Savitribai Phule Pune University
Third Year of Computer Engineering (2015 Course)
310244: Information Systems and Engineering Economics

Teaching Scheme:	Credit	Examination Scheme:
TH: 03 Hours/Week	03	In-Sem (Paper): 30 Marks End-Sem (Paper): 70 Marks

Course Objectives:

- To prepare the students to various forms of the Information Systems and its application in organizations.
- To expose the students to the managerial issues relating to information systems and help them identify and evaluate various options in Information Systems.
- To Prepare engineering students to analyze cost / revenue data and should able to do economic analyses in the decision making process to justify or reject alternatives / projects on an economic basis for an organization.

Course Outcomes:

On completion of the course, student will be able to–

- Understand the need, usage and importance of an Information System to an organization.
- Understand the activities that are undertaken while managing, designing, planning, implementation, and deployment of computerized information system in an organization.
- Further the student would be aware of various Information System solutions like ERP, CRM, Data warehouses and the issues in successful implementation of these technology solutions in any organizations
- Outline the past history, present position and expected performance of a company engaged in engineering practice or in the computer industry.
- Perform and evaluate present worth, future worth and annual worth analyses on one of more economic alternatives.
- Be able to carry out and evaluate benefit/cost, life cycle and breakeven analyses on one or more economic alternatives.

Course Contents

Unit I	Basic of Management Theory & Practices	07 Hours

Role of Information Systems in Organizations, The Information System Manager and his challenges, Concepts of Information Systems, Information Systems and Management Strategy
Case Studies - Information Systems in the Indian Railways, Information Systems in an e-Commerce Organization.

Unit II	Management Information System (MIS)	08 Hours

Managing Information Systems, Ethical and Social Issues, Information Technology Infrastructure and Choices, Information Systems Security and Control,
Case Studies -Information Technology Infrastructure in a Bank, Information Technology Infrastructure in a manufacturing / process industry.

Unit III	Leveraging Information Systems	07 Hours
Information Systems Development and Project Management, Managing Data Resources, Business Process Integration and Enterprise Systems, ICT for Development and E-Governance, Case Studies - in-house or cloud based ERP implementation, UIDAI Unique Identification Authority of India.		
Unit IV	**Money and Economic Value**	**08 Hours**
Engineering Economic Decisions, Time Value of Money, Understanding Money Management, Case Studies- Economic decisions done in Multi-national companies.		
Unit V	**Economics and Management**	**07 Hours**
Equivalence Calculations under Inflation, Present-Worth Analysis, Annual-Equivalence Analysis. Case Studies -comparative analysis of software enterprises from similar domains.		
Unit VI	**Understanding Cash Flow and Taxes**	**08 Hours**
Accounting for Depreciation and Income Taxes, Project Cash-Flow Analysis, Understanding Financial Statements, Case Studies - cash flow analysis done in start-up companies.		

Books:

Text:

1. Rahul De, ―MIS: Management Information Systems in Business, Government and Society", Wiley India, ISBN: 13: 978-81-265-2019-0.
2. Chan S. Park , "Fundamentals of Engineering Economics", 3rd Edition, Pearson Education, ISBN 13: 978-02-737-7291-0

References:

1. Turban and Wali, ―Information Technology on Management", Willey India, ISBN:9788126558711
2. William G. Sullivan, Elin M. Wicks, C. Patrick Koelling, Engineering Economy, Pearson Education, ISBN13: 978-01-334-3927-4