



# MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

(A constituent unit of MAHE, Manipal)

## COURSE PLAN

Department : Information and Communication Technology

Course Name & code : DATABASE SYSTEMS & ICT 2271

Semester & branch : IV SEMESTER & CCE (B.TECH)

Name of the faculty : Ms. Diana Olivia & Dr. Sumith N

No of contact hours/week:

L	T	P	C
3	0	0	3

## Course Outcomes (COs)

*At the end of this course, the student should be able to:*

		No. of Contact Hours	Marks
CO1:	Understand the database concepts	2	6
CO2:	Apply procedural and non-procedural language constructs to manage database system	13	36
CO3:	Design database using data modelling tool and normalization concepts	11	30
CO4:	Describe transaction management and concurrency control concepts.	7	20
CO5:	Interpret the unstructured databases	3	8
Total		36	100



### Assessment Plan

Components	Assignments	Sessional Tests	End Semester/ Make-up Examination
Duration	20 to 30 minutes	60 minutes	180 minutes
Weightage	20 % (4 X 5 marks)	30 % (2 X 15 Marks)	50 % (1 X 50 Marks)
Typology of Questions	Understanding/ Comprehension; Application; Analysis; Synthesis; Evaluation	Knowledge/ Recall; Understanding/ Comprehension; Application	Understanding/ Comprehension; Application; Analysis; Synthesis; Evaluation
Pattern	Answer one randomly selected question from the problem sheet (Students can refer their class notes)	MCQ: 10 questions (0.5 marks) Short Answers: 5 questions (2 marks)	Answer all 5 full questions of 10 marks each. Each question may have 2 to 3 parts of 3/4/5/6/7 marks
Schedule	4, 7, 10, and 13 <sup>th</sup> week of academic calendar	Calendared activity	Calendared activity
Topics Covered	Quiz 1 (L 1-8 & T <sub>y1-y2</sub> ) (CO1,2,3)	Test 1 (L 1-14 & T <sub>b1-b2</sub> ) (CO1,2,4)	Comprehensive examination covering full syllabus. Students are expected to answer all questions (CO1-5)
	Quiz 2 (L 9-15 & T <sub>y3-y4</sub> ) (CO2,3,4)	Test 2 (L 15-30 & T <sub>b3-b4</sub> ) (CO2,3,5)	
	Quiz 3 (L 16-24 & T <sub>y5-y6</sub> ) (CO2,3)		
	Quiz 4 (L 25-32 & T <sub>y7-y8</sub> ) (CO1,3,4)		

### Lesson Plan


L. No./ T. No.	Topics	Course Outcome Addressed
L0	Introduction to the course	CO
L1	Introduction, Characteristics of the database approach, actors on the scene	CO1
L2	Advantages of using a DBMS.	CO1
L3	Relational Databases: Structure of Relational Database, Database schema, Keys	CO2
L4	Schema Diagrams	CO2
L5	Relational Query Languages, Relational Operations	CO2
L6	Introduction to SQL: Overview of the SQL Query Language, SQL data definition, Basic structure of SQL Queries	CO2
L7	Additional basic operations	CO2
L8	Set operations	CO2
L9	Null values, Aggregate functions	CO2
L10	Nested sub-queries	CO2
L11	Modification of the Database	CO2



### References:

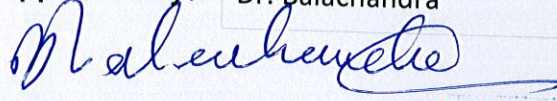
1. Abraham Silberschatz, Henry Korth F., Sudarshan S., Database system concepts (6e), McGraw-Hill, 2013
2. Elmasri, Ramez, Sham Navathe, Fundamentals of database systems (7e), Pearson, 2016
3. Molina, Hector, Jeffrey Ullman D., Jennifer Widom, Database systems, The Complete Book (2e), Pearson Prentice Hall, 2013
4. Chodorow Kristina, MongoDB: The definitive guide (2e), O'Reilly, 2013.
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Submitted by: Ms. Diana Olivia & Dr. Sumith N

  
(Signature of the faculty)

Date: 06-01-2020

Approved by: Dr. Balachandra

  
(Signature of HOD)

Date: 07-01-2020

Dr. Balachandra  
Professor & Head  
Dept. of Information &  
Communication Technology  
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### FACULTY MEMBERS TEACHING THE COURSE (IF MULTIPLE SECTIONS EXIST):

FACULTY	SECTION	FACULTY	SECTION
Ms. Diana Olivia	A		
Ms. Sumith N	B		



