Syllabus for Internal Assessment 1 (IA-1) for EVEN Semester of AY 2025-26

Date: 13 March to 20 March 2026,

Time : 12:30 p.m. to 1.30 p.m.   Maximum Marks: 20   Duration : 1 Hr.

BE – SEM VIII

Course Code	Course Name	Faculty Incharge	Syllabus
ECC801	Optical Communication and Networks	Prof. Poonam Chakraborty	**Module 1. Optical Fiber Communication Technology** 1.1] Block diagram, advantages, loss and bandwidth window, ray theory transmission, total internal reflection, acceptance angle, numerical aperture, and skew rays 1.2]EM waves, modes in planer guide, phase and group velocities, types of fibers according to refractive index profile and mode transmission. 1.3]Fiber material, fiber cables and fiber fabrication, fiber joints, fiber connectors, splices. **Module 2: Transmission Characteristic of Optical Fiber** 2.1]Attenuation, absorption, linear and nonlinear scattering losses, bending losses, modal dispersion, waveguide dispersion, dispersion and pulse broadening, dispersion shifted and dispersion flattened fibers, and non linear effects
ECCDLO 8013	Wireless Networks	Dr. Aparna Telgote	**Module 1 Overview of Wireless Networks** 1.1 Wireless Networks Architecture, classifications, switching technology, communication problems, reference models, networking issues, and networking standards 1.2 Wireless Body Area Networks Properties, network architecture, network components, and applications **Module 2 Wireless Personal Area Networks (WPAN)** 2.1 Bluetooth (IEEE 802.15.1) Radio specifications, protocol stack, link types, security mechanisms, network topologies, and applications 2.2 ZigBee (IEEE 802.15.4) Radio specifications, components, network topologies, protocol stack, and applications in low-power and low-data-rate networks 2.3 RFID (Radio Frequency Identification) Radio specifications, system architecture, types of RFID (active, passive, semi-passive), and applications 2.4 NFC and UWB (IEEE 802.15.3a) Introduction, principles of operation, and working mechanisms 2.5 6LoWPAN Features, architecture, protocol stack, and applications in IoT-based low-power wireless networks
ECCDLO 8023	Network Management in Telecommunication	Prof. Poonam Chakraborty	**Module 1 :Overview of Network Management** 1.1 Case histories on network, system and service management, challenges of IT managers 1.2 Network Management: Goals, organization and functions 1.3 Network management architecture and organization network management perspectives **Module 2 : OSI Network Management** 2.1 Network management standards 2.2 Network management models 2.3 Organization model 2.4 Information model 2.5 Communication model and functional model 2.6 Abstract syntax notation – encoding structure, macros functional model CMIP/CMISE **Module 3: Internet Management (SNMP)** 3.1 SNMP-organizational model-V1, V2 & V3

ILO 8011	Project Management	Prof. Pavan Kulkarni	**Module1 Project Management Foundation:** Definition of a project, Project Vs Operations, Necessity of project management, Triple constraints, Project life cycles (typical & atypical) Project phases and stage gate process. Role of project manager. Negotiations and resolving conflicts. Project management in various organization structures. PM knowledge areas as per Project Management Institute (PMI). **Module 2 Initiating Projects:** How to get a project started, Selecting project strategically, Project selection models (Numeric /Scoring Models and Non-Mnumeric models), Project portfolio process, Project sponsor and creating charter; Project proposal. Effective project team, Stages of team development & growth (forming, storming, norming & performing), team dynamics. **Module 3 Project Planning and Scheduling:** Work Breakdown structure (WBS) and linear responsibility chart, Interface Co-ordination and concurrent engineering, Project cost estimation and budgeting, Top down and bottoms up budgeting, Networking and Scheduling techniques. PERT, CPM, GANTT chart. Introduction to Project Management Information System (PMIS).
ILO 8012	Finance Management	Prof. Prasad Padalkar	**Module 1 Overview of Indian Financial System:** Characteristics, Components and Functions of Financial System. Financial Instruments: Meaning, Characteristics and Classification of Basic Financial Instruments — Equity Shares, Preference Shares, Bonds-Debentures, Certificates of Deposit, and Treasury Bills. Financial Markets: Meaning, Characteristics and Classification of Financial Markets — Capital Market, Money Market and Foreign Currency Market Financial Institutions: Meaning, Characteristics and Classification of Financial Institutions — Commercial Banks, Investment-Merchant Banks and Stock Exchanges **Module 2 Concepts of Returns and Risks:** Measurement of Historical Returns and Expected Returns of a Single Security and a Two-security Portfolio; Measurement of Historical Risk and Expected Risk of a Single Security and a Two-security Portfolio. Time Value of Money: Future Value of a Lump Sum, Ordinary Annuity, and Annuity Due; Present Value of a Lump Sum, Ordinary Annuity, and Annuity Due; Continuous Compounding and Continuous Discounting. **Module 3 Overview of Corporate Finance:** Objectives of Corporate Finance; Functions of Corporate Finance—Investment Decision, Financing Decision, and Dividend Decision.
ILO 8019	Environmental Management	Dr. Vinod Gokarna	**Module 1:** Introduction and Definition of Environment: Significance of Environment Management for contemporary managers, Career opportunities, Environmental issues relevant to India, Sustainable Development, the Energy scenario. **Module 2:** Global Environmental concerns : Global Warming, Acid Rain, Ozone Depletion, Hazardous Wastes, Endangered life-species, Loss of Biodiversity, Industrial/Manmade disasters, Atomic/Biomedical hazards, etc.
HCSC801	H&M: Application Security	Prof. Aruna Khubalkar	**Module 1 : Introduction to Application Security,** Threats, and Attacks, Introduction to Web Application Reconnaissance, Finding Subdomains, API Analysis, Identifying Weak Points in Application Architecture Offense: Cross-Site Scripting (XSS), Cross-Site Request Forgery (CSRF), XML External Entity (XXE) Injection, Injection Attacks, Denial of Service (DoS), Cross-Origin Resource Sharing Vulnerabilities. **Module 2: Defence and tools** Securing Modern Web Applications, Secure Application Architecture, Reviewing Code for Security, Vulnerability Discovery, Defending Against XSS Attacks, Defending Against CSRF Attacks, Defending Against XXE, Defending Against Injection attacks, Defending Against DoS, Defending against CORS based attacks.

HAIMLC801 AI & ML	H&M: AI&ML: Text, Web and Social Media Analytics	Prof. Uday Nayak	1.1 Introduction to Text Mining: Introduction, Algorithms for Text Mining, Future Directions 1.2 Information Extraction from Text: Named Entity Recognition, Relation Extraction, Unsupervised Information Extraction 1.3 Text Representation: tokenization, stemming, stop words, NER, N-gram modelling 2.1 Text Clustering: Feature Selection and Transformation Methods, distance based Clustering Algorithms, Word and Phrase based Clustering, Probabilistic document Clustering 2.2 Text Classification: Feature Selection, Decision tree Classifiers, Rule-based Classifiers, Probabilistic based Classifiers, Proximity based Classifiers. 2.3 Text Modelling: Bayesian Networks, Hidden Markovian Models, Markov random Fields, Conditional Random Fields
HDSC801 Data Science	H&M: Data Science: Text, Web and Social Media Analytics	Ms. Hiteshree Shirtavde	I1.1 Introduction to Text Mining: Introduction, Algorithms for Text Mining, Future Directions 1.2 Information Extraction from Text: Named Entity Recognition, Relation Extraction, Unsupervised Information Extraction 1.3 Text Representation: tokenization, stemming, stop words, NER, N-gram modelling. 2.1 Text Clustering: Feature Selection and Transformation Methods, distance based Clustering Algorithms, Word and Phrase based Clustering, Probabilistic document Clustering 2.2 Text Classification: Feature Selection, Decision tree Classifiers, Rule-based Classifiers, Probabilistic based Classifiers, Proximity based Classifiers. 2.3 Text Modelling: Bayesian Networks, Hidden Markovian Models, Markov random Fields, Conditional Random Fields. 3.1 Introduction to Web-Mining: Inverted indices and Compression, Latent Semantic Indexing, Web Search, 3.2 Meta Search: Using Similarity Scores, Rank Positons 3.3 Web Spamming: Content Spamming, Link Spamming, hiding Techniques, and Combating Spam

Dr. Madhavi S. Pednekar
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