**Velammal College of Engineering and Technology, Madurai – 625 009**

**Department of Information Technology**

|  |  |
| --- | --- |
| **Course Code-Title** | IT6701 /INFORMATION MANAGEMENT |
| **Course Component** | Professional Core |
| **Contact Hours** | Lecture  | Tutorial | Practical | Total Hours | Credit |
| 3 | 0 | 0 | 45 | 3 |
| **Course Assessment methods**  | **Continuous** | **Semester-end assessment** |
| **Cycle Tests****Model Exam****Assignment** | **Student Course exit survey** |
| **Prerequisite Courses:** |  **Knowledge in** * Basic knowledge in Mathematics to implement and understand the concepts of algorithms.
* Students should have some basic ideas in Machine Learning
 |
| **Course Objective**  | **The student should be made to:**  To expose students with the basics of managing the information To explore the various aspects of database design and modeling, To examine the basic issues in information governance and information integration.To understand the overview of information architecture.  |
| **Course Outcomes** | **CO1.** Explain database modeling and management with recent trends in Big Data Systems like Hadoop, NoSQL, MapReduce and Hive.**CO2.** Explain the various aspects of Data Security and privacy**CO3.** Identify the need for Master Data Management (MDM) and data governance**CO4.** Explain the overview of information architecture**CO5.** Explain the way of handling sensitive confidential in formations using Hadoop and the challenges with data administrations. |
| **TOPICS TO BE COVERED** |
| **UNIT I      DATABASE MODELLING, MANAGEMENT AND DEVELOPMENT      (9)**Database design and modelling – Business Rules and Relationship; Java database Connectivity (JDBC), Database connection Manager, Stored Procedures. Trends in Big Data systems including NoSQL – Hadoop HDFS, MapReduce, Hive, and enhancements.**UNIT II     DATA SECURITY AND PRIVACY                                                       (9)** Program Security, Malicious code and controls against threats; OS level protection; Security – Firewalls, Network Security Intrusion detection systems. Data Privacy principles. Data Privacy Laws and compliance.**UNIT III    INFORMATION GOVERNANCE                                                         (9)** Master Data Management (MDM) – Overview, Need for MDM, Privacy, regulatory requirements and compliance. Data Governance – Synchronization and data quality management.**UNIT IV     INFORMATION ARCHITECTURE                                             (9)** Principles of Information architecture and framework, Organizing information, Navigation systems and Labelling systems, Conceptual design, Granularity of Content.**UNIT V       INFORMATION LIFECYCLE MANAGEMENT                               (9)**Data retention policies; Confidential and Sensitive data handling, lifecycle management costs. Archive data using Hadoop; Testing and delivering big data applications for performance and functionality; Challenges with data administration**TOTAL:45 PERIODS** |
| **TEXT BOOK(S):**T1. Alex Berson, Larry Dubov MASTER DATA MANAGEMENT AND DATA GOVERNANCE, 2/E, Tata McGraw Hill, 2011T2. Security in Computing, 4/E, Charles P. Pfleeger, Shari Lawrence Pfleeger, Prentice Hall; 2006T3. Information Architecture for the World Wide Web; Peter Morville, Louis Rosenfeld ; O’Reilly Media; 1998 |
| **REFERENCES:**R1. Jeffrey A. Hoffer, Heikki Topi, V Ramesh – MODERN DATABASE MANAGEMENT, 10 Edition, PEARSON, 2012R2. http://nosql-database.org/ Next Gen databases that are distributed, open source and scalable.R3. http://ibm.com/big-data – Four dimensions of big data and other ebooks on Big Data AnalyticsR4. Inside Cyber Warfare: Mapping the Cyber Underworld- Jeffrey Carr, O’Reilly Media; Second Edition 2011 |
| **WEB MATERIALS:**1. <http://www.academia.edu/27621804/Information_Management_unit_1_notes>
2. <http://databaser.net/moniwiki/pds/DataQuality/MDM_and_Data_Governance.pdf>
3. <https://courses.cs.washington.edu/courses/cse544/11wi/lectures/lec4.html>
4. <https://www.slideshare.net/Info-Tech/implement-information-lifecycle-management>
5. [https://www.slideshare.net/bupbechanh/ilm-library-information-lifecycle-management-best-practices-guide- sg247251?next\_slideshow=1](https://www.slideshare.net/bupbechanh/ilm-library-information-lifecycle-management-best-practices-guide-%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20%20sg247251?next_slideshow=1)
6. <http://www.humber.nhs.uk/data-protection.htm>
 |

|  |  |  |
| --- | --- | --- |
| **Staff In charge****Ms.S.Nirmala** | **Module Coordinator****Mr. S.Kamalesh** | **HOD/IT****Dr. R. Perumalraja** |