P. Pa Time	ages : e : Thr	2 ee Hours	GUG/W/16	5 <b>/5381</b> rks : 80
	Note	s: 1. 2. 3. 4. 5.	Same answer book must be used for all question. All questions carry as indicated marks. Due credit will be given to neatness and adequate dimensions. Assume suitable data wherever necessary. Illustrate your answers wherever necessary with the help of neat sketches.	
1.	a)	Define d system.	atabase management system. Explain the applications of database management	8
	b)	Explain	drawbacks of file processing system.	8
			OR	
2.	a)	Draw an	d explain three levels of data abstraction.	8
	b)	Write a s	short note on entity. Relationship model.	8
3.	a)	Write rel Employe Works (e Compan i) Dis ii) Dis iii) Giv 'Hy iv) Dis	ational algebra queries for the following database. (e_name, Street, e_city) (e_name, c_name) (e_name, c_addr, c_city) play the entire information from employee relation. play the names of employee living in 'Hyderabad'. (e the name of employee working in 'First Bank Corporation' and living in derabad! play the company name and strut address of Employee. 'Jones'.	8
	b)	Explain i) Nat iii) Set	the following relational algebra operators with example.ural Joinii)Outer Joinintersection.iv)Rename operation.	8
			OR	
4.	a)	Write SC Custome i) Dis ii) Dis iii) Apj iv) Del	L queries for the following database. (Cust_no, Lname, Fname, Addr, city, state, pin). play all the Lname and Fname group by city. play the cust_no whore pin is 442401. ply a primary key to cust_no. ete a row/ tuple from the table where addr is Nagpur.	8
	b)	Write a s	short note on referential integrity constraint.	8
5.	a)	Explain	Normalization with the help of lossy and Lossless decomposition give example.	8

- Explain following terms. b)

  - i) Functional dependency.
    ii) Fully functional dependency.
    iii) Transitive Functional dependency.
    iv) Multi-Valued dependency.

## OR

6.		Explain 1NF, 2NF for the following database schema.	16
		Student (Course_code, course_name, Tname, Rno, SName, Taddr).	
7.	a)	Explain transaction. Give ACID properties of transaction.	8
	b)	Write short note on states of transaction. Draw state diagram.	8
		OR	
8.	a)	Write about lock based protocols.	8
	b)	Explain Log based recovery.	8
9.	a)	What are fixed-length and variable length records in file organization. Give suitable example.	8
	b)	Explain sequential file organization. Also explain dense and sparse index.	8
		OR	
10.	a)	What are secondary indices. Explain B <sup>+</sup> tree index file.	8
	b)	Write a short note on static hashing.	8

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