GUJARAT TECHNOLOGICAL UNIVERSITY, AHMEDABAD, GUJARAT

COURSE CURRICULUM
COURSE TITLE: MANAGEMENT INFORMATION SYSTEM
(COURSE CODE: 3351604)

Diploma Program in which this course is offered	Semester in which offered
Information Technology	5th Semester

1. RATIONALE

The objective of Management Information System (MIS) is to make students aware about how information systems work in different functional areas and provide information according to the needs of different management levels. This course covers basic concepts and its understanding would help students to lean most recent variants of the information systems. After going through this course, student will be able to differentiate between MIS requirement based on functional area and fundamentals of its designing. They will learn about security issues and ethics related to the information systems. They will also learn about designing MIS and use of IT Infrastructure for establishing designed system.

2. LIST OF COMPETENCIES

The course content should be taught and implemented with the aim to develop different types of skills so that students are able to acquire following competencies:

- **Design Management Information System based on given requirement and suggest IT infrastructure to establish the same.**

3. COURSE OUTCOMES:

The theory should be taught and practical should be carried out in such a manner that students are able to acquire different learning out comes in cognitive, psychomotor and affective domain to demonstrate following course outcomes.

i. Explain need and importance of Management Information System.
ii. Describe the role of MIS in various functional areas of management.
iii. Explain the determination of requirement and analysis it to design information system necessary.
iv. Elaborate the supporting role of MIS in decision-making.
v. Describe importance of integration of information with MIS
vi. Explain need for security in MIS

4. TEACHING AND EXAMINATION SCHEME

Teaching Scheme (In Hours)			Total Credits (L+T+P)	Examination Scheme				
				Theory Marks		Practical Marks		Total Marks
L	T	P	C	ESE	PA	ESE	PA	200
3	0	4	7	70	30	40	60	

Legends: L - Lecture; **T** - Tutorial/Teacher Guided Student Activity; **P** - Practical; **C** - Credit; **ESE** - End Semester Examination; **PA** - Progressive Assessment

5. COURSE CONTENT DETAILS

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
Unit – I **Introduction to MIS**	1a. Explain Information System and its roles 1b. Classify Information 1c. Elaborate Management Information System 1d. Describe Benefits and Limitations of MIS	1.1 Introduction to Information System 1.2 Why information system? 1.3 Classification of Information 1.4 Key aspects of Management 1.5 What is MIS? Definitions, roles and features 1.6 Structure of Management Information System 1.7 Benefits of Management Information System 1.8 Limitations of Management Information System
Unit – II **MIS Development**	2a. Describe the roles of systems analysts 2b. State the Tools used by system analyst in designing Information system	2.1 Overview of design of an information system 2.2 The role and tasks of systems analysts, 2.3 Tools used by system analyst in designing Information system
	2c. Describe MIS Development Life Cycle 2d. State the features of MIS Development Models 2e. Elaborate MIS Design & Development Phase	2.4 MIS Requirement Analysis 2.5 MIS Requirement Specification 2.6 Feasibility Analysis & Report 2.7 MIS Development Models 2.8 MIS Design & Development Phase
Unit – III **Decision Support System in MIS**	3a. Define Decision Support System 3b. Describe Characteristics and Components of DSS 3c. Elaborate Decision Support Models 3d. Explain Risks of DSS	3.1 Types of Decisions 3.2 What is DSS ? 3.3 Characteristics of DSS 3.4 Components of DSS 3.5 Role of Decision Support System in MIS 3.6 Decision Support Models 3.7 Risks of DSS in MIS
Unit – IV **Integration of Information**	4a. State the areas of MIS Integration with various business function area 4b. Elaborate following terms - ERP , EMS, CRM, BPO , E-Commerce , E-Commerce, 4c. Explain Data Warehouse and Data Mining.	Areas of MIS Integration with various business function 4.1 Enterprise Resource Planning (ERP) & MIS 4.2 Enterprise Management System (EMS) & MIS 4.3 Customer Relationship Management (CRM) 4.4 Business Process Outsourcing (BPO) -BPO, 4.5 Electronic Commerce Systems (E-Commerce) 4.6 Data Warehouse and Data

Unit	Major Learning Outcomes (in cognitive domain)	Topics and Sub-topics
		Mining
Unit - V **MIS Security**	5a. Define MIS Security 5b. Elaborate Threats & Vulnerability, Assessing Risks in MIS Security 5c. Describe in brief the importance of common MIS controls (physical, electronic, software, management controls) 5d. Predict the damage by MIS Threats (natural disasters, employee errors, computer crime, fraud, abuse, program bugs) 5e. Elaborate control, audit and security of MIS 5f. Describe the Access controls, QA and QC in context of Information Security and control	5.1 MIS Security Risks, Threats & Vulnerability, Assessing Risks. 5.2 Common MIS Controls (Physical, Electronic, Software, Management Controls) 5.3 MIS Threats (Natural Disasters, Employee Errors, Computer Crime, Fraud, Abuse, Program Bugs) 5.4 Information Security and control concepts-Access controls, QA and QC concepts with respect to the processes of various functional areas of management, social and security issues related to MIS 5.5 Control, Audit and Security of MIS

6. SUGGESTED SPECIFICATION TABLE WITH HOURS & MARKS (THEORY)

Unit No.	Unit Title	Teaching Hours	Distribution of Theory Marks			
			R Level	U Level	A Level	Total Marks
I	Introduction to MIS	06	4	4	2	10
II	MIS Development	12	4	10	6	20
III	Decision Support System in MIS	10	4	6	6	16
IV	Integration of Information	07	4	5	3	12
V	MIS Security	07	2	4	6	12
	Total	**42**	**18**	**29**	**23**	**70**

Legends: R = Remember; U = Understand; A = Apply and above levels (Bloom's Revised Taxonomy)

Note: This specification table shall be treated as a general guideline for students and teachers. The actual distribution of marks in the question paper may vary slightly from above table.

7. SUGGESTED LIST OF EXERCISES/PRACTICAL

The practical/exercises should be properly designed and implemented with an attempt to develop different types of skills **(outcomes in psychomotor and affective domain)** so that students are able to acquire the competencies/programme outcomes. Following is the list of practical exercises for guidance.

Note*: Here only outcomes in psychomotor domain are listed as practical/exercises. However, if these practical/exercises are completed appropriately, they would also lead to development of certain outcomes in affective domain which would in turn lead to development of* ***Course Outcomes*** *related to affective domain. Thus over all development of* ***Programme Outcomes***

(as given in a common list at the beginning of curriculum document for this programme) would be assured.
Faculty should refer to that common list and should ensure that students also acquire outcomes in affective domain which are required for overall achievement of Programme Outcomes/Course Outcomes.

Sr. No.	Unit no.	Practical Exercises (outcomes in psychomotor domain)	Approx Hours. Required
1	I	Prepare survey chart for need of MIS in various department of an organization.	6
2	III	Prepare comparison chart for tools used in Decision Support System based on various characteristics of DSS.	4
3	II	Prepare schedule and scheduling charts for MIS project using Microsoft Project 2010, Project Management Software (Design Projects for topics like developing a software for academic institute, or transport system or railway reservation system etc.)	6
4	II	Import & Export the data from one file to other file or from file to DBMS or vice versa	2
5	All	Create Pivot Table in Excel Sheet for students result and work with it.	4
6	All	Work on a sheet in a group (Google Spreadsheets) – Workgroup Collaboration.	4
7	All	Write Macro / Script for performing some predefined work or automating certain steps of process.	4
8	All	Install Open Source MIS for college / institute / school and add data of your institute in it.	4
9	All	Identify different tools used in various phases of life cycle development of a given MIS project with their features.	5
10	All	Analyse MIS development models in a information system (of your choice)	5
11	All	Check the security issues of organization while using MIS software being used.	5
12	All	Identify the different criteria which can be used for decision making in a given situation	2
13	All	Take up a project in a known organization and identify the information in following classes: ● Organizational, ● Strategic, ● Knowledge, ● Planning, ● Control.	5
Total Hours			**56**

8. SUGGESTED LIST OF STUDENT ACTIVITIES

Following is the list of proposed student activities such as:

i. Design sample MIS for different requirements and give seminar presentation in groups.

ii. Presentation of findings of practical exercise sr. no. 1 and 2 as done in *Example practical above.*

9. SPECIAL INSTRUCTIONAL STRATEGIES (if any)

i. Faculty should demonstrate an Open source MIS of their choice, can select from the below learning resources and demonstrate the usage and importance of MIS as a special class.

10. SUGGESTED LEARNING RESOURCES

A) List of Books

Sr. No.	Title of Book	Author	Publication
1	Management Information Systems	Davis	Tata McGraw-Hill
2	Designing Management Information Systems	Hans van der Heijden, Johannes Govardus Maria van der Heijden	Oxford University Press
3	Management Information Systems: An Insight	Hitesh Gupta	International Book House

Suggested Readings

i. Management Information Systems S. Sadagopan, PHI learning PVT Ltd.,
ii. Management of Information Systems By Waman S. Jawadekar Tata McgrawHill.
iii. Management Information System – The Managers view Indian Edition By ROBERT Schultheis and Mary Summer Tata Mcgraw Hill.
iv. Principles of Information Systems By RALPH Stair and George Reynolds, Cengage Learning.

B) List of Major Equipment/ Instrument with Broad Specifications

i. Computer System
ii. Internet
iii. Open Source Software
iv. e-Library

C) Additional Resources of MIS that can be used for conducting Practical as well as case studies

i. http://www.tutorialspoint.com/management_information_system/
ii. http://www.tutorialspoint.com/management_information_system/mis_tutorial.pdf
iii. http://www.mu.ac.in/mis.pdf
iv. http://people.du.ac.in/~ssirpal/presentations/MIS%20Concepts%20&%20Design.pdf

11. COURSE CURRICULUM DEVELOPMENT COMMITTEE

Faculty Members from Polytechnics

- **Prof. Parvez Faruki** , In charge Head (IT), B P T I Bhavnagar
- **Prof. Hardik Patel,** Lecturer (IT), B P T I Bhavnagar
- **Prof. Bharskar N Patel** , Lecturer and I/C Head, IT, B S Patel Polytechnic, Kherva

Coordinator and Faculty Members from NITTTR Bhopal

- **Prof. Sanjay Agrawal,** Professor, Department of Computer Engineering and Applications,
- **Prof. R. K. Kapoor,** Associate Professor, Department of Computer Engineering and Applications,