

GOVERNMENT POLYTECHNIC COLLEGE, KOTA (RAJ.)

SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT CODE : **CS207**

SUBJECT NAME : **DATA BASE MANAGEMENT SYSTEM**

FACULTY NAME : **TULSI RAM MEGHWAL**

DESIGNATION : **HEAD OF DEPARTMENT**

TOPIC	LECTURE / PRACTICAL CLASSES REQUIRED TO COVER TOPIC	MONTHS IN WHICH THE TOPIC WILL BE COVERED	ACTUAL DATE OF COVERING OF THE TOPIC	REASON FOR NOT COVERING THE TOPIC IN DUE TIME	E-CONTENTS PROVIDED TO STUDENTS RELATED TO TOPIC
UNIT 1 : An overview of database management system, Need for DBMS	1				
Components of DBMS Applications of DBMS	1				
Advantage of DBMS Database system versus file system, Disadvantages of DBMS	1				
Database System Concepts and Architecture	1				
Application Architecture of DBMS: Two - Tier Architecture Three - Tier Architecture	1				
Database Models : Hierarchical Database Model Network Database Model	1				
Relational Database Model Object-Oriented Database Model	1				
Schema and Instances Data Independence: Physical Data Independence	1				
Database Language and Interface Overall Database Structure	1				
UNIT 2 : Data Modeling Using the E-R Model : R Model concepts Notations of E-R Diagram	2				
Mapping Constraints One-to-one, One-to-Many Many-to-One, Many-to-many	1				
Keys : Super key, Candidate Key Primary key	1				
Composite key, Foreign key Alternate key, Secondary key Examples of E-R Diagrams	2				
UNIT 3 : Relational Data Model and Language : Introduction Properties of Relational Tables	1				
Differences between DBMS and RDBMS Codd's Rules of RDBMS	2				
Integrity Constraints : Entity Integrity Constraints, Referential Integrity Constraints, Domain Integrity Constraints	2				

Query Language: Relational Algebra Relational Calculus	3				
UNIT 4: Normalization : Normalization Concepts Functional Dependencies Lossless/Lossy Join Decomposition	2				
Normal Forms : First Normal Form (1NF) Second Normal Form (2NF) ,Third Normal Form (3NF), Boyce-Codd Normal Form (BCNF)	3				
Multi-valued Dependency & Fourth normal Form, Join Dependency and Fifth Normal Form.	2				
UNIT 5: Transaction Processing Concepts : Transaction System Properties of Transaction : Atomicity, Consistency, Isolation	1				
Transaction States Transaction Processing System	1				
Recovery from Transaction Failures: Cascading Rollback, Recoverable Schedule, Log Based Recovery	3				
Check Points Backup Mechanism Shadow Paging	2				
Distributed Database : Homogeneous Distributed Database, Heterogeneous Distributed Database,The major Advantages of Distributed DBMS (DDBMS)	1				
UNIT 6: Deadlock Handling : Introduction	1				
Deadlock Detection	3				
Recovery from Deadlock	2				
UNIT 7 : Concurrency Control Techniques : Concurrency Control, Locking Techniques for Concurrency Control	1				
Mode of Locking Shared Lock Exclusive Lock	1				
The Two-phase Locking Protocol : Static (or Conservative) Two-phase Locking	2				
Dynamic Two-phase Locking Strict Two-phase Locking	1				
Time Stamping Protocol for Concurrency Control	1				
Revision, doubt removal and class test	10				
TOTAL	60				

GOVERNMENT POLYTECHNIC COLLEGE, KOTA (RAJ.)

SYLLABUS BREAK-UP (SESSION 2015-16)

SUBJECT CODE : **CS308**

SUBJECT NAME : **INTRODUCTION TO NETWORK SECURITY AND CRYPTOGRAPHY**

FACULTY NAME : **TULSI RAM MEGHWAL**

DESIGNATION : **HEAD OF DEPARTMENT**

TOPIC	LECTURE / PRACTICAL CLASSES REQUIRED TO COVER TOPIC	MONTHS IN WHICH THE TOPIC WILL BE COVERED	ACTUAL DATE OF COVERING OF THE TOPIC	REASON FOR NOT COVERING THE TOPIC IN DUE TIME	E-CONTENTS PROVIDED TO STUDENTS RELATED TO TOPIC
UNIT – 1 - Computer Security Introduction, Need of Security	1				
Security Approaches	2				
Principle of Security	2				
UNIT – 2 - Attacks on Computer Attacks: A General and Technical View	1				
Active and Passive attacks	1				
Program That attacks: Virus,Worm, Trojan Horse,	2				
Applets, Active X controls,Cookies, Scripts	2				
Preventing Virus	1				
Specific Attacks: Sniffing and Spoofing, Phishing, Pharming or DNS Spoofing	2				
UNIT – 3 - Cryptography: Concepts and Techniques Plain and Cipher Text	1				
Substitution Techniques: Caesar Cipher Mono – alphabetic Cipher,	1				
Polyalphabetic Substitution Cipher, Playfair Cipher	2				
Transposition Techniques: Rail Fence Simple Columnar Transposition , Vernam Cipher (One Time Pad)	2				
Encrytion and Decryption	2				
UNIT – 4 - Symmetric and Asymmetric Key Cryptography Block and Stream Cipher	1				
Overview of : Symmetric Key , Asymmetric Key Cryptography	2				
Digital Signature, Concept of message digests	3				
UNIT – 5 - Internet Security Protocols Basic Concepts	1				
Introduction of TCP/IP	1				

Brief Overview of: Secure Socket Layer (SSL)	2				
Secure Hyper Text Transfer Protocol (SHTTP)	1				
Time Stamping Protocol (TSP), Secure Electronic Transaction (SET)	2				
UNIT – 6 - E - mail Security Introduction , SMTP	2				
Brief Overview of : Privacy Enhanced Mail (PEM)	2				
Pretty Good Privacy (PGP)	2				
Secure Multipurpose Internet Mail Extensions (SMIME)	1				
UNIT – 7 - Firewall Introduction, Types of firewall	2				
Packet Filter Application gateways	2				
Concepts of DMZ, Limitation of Firewall	1				
Virtual Private Network (VPN) ,	1				
Intrusion	2				
Revision, doubt removal and class test	10				
TOTAL	60				

