

# GOVERNMENT POLYTECHNIC PANCHKULA

## LESSON PLAN

Name of Faculty: **AMITA**

Discipline: **COMPUTER ENGG.**

Semester: **3rd**

Subject: **DBMS**

Work Load (Lecture/Practical) per week(in hours):**Lectures-02,Practicals-04**

Week	Theory		Practical	
1 <sup>st</sup> Week	1 <sup>st</sup> Day	Unit:1 Introduction 1.1 Database Systems 1.1.1 Introduction to Database and its purpose 1.1.2 Introduction to Database system 1.1.3 Why Database 1.1.4 History of Database System 1.1.5 Characteristics of the database approach	4 hrs	Overview, Features and functionality in MS- Access.
	2 <sup>nd</sup> Day	1.1.6 Advantages and disadvantages of database systems		
		1.1.7 Introduction to Conventional File System 1.1.8 Concept of files, record, data, information retrieval.		
2 <sup>nd</sup> Week	3 <sup>rd</sup> Day	1.1.9 Comparison between Conventional System and DataBase System	4 hrs	Application development in MS- Access
	4 <sup>th</sup> Day	1.2.1 Actors on the scene		
		1.2.2 Database Administrators, Database Designers, End Users, System Analysts and Application Programmers		
3 <sup>rd</sup> Week	5 <sup>th</sup> Day	1.2.3 Workers behind the scene (DBMS system designers and implementers, tool developers, operator and maintenance personnel)	4 hrs	Practice on Application development in MS- Access
	6 <sup>th</sup> Day	1.2.4 History of data base System		
		Test		
4 <sup>th</sup> week	7 <sup>th</sup> Day	Unit2:Database System Concepts and Architecture 2.1Data models: (Physical Model, Object based Model)	4 hrs	Exercises on different forms of select statement in SQL.
	8 <sup>th</sup> Day	Record based Model Network Model, Hierarchical Model		

		Schemas, sub schemas instances, data base state.		
5 <sup>th</sup> Week	9 <sup>th</sup> Day	Case Study of models and schemas (examples student information System)	4 hrs	Practical Lab Test
	10 <sup>th</sup> Day	2.2 DBMS Architecture: Three Level of Architectures 2.2.1 The External level 2.2.2 The conceptual level 2.2.3 The internal level 2.2.4 Mapping		
		2.3 Data base Administrator and Administration, Database Management System – Advantage and Disadvantage		
6 <sup>th</sup> week	11 <sup>th</sup> Day	Classification of DBMS, DBMS Interfaces	4 hrs	Exercises on different forms of altering of tables in SQL.
	12 <sup>th</sup> Day	2.4 Concept of centralized and Client /Server Architecture for DBMS: Single Tier, Two Tier and Three Tier		
		2.5 Data Independence 2.5.1 Logical data Independence 2.5.2 Physical data Independence		
7 <sup>th</sup> week	13 <sup>th</sup> Day	2.6 Database Languages and Interfaces 2.6.1 DBMS Language 2.6.2 DBMS Interfaces	4 hrs	Exercises on dropping of tables in SQL.
		2.7 Classification of Database Management Systems: Centralized, Distributed Parallel and Object based Models		
	14 <sup>th</sup> Day	Test		
8 <sup>th</sup> week	15 <sup>th</sup> Day	Unit3: Data Modeling using E.R. Model (Entity Relationship Model) 3.1 Data Models Classification : File based Models	4 hrs	Exercises on creation of tables
	16 <sup>th</sup> Day	Primitive models 3.2 Entities and Attributes		
9 <sup>th</sup> week	17 <sup>th</sup> Day	3.3 Entity types and Entity sets	4 hrs	Practice in SQL
		3.4 Key attribute and domain of attributes		
	18 <sup>th</sup> Day	3.5 Relationship among entities		

10 <sup>th</sup> week	19 <sup>th</sup> Day	3.6 Database design with E/R model	4 hrs	Practical Lab Test
	20 <sup>th</sup> Day	3.7 ER Design Issues		
		3.8 Mapping Constraints		
11 <sup>th</sup> week	21 <sup>st</sup> Day	Test	4 hrs	Exercises on insertion of data into tables
	22 <sup>nd</sup> Day	Unit 4 : Relational Model: 4.1 Relational Model Concepts: Domain, Attributes, Tuples		
		4.1 Cardinality, Keys(Primary, Secondary Keys)		
12 <sup>th</sup> week	23 <sup>rd</sup> Day	4.1 Alternative Keys, Candidate Keys etc	4 hrs	Practice in SQL
		4.1 Relations in detail		
	24 <sup>th</sup> Day	Test		
13 <sup>th</sup> week	25 <sup>th</sup> Day	Unit 5 :Structured Query Language(Introduction) Data definition language : Create, Alter, Drop commands	4 hrs	Exercises on UPDATE statement
	27 <sup>th</sup> Day	5.1 Data Manipulation Language (DML)		
		5.2 Select command with where clause using conditional expressions.		
14 <sup>th</sup> week	28 <sup>th</sup> Day	Update Command, Alter Command	4 hrs	Practical in SQL
	29 <sup>th</sup> Day	Various Queries in SQL		
		Boolean operators, Group by clause		
15 <sup>th</sup> week	30 <sup>th</sup> Day	Like Operator	4 hrs	Practical Lab Test
		5.3 Insert, Update and Delete commands		
	31 <sup>st</sup> Day	Test		