**Govt. Polytechnic, Chhapar**

**Lesson Plan (DBMS)**

**Name of the Faculty: Pardeep Kumar**

**Discipline: Computer Engg.**

**Semester: 4th**

**Subject : DBMS**

**Work Load (Lecture/Practical) per week (In hour): Lecture-03, Practical-03**

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| **Week** | **Theory** | | **Practical** | | |
| **Lecture Day** | **Topic(including assignment/Test)** | **Practical Day** | | **Topic** |
| 1st | 1ST | Database system: Introduction to database and its purpose | 1st | | Exercise on creation and modification of structure of tables |
| 2nd | Charactersties of database, approach, advantage and disadvantage of database system | 2nd(G2) | | Exercise on creation and modification of structure of tables |
| 3rd | Classification of DBMS users: Actors on the scene- Database Administrators, Database designers, End users – System Analyst and Application Programmers |  | |  |
| 2nd | 4th | Workers behind the scene (DBMS system designers and implementers, tools developers, operator and maintenance personnel | 3rd (G1) | | Revision of Exercise on creation and modification of structure of tables |
| 5th | Data Models, Schemas, instances, Database state, DBMS Architecture: External level, Conceptual level, Internal level, Mappings | 4th (G2) | | Revision of Exercise on creation and modification of structure of tables |
| 6th | Data Independence: Logical data independence and physical data independence |  | |  |
| 3rd | 7th | Database Languages, DBMS interfaces, Classification of DBMS- Centralized, Distributed, Parallel and Object Based | 5th (G1) | | Exercise on inserting and deleting values from tables |
|  | 8th | Data modeling using E-R Model | 6th(G2) | | Exercise on inserting and deleting values from tables |
|  | 9th | Data Model Classification: File Based or primitive models, traditional data Models, Semantic Data Models |  | |  |
| 4th | 10th | Entities and Attributes, Entity Types and Entity Sets, Key Attribute and domain of attributes | 7th (G1) | | Revision of exercise on inserting and deleting values from tables |
| 11th | Relationship among entities , database design with ER model | 8th (G2) | | Revision of exercise on inserting and deleting values from tables |
| 12th | Revision of 1st , 2nd and 3rd unit |  | |  |
| 5th | 13th | Relational model Concepts: Domain, Tuple, Attribute, Cardinality, Relation | 9th (G1) | | Exercise on Querying the table using Select Command |
| 14th | Keys- Primary, Secondary, Foreign, Alternate. Relational Constraints and Relational Database schemes | 10th (G2) | | Exercise on Querying the table using Select Command |
| 15TH | Domain Constraints, key Constraints and Constraints on Null |  | |  |
| 6th | 16th | Relational Databases and Relational Database Schemes | 11th(G1) | | Revision of Exercise on Querying the table using Select Command |
| 17th | Entity Integrity, Referential Integrity and Foreign Key | 12th(G2) | | Revision of Exercise on Querying the table using Select Command |
| 18th | Comparison between ER Model and Relational Model |  | |  |
| 7th | 19th | Trivial and Non Trivial Dependencies | 13th(G1) | | Exercise on using various types of joins |
| 20th | Non Loss Decomposition and Functional Dependencies | 14th(G2) | Exercise on using various types of joins | |
| 21Th | First and 2nd normal forms |
| 8th | 22th | Third normal form, BCNF, Denormalization | 15th(G1) | Revision of Exercise on using various types of joins | |
|  | 23th | Revision of unit 4 | 16th(G2) | Revision of Exercise on using various types of joins | |
|  | 24TH | Revision of unit 5 |  |  | |
| 9th | 25th | Creating and using indexes, Creating and using views | 17th(G1) | Exercise on using functions provided by database package | |
|  | 26th | Database security, Process controls | 18th(G2) | Exercise on using functions provided by database package | |
|  | 27TH | Database protection, grant and Revoke |  |  | |
| 10th | 28th | DDL: Creating tables, Creating a table with data from another table | 19th(G1) | Revision of Exercise on using functions provided by database package | |
|  | 29th | Inserting values into a table, Updating columns of a table | 20th(G2) | Revision of Exercise on using functions provided by database package | |
|  | 30TH | Deleting Rows, Dropping a table |  |  | |
| 11th | 31st | DML, Database Security and privileges, Grant and Revoke command | 21st(G1) | Exercise on Grant, Revoke, Commit and Rollback | |
|  | 32th | Maintaining Database objects, commit and Rollback | 22nd(G2) | Exercise on Grant, Revoke, Commit and Rollback | |
|  | 33RD | Various types of select commands |  |  | |
| 12th | 34th | Various types of joins, subquery | 23rd(G1) | Revision of Exercise on Grant, Revoke, Commit and Rollback | |
|  | 35th | Aggregate functions , Challenges of My Sql | 24th(G2) | Revision of Exercise on Grant, Revoke, Commit and Rollback | |
|  | 36th | Introduction to Big Data |  |  | |
| 13th | 37th | Understanding Big data with samples | 25th(G1) | Design of Database for any application | |
|  | 38th | Revision of Unit 1 | 26th(G2) | Design of Database for any application | |
|  | 39TH | Revision of Unit 2 |  |  | |
| 14th | 40th | Revision of Unit 3 | 27th(G1) | Viva of practical no. 1 to 3 | |
|  | 41th | Revision of Unit 4 | 28th( G2) | Viva of practical no. 1 to 3 | |
|  | 42nd | Revision of Unit 5 |  |  | |
| 15th | 43rd | Revision of Unit 6 | 29th(G1) | Viva of practical no. 4 to 7 | |
|  | 44th | Revision of Unit 7 | 30th( G2) | Viva of practical no. 4 to 7 | |
|  | 45th | Pre Exam Conduct |  |  | |
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