**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, 2011  T2. Security in Computing, 4/E, Charles P. Pfleeger, Shari Lawrence Pfleeger, Prentice Hall; 2006  T3. 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, 2012  R2. 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 Analytics  R4. 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** |