RAJIV GANDHI UNIVERSITY OF KNOWLEDGE TECHNOLOGIES, ANDHRA PRADESH, INDIA
(Established through Act No.18 of 2008)
ANDHRA PRADESH, INDIA
(Catering to the Educational Needs of Gifted Rural Youth of Andhra Pradesh)

Post-Graduation Programme (M.Tech)

in

TRANSPORTATION ENGINEERING

(Course Structure and Syllabi)

DEPARTMENT OF CIVIL ENGINEERING
Rajiv Gandhi University of Knowledge Technologies-
Nuzvid campus

INTRODUCTION

Civil Engineering primarily deals with planning, design, construction, and operation of infrastructural facilities essential to modern life, ranging from transit systems to offshore structures to space satellites. Major disciplines within Civil Engineering that are closely interrelated are structural, environmental, geotechnical, water resources, transportation, construction and urban planning.

Transportation Engineering is one of the major branches of Civil Engineering and it involves planning, design, construction, operation and maintenance of transportation facilities. These facilities support air, highway and rail transportation. Transportation research in the areas of materials, traffic, safety, transportation economics, network analysis and the design of transportation infrastructure will go a long way in providing the nation with solutions to challenges, encountered in the course of providing requisite quality infrastructure.

NEED OF THE POST GRADUATE PROGRAMME IN TRANSPORTATION ENGINEERING

The rapid development of infrastructure needs more and more expert technical manpower. Challenges like heavy traffic congestion on the roads, urban sprawl, landing and take-off delays at airports, accessibility through hazardous terrains, traffic safety, planning of pedestrian and bicycle facilities, pavement durability and construction methodologies in adverse terrain and weather conditions, and environment impact need customized solutions by well-trained transportation professionals and through cutting edge research. At local level establishing proper accessibility and providing good quality pavements still remain the areas of high priority. Realizing this aspect, the Civil Engineering Department of RGUKT proposes to start a four-semester Post Graduate Pogramme (Master of Technology) in Transportation Engineering which is envisaged to evolve as a programme for higher learning and research in the field of Transportation Engineering and Planning.

OBJECTIVES

The main objectives of the programme are,

- To promote higher learning and research in the field of Transportation Engineering
- To offer consultancy services in the areas related to Transportation Engineering,
- To undertake sponsored research projects as a part of research and development activities in the emerging areas of technology
- To provide a forum for exchange and upgradation of knowledge in the field of Transportation Engineering through seminars, conferences, workshops, training courses etc.

SEMESTER WISE COURSE STRUCTURE

First Semester

Subject Code	Subject Name	L-T-P	Credits	Marks Weightage		Course Type
				Internal	External	
21TE1101	Geometric Design of Transportation Facilities	3-0-0	3	40	60	Core-1
21TE1102	Pavement Materials	3-0-0	3	40	60	Core-2
21TE11XX	Urban Transportation Planning	3-0-0	3	40	60	Core-3
21TE11XX	Discipline Specific Elective - 1	3-0-0	3	40	60	Programme Elective - 1
21TE11XX	Discipline Specific Elective - 2	3-0-0	3	40	60	Programme Elective - 2
21TE1181	Pavement Engineering Laboratory - 1	0-0-3	1	50	50	Core
21TE1182	Geometric Design of Transportation Facilities Laboratory	0-0-3	1	50	50	Core
21TE1172	Seminar-I	0-0-3	1	50	50	Core
	Total	**16-0-9**	**18**			

List of Discipline Specific Elective -1

1) Geo-technical Investigations and Ground Improvement Techniques
2) Road Safety
3) Transit Planning and Operations

List of Discipline Specific Elective -2

1) Probability and Statistics
2) Research Methodology and IPR
3) Project Planning and Management

Second Semester

Subject Code	Subject Name	L-T-P	Credits	Marks Weightage		Course Type
				Internal	External	
21TE1203	Pavement Analysis and Design	3-0-0	3	40	60	Core-4
21TE1203	Traffic Engineering and Management	3-0-0	3	40	60	Core-5
21TE12XX	Intelligent Transportation Systems	3-0-0	3	40	60	Core-6
21TE12XX	Discipline Specific Elective - 3	3-0-0	3	40	60	Programme Elective - 3
21TE12XX	Discipline Specific Elective - 4	3-0-0	3	40	60	Programme Elective - 4
21TE1283	Pavement Engineering Laboratory -2	0-0-3	1	50	50	Core
21TE1284	Traffic Engineering Laboratory	0-0-3	1	50	50	Core
21TE12XX	Seminar-II	0-0-3	1	50	50	Core
	Total	**17-0-6**	**18**			

List of Discipline Specific Elective -3

1) Planning and Design of Airports
2) Pavement Construction, Maintenance and Management
3) Traffic Flow Analysis

List of Discipline Specific Elective -4

1) Environmental Impacts of Transportation Projects
2) GIS and Remote Sensing
3) Highway bridges and flyovers

Third Semester

Subject Code	Subject Name	L-T-P	Credits	Marks Weightage		Course Type
				Internal	External	
21TE2191	Dissertation – part 1	0-0-32	8	180	420	Dissertation
21TE21XX	MOOC-I		3			
21TE21XX	MOOC-II		3			

21TE21XX	Comprehensive viva		2			
	Total	**4-0-32**	**16**			

Fourth Semester

Subject Code	Subject Name	L-T-P	Credits	Marks Weightage		Course Type
				Internal	External	
21TE2292	Dissertation – part 2	0-0-32	16	180	420	Dissertation
	Total	**0-0-32**	**16**			

Total Credits for the programme = 18 + 18 +16 +16 = **68**