

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
DEPARTMENT OF CIVIL ENGINEERING**

**Open Elective-III (to other Branches)
DISASTER MANAGEMENT
SYLLABUS FOR B.E. IV-SEMESTER**

Instruction	:	2 period per Week	Semester End Exam	:	60	Subject Reference Code	:	OE420CE
Credits	:	2	Sessional Marks	:	40	Duration of Sem. End Exam	:	3 Hrs

COURSE OBJECTIVES	COURSE OUTCOMES
<i>Objectives of this course are to:</i>	<i>Upon the completion of this course the students will be expected to:</i>
<ol style="list-style-type: none"> 1. Know about the state of art of disaster management in world and explore the history of the disasters and comprehend how past events have helped shape the future. 2. Study the various natural and manmade disasters and apply the mitigation measures 3. Expose students to various technologies used for disaster mitigation and management. 	<ol style="list-style-type: none"> 1. Attain knowledge on various types, stages, phases in disaster with international & national policies and programmes with reference to the disaster reduction. 2. Understand various types of natural disaster, their occurrence, Effects, Mitigation and Management Systems in India 3. Understand different types of manmade disasters, their occurrence, Effects, Mitigation and Management Systems in India. 4. Explain the utility of geography information systems (GIS), Remote sensing technology in all phases of disaster mitigation and management.

UNIT-I

Introduction – Hazard, vulnerability and risk, Types of disasters , Disaster management cycle, Progress of disaster management in world, vulnerability profile of India, Disaster management act, Disaster management in India

UNIT-II

Natural Disasters – Hydro- meteorological based disasters – Tropical cyclones, floods, drought and desertification zones, Geographical based disasters – Earthquake, Tsunamis, Landslides and avalanches – Causes, Types, effects and Mitigation measures.

UNIT-III

Human induced hazards – chemical industrial hazards, major power breakdowns, traffic accidents, etc.

UNIT-IV

Role of Remote Sensing and Geographical Information Systems (GIS) in Disaster Management:
Introduction to remote sensing and GIS, its applications in disaster management.

Suggested Books:

1. Rajib, S and Krishna Murthy, R.R.(2012) "Disaster Management Global Challenges and Local Solutions", Universities Press, Hyderabad, 2012.
2. Navele, P & Raja, C.K. (2009), Earth and Atmospheric Disasters Management, Natural and Manmade, B.S. Publications, Hyderabad, 2009.
3. Battacharya, T. Disaster Science and Management, Tata McGraw Hill Company, New Delhi, 2012.

**VASAVI COLLEGE OF ENGINEERING (AUTONOMOUS)
DEPARTMENT OF CIVIL ENGINEERING**

**SYLLABUS FOR B.E. VI SEMESTER
INTELLIGENT TRANSPORTATION SYSTEMS (OPEN ELECTIVE – VII)**

Instruction : 2 hr/ Week	SEE marks : 70	Course Code : OE620CE
Credits : 2	CIE marks : 30	Duration of SEE : 3

COURSE OBJECTIVES	COURSE OUTCOMES
<i>Objectives of this course are to:</i>	<i>Upon the completion of this course the students will be expected to:</i>
<ol style="list-style-type: none"> 1. Introduce basic transportation engineering concepts to understand ITS 2. Impart knowledge on advanced transportation concepts in the field of ITS. 3. Introduce the technologies of ITS in solving transportation problems 	<ol style="list-style-type: none"> 1. identify the functional classes of road systems and road cross sectional elements 2. present the basic traffic characteristics and the traffic data collection methods 3. Explain the concepts of ITS data collection techniques and its architectural framework. 4. Characterize ITS functional areas for transportation planning and describe the range of technologies involved in the delivery of ITS systems 5. Investigate and analyse the current applications and trends in the context of ITS

UNIT 1:

Introduction to Transportation engineering

Role of transportation development in society, Functional classification of road systems, Road cross sectional elements, Factors affecting transportation.

UNIT 2:

Introduction to traffic engineering:

Basic traffic characteristics – Volume, speed, headway, types of traffic studies, Objectives of traffic studies, Traffic data collection methods, Level of service.

UNIT 3:

Introduction to Intelligent Transportation Systems (ITS): Definition of ITS and Identification of ITS Objectives, Historical Background, Benefits of ITS - ITS Data collection techniques – Detectors, Automatic Vehicle Location (AVL), Automatic Vehicle Identification (AVI), Geographic Information Systems (GIS), video data collection, ITS architecture framework.

UNIT 4:

ITS functional areas – Advanced Traffic Management Systems (ATMS), Advanced Traveler Information Systems (ATIS), Commercial Vehicle Operations (CVO), Advanced Vehicle Control Systems (AVCS), Advanced Public Transportation Systems (APTS), Advanced Rural Transportation Systems (ARTS)

Suggested Books:

1. S.K. Khanna, C.E.G. Justo and Veeraraghavan A (2015) Highway Engineering, 10th Ed., Nem Chand & Bros.
2. ITS Hand Book 2000: Recommendations for World Road Association (PIARC) by Kan Paul Chen, John Miles.
3. L.R. Kadiyali, 2016, Traffic Engineering and Transportation Planning, Khanna Publishers
4. Sussman, J. M., Perspective on ITS, Artech House Publishers, 2005.