each book. Borrower is a member of one library branch. Sumber has name, address and phone number. Borrower is a member of one library branch. When a borrower loans a book, the date of issue and the due date is recorded.	
BO P h n V	ooks have title, an write multiple books and control of that same author can write multiple books and belooks and belooks and belooks and belook of the control of the cont	
BO P h n V	ooks have title, an write multiple books and control of that same author can write multiple books and belooks and belooks and belooks and belook of the control of the cont	
h n V	ave various number of copies of each book. A betrower is a member of one library stems ave various number of copies and phone number. Borrower is a member of one library stems umber has name, address and phone number. Borrower is a member of one library stems umber has name, address and phone number. Borrower is a member of one library stems umber. When a borrower loans a book, the date of issue and the due date is recorded.	
h n V	umber has name, address and phone number. Don't have date is recorded. When a borrower loans a book, the date of issue and the due date is recorded.	
n V	When a borrower loans a book, the date of issue and the others of least 4 examples.	
V	Vhen a bullower to the state of	
		6
a) 1	How are different constraints are statements for the following quantum are sta	
1	have below to write SQL statement	
b) \	Consider the given schema below to	1
- 1	ctreet city)	-
- 1	employee (employee-name, salary)	
1	1- /omployee-lighte, comp	
1	company (company-name, city)	1
1		
		1
	a. Add a new employee called a lones now lives on Park Lane III Newton	
	b. Modify the database so that bank Corporation a 10 percent raise.	10
1	c. Give all managers of the below to write SQL statements for the following que	1
(c)	Consider the given schema below to	A.
,		
	Customers(cid, name, age, said,)/	1
1	Beaks/hid title, author, publichers	
	Purchases(cid, bid, ondate)	than
1	amas who have purchased a book published by	- 1
	(i) List the customer names who have	40
	Do 1000	111-10.
	(ii). Find out the autitor and who have purchased at least two books are greater than or equal to av	erage
	(iii).List out those customers, whose average purchase price to g.	
	(iv).List out those customer	ned to
	price of all books. The marize how Relationships (in ERD) are map	position
	The ERD to Relational Schema mapping, summanze no.	1
3.	n In ERD to Relational Schema.	h few
	Relational control helpw create sample tables populating with	
	the CradStudent database schema given perow, or sales and grades:	-
	3. E	Customers(cid,name,age,salary) Books(bid, title, author, publisher,price) Purchases(cid, bid, ondate) (i).List the customer names who have purchased a book published by Pearson costing more Rs.1000. (ii).Find out the author and title of those books that were sold on 1/4/2017 (iii).List out those customers who have purchased at least two books and are aged more that (iii).List out those customers, whose average purchase price is greater than or equal to average of all books.

	SRN
	Student(student no, name, major) Course(course no, name, credithours, dept) Grade(student no, course no, grade) Grade(student no, course no, grade)
	Give an example of an operation (eg. Insert or Delete) that violates the (y) Key Constraint (iii) Entity Integrity Constraint (iv) Referential Integrity Constraint in GradStudent. Key Constraint (iii) Entity Integrity Constraint (iv) Referential Integrity Constraint in GradStudent. Key Constraint (iii) Entity Integrity Constraint (iv) Referential Integrity Constraint in GradStudent. Illustrate your answer by specifying a database operation on this database state (eg. Insert or Illustrate your answer by specifying a database operation on this database state (eg. Insert or Illustrate your answer by specifying a database operation on this database state (eg. Insert or Illustrate your answer by specifying a database operation on this database state (eg. Insert or Illustrate your answer by specifying a database operation on this database state (eg. Insert or Illustrate your answer by specifying a database operation on this database state (eg. Insert or Illustrate your answer by specifying a database operation on this database state (eg. Insert or Illustrate your answer by specifying a database operation on this database state (eg. Insert or Illustrate your answer by specifying a database operation on this database state (eg. Insert or Illustrate your answer by specifying a database operation on this database operation of the Illustrate your answer by specifying a database operation on this database operation of the Illustrate your answer by specifying a database operation of the Illustrate your answer by specifying a database operation on this database operation of the Illustrate your answer by specifying a database operation of the Illustrate your answer by specifying a database operation of the Illustrate your answer by specifying a database operation of the Illustrate your answer by specifying a database operation of the Illustrate your answer by specifying a database operation of the Illustrate your answer by specifying a database operation of the Illustrate your answer by specifying a database operation of t
c)	details and the same
	Part (<u>PID</u> , PNAME, COLOUR) Catalog (<u>PID</u> , <u>SID</u> , COST) Supplier (<u>SID</u> , SNAME, SADDRESS)
	Express the following as Relational Algebra queries: i. Find the IDs of suppliers who supply some red or green part. ii. Find the IDs of suppliers who supply some red part and some green part. iii. Find the IDs of suppliers who supply only red parts. iii. Find the IDs of suppliers who supply every part.
	Find the IDS of suppliers
	: d=linoc:/
-	What is a database design? List four database design guidelines? What is a database design? List four database design guidelines? For each of the following sets of functional dependencies on a schema R(A, B, C, D, E) For each of the following sets of functional dependencies on a schema R(A, B, C, D, E)
	AB -> 0, D
1	F2. A> CD, B> DE
	Find the attribute closure of AB. Show the method of arriving at candidate key.
	 i. Find the attribute closure of AB. ii. Find a candidate key for this schema. Show the method of arriving at candidate key. c) Consider the following database. The year and semester refers to when the course is offered and the student gets a grade in that course. Each faculty belongs to a department which has an the student.
	annual budget.
	pourseID, year, semester, grade)
	student(sid, sname, coursely) Faculty(fid, fname, deptname, deptbudget), Faculty(fid, fname, deptname, deptbudget),
	the same I
	List the functional dependencies you would expect to the the case of student taking the data possible decompositions for them to be in BCNF. Consider the case of student taking the student fails possible decompositions for them to be in BCNF. Consider the case of student taking the data possible decompositions for them to be in BCNF. Consider the case of student taking the data possible decompositions for them to be in BCNF. Consider the case of student taking the data possible decompositions for them to be in BCNF. Consider the case of student taking the data possible decompositions for them to be in BCNF. Consider the case of student taking the data possible decompositions for them to be in BCNF. Consider the case of student taking the data possible decompositions for them to be in BCNF. Consider the case of student taking the data possible decompositions for them to be in BCNF. Consider the case when student fails course in multiple year and semester in writing the FD. (this may be the case when student fails course in multiple year and takes it again later.)
	Legitce in multiple year
1	course in multiple year and in a course and takes it again later.) in a course and takes it again later.) 5. a) How is a deadlock identified in concurrent transactions? What are the different approaches for the later and so deadlocks?
	Ladlock identified in concurrent transactions? What are the
	How is a deadlock to handling deadlocks? How is a deadlock to handling deadlocks? How is a deadlock to handling deadlock to handling deadlocks?
	 a) How is a deadlock identified in concurrent transport transport to the precedence graphs for S1 and S2 and state whether each schedule is conflict-serializable or not. If a schedule is conflict-serializable, write down the equivalent serial schedule(s).
	Ta. r1(x): r1(z): w1(x)
	T2: r2(z); r2(y); w2(y) T3: r3(x); r3(y); w3(y) T3: r3(x); r3(y); w3(y)
	T3: r3(x); r3(y); w3(y) S1: r1(x); r2(z); r1(z); r3(x); r3(y); w1(x); w2(z); w2(y) S2: r1(x); r2(z); r3(x); r1(z); r2(y); r3(y); w1(x); w2(z); w3(y); w2(y) With an example briefly explain Write-Read Conflict and Write-Write Conflict while executing With an example briefly explain Write-Read Conflict and Write-Write Conflict while executing
	c) With an example briefly explain Write-Read Control in Data base security.? d) Briefly explain the two main approaches of Access Control in Data base security.?
	bot Of Allicon