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

UC16MC503

END SEMESTER ASSESSMENT (ESA) MCA III SEMESTER- DECEMBER 2017 UC16MC503 - DATABASE MANAGEMENT SYSTEMS

	ime:	3 Hrs Answer All Questions Max Marks:	100
1.	a)	Discuss the advantages of DBMS over conventional file processing.	10
	b)	What is an important benefit of using three schema architecture in DBMA? Define data independence and explain different levels of data independence.	10
2.	a)	Write a short note on the following constraints i. Entity integrity constraints ii. Referential integrity constraints iii. Domain constraints	9
	b)	Consider the following database and answer the following queries using relational algebra. Hotel (HNo, HName City) Room (RoomNo, HotelNo, Type, Price) Booking (RoomNo, HotelNo, GuestNo, Datefrom, DateTo) Guest (GNo, GName, Address) (i)Retrieve the names of hotels having the executive room of price more than 9000. (ii)List the details of the guests whose name is Raj and staying at Lalit Ashok hotel.	5
	c)	Explain Theta join and Outer join of algebraic operations with example.	6
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3.	a)	Refer the database given in question 2(b) and answer the following queries using SQL i. Find the name of guests who have booked hotels more than 2 times. ii. Find the total number of rooms and maximum price of each hotel along with hotel name. iii. Find the name of the guest who has stayed in any hotel for more than 3 days.	9
	b)	Define the following SQL commands/clauses with example: i.Rename Attribute ii. Order by	6
	c)	Differentiate between co-related subquery and nested subquery.	5
4.	a)	Discuss complex attribute and composite attribute with appropriate example. Describe different types of cardinality ratio for Binary relationship.	6 8
	c)	Draw the E-R diagram which models an online bookstore. (Hint: Entities are Book, Author, Publisher, Customer, Warehouse and Shopping-basket. Assume all attributes and relations between entities).	6
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5.	<u> </u>	Write all Armstrong's inference rules.	6
	(b) (c)	Explain second normal form with example. Discuss the mapping of following relationship to conceptual schema: i.One to many Relationship ii.Many to many Relationship	8