GUJARAT TECHNOLOGICAL UNIVERSITY

BRANCH NAME: AUTOMOBILE ENGINEERING (02)

SUBJECT NAME: TRANSPORT MANAGEMENT AND LAWS
SUBJECT CODE: 2170205

B.E. 7th SEMESTER

Type of course: Advanced / application

Prerequisite:

Rationale: Subject will cover various transport management aspects and motor vehicle laws after studying this subject the students will be able to manage a transport fleet and their related activities for minimizing operational cost.

Teaching and Examination Scheme:

Teaching Scheme			Credits	Examination Marks						Total Marks
				Theory Marks		Practical Marks				
L	T	P	C	ESE (E)	PA (M)	ESE (V)		PA (I)		
						ESE	OEP	PA	RP	
4	0	0	4	70	30	0	0	0	0	100

L- Lectures; T- Tutorial/Teacher Guided Student Activity; P- Practical; C- Credit; ESE- End Semester Examination; PA- Progressive Assessment; OEP-Open Ended problem; AL-Active learning; RP: Review Presentation

Content:

Sr. No.	Content	Total Hrs	% Weightage
1	**Introduction** Introduction to various transport systems, Advantages of motor transport, Staff administration, Recruitment and Training, welfare, driver's health and safety, Basic principles of supervising, Organizing time and people, Driver and mechanic hiring, economical and safe driving tips for city and highway, understanding of traffic rules, Trip leasing, Vehicle operation and types of operations.	6	10%
2	**Transport Management** Transport organization structure, operations, Planning Scheduling operation & control, Propaganda, publicity and passenger amenities Parcel traffic, General set up, transport industry, government / (STU) State Government Undertakings and private Bus transport organizations, Bus depot organisation structure, Truck fleet operators' organization, Requirements and Problems on fleet management. Firebrigade fleet and Ambulance operations management. 108 Organisational activities and it's benefits for the society.	12	18%
3	**Scheduling and fare structure**	10	

	Principal features of operating costs for transport vehicles, Fare structure, and Various types of fare collecting methods, Basic factors of bus scheduling, Problems on bus scheduling.		15%
4	**Planning for New Transport Organization** Geographical considerations, economic factors, vehicles used, planning of trips. Concept of BRTS operations. Organisation of Transport Services: Records and fleet management, vehicles 8schedule, booking and reservation, statistical records, recording of goods transport Scheduling of goods transport, Management Information System (MIS) in passenger / goods transport operation. Storage & transportation of petroleum products, Advanced Techniques in Traffic Management, Traffic navigation, Global positioning system. Study of BRTS concept, sysrem and management. It's advantages and disadvantages interms of mass transportation.	14	21%
5	**Motor Vehicle Act** Acts & definitions, Licensing of drivers and conductors, registration of vehicles, control of transport, RTO and other regulations, offences, penalties and procedures, types of form and procedures, licensing of taxies and buses, rules and regulations, testing and passing of vehicles. Description of goods carrier, delivery van, tanker, tipper, municipal, fire fighting and break down service vehicle. Taxation: Structure, method of laying taxation, goods vehicle taxation, passenger vehicle taxation, mode of payment, tax exemption, one / life time taxation. Service Life of vehicles. Toll tax reasons & operational management. Build Operate Transfer arrangement. Highway traffic rules, Taffic signs, Natinal and international driving conditions / rules.	10	16%
6	**Accident & Prevention** Vehicle accident, laws, injury, safety precautions, road transport regulations. **Insurance** Insurance & Finance Classes/types of insurance, accident claims and settlements, duty of driver in case of accident, hire purchase.	6	10%
7	**Laws Related to Pollution Under Control (PUC):** Pollution Under control certification agency, Authority & procedure for PUC certification agency. Harmful exhaust gas constituents, permissible limits, Euro / Bharat Stage -I, II, III, IV norms and implementation, testing and measurements. Study of Odd-Even formula, high power to weight ratio & higher capacity diesel vehicles and other possible methods for reduction of atmospheric pollution and it's impact.	6	10%

Suggested Specification table with Marks (Theory): Distribution of Theory Marks					
R Level	U Level	A Level	N Level	E Level	C Level
9	**13**	**17**	**11**	**12**	**8**

Legends: R: Remembrance; U: Understanding; A: Application, N: Analyze and E: Evaluate C: Create and above Levels (Revised Bloom's 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.

Reference Books:

1. Motor Vehicles Acts, Law Publishers
2. Schumer, Economics of transport, T.M.H.
3. Fair and Williams, Economics of transportation, East West Press.
4. Hudson, Motor transportation, T.M.H.
5. M.V. Act 1988-RTO rules and regulation manual.
6. Fuel Economy of Motor Vehicle, Allied Publishers.
7. National Research Council, Automotive Fuel Economy, National Academic Press.
8. CIRT Journal of Transport Management
9. John Duke - Fleet Management – McGraw-Hill Co, USA -1984.
10. Kitchin.L.D., - Bus Operation - Illiffee and Sons Co., London, III edition – 1992

Course Outcome:

After learning the course the students should be able to:

- Understand and have knowledge about different aspects related to transport system and will be able to manage.
- Understand various Features of scheduling, fixing the fares.
- Understand various types of insurance and taxation policies.
- Know about the motor vehicle act and laws related to PUC Norms.

Design based Problems (DP)/Open Ended Problem (OEP):

- Group Discussion / Technical Debate on advanced topics.

List of Open Source Software/learning website:

1. http://ocw.mit.edu/