



GUJARAT TECHNOLOGICAL UNIVERSITY

Bachelor of Engineering

Subject Code: 3150209

Semester –V Automobile Engineering

Subject Name: TRANSPORT MANAGEMENT AND LAWS

Type of course: Humanities and Social Science

Prerequisite: - None

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 C	Examination Marks				Total Marks
L	T	P		Theory Marks		Practical Marks		
			ESE (E)	PA (M)	ESE (V)	PA (I)		
3	0	0	3	70	30	0	0	100

Content:

Sr. No.	Content	Total Hrs
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.	5
2	Transport Management Transport organization structure, operations, Forms of ownership ,management – internal organization, centralized condition, decentralized condition (Engineering, traffic and administration)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. Fire brigade, fleet and Ambulance operations management 108, organisational activities and it's benefits for the society.	10
3	Scheduling and fare structure Need for scheduling, Principal features of operating costs for transport vehicles, Fare structure, and Various types of fare collecting methods, Theory of fares-Basic principles of fare charging, Differential rates for different types of services, Depreciation & debt charges, Operation cost and Revenues, Economics & records Basic factors of bus scheduling, Problems on bus scheduling.	5



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4	Planning for New Transport Organization Geographical considerations, economic factors, vehicles used, planning of trips. Concept of BRTS operations. Organization of Transport Services: Records and fleet management, vehicles schedule, 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, system and management. It's advantages and disadvantages interms of mass transportation	10
5	Motor Vehicle Act Short titles & definitions, Laws governing to use of motor vehicle & vehicle transport, Licensing of drivers & conductors, Registration of vehicle, State & interstate permits, Traffic rules, Signals & controls, Accidents, Causes & analysis, Liabilities & preventive measures, Rules & regulations, Responsibility of driver, Public & public authorities, Offences, penalties & procedures, Different types of forms, Government administration structure, Personnel, Authorities & duties, Rules regarding construction of motor vehicles, Licensing of taxies and buses, testing and passing of vehicles, Description of goods carrier, delivery van, tanker, tipper, municipal, firefighting and break down service vehicle. Taxation: Taxation Objectives, Structure & methods of laving taxation, Onetime tax, Tax exemption & tax renewal Toll tax reasons & operational management. Build Operate Transfer arrangement. Highway traffic rules, Traffic signs, National and international driving conditions / rules.	7
6	Accident & Prevention Vehicle accident, laws, injury, safety precautions, road transport regulations. Insurance Insurance types & significance, Comprehensive, Third party insurance, Furnishing of particulars of vehicles involved in accident, MACT (Motor Accident Claims Tribunal), Solatium Fund, Hit & Run case, Duty of driver in case of accident, Surveyor & Loss Assessor, Surveyors report	4
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, V, VI 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.	4



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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 Vehicle Act - Govt. of India Publications.
2. P.G. Patankar, "Road Passenger Transport in India", CIRT, Pune. The elements of transportation - R.J. Eaton
3. Goods vehicle operation - C.S. Dubbar
4. Road transport law - L.D. Kitchen
5. S.L. Bhandarkar, Vehicle Transport Management, Dhanpat Rai & Co. (Pvt.) Ltd.
6. M.V. Act 1988-RTO rules and regulation manual.
7. Fuel Economy of Motor Vehicle, Allied Publishers.
8. National Research Council, Automotive Fuel Economy, National Academic Press.
9. CIRT Journal of Transport Management
10. John Duke - Fleet Management – McGraw-Hill Co
11. S.K. Shrivastava, "Economics of Transport" 3. "Transport Development in India", S. Chand & Co. Pvt. Ltd., New Delhi.

Course Outcomes:

Sr. No.	CO statement	Marks % weightage
CO-1	To apply transport and management theory for the various organization structure	28
CO-2	To explain scheduling and fare structure for different types of services	15
CO-3	To judge the need of different factors for the Planning of new transport organization	21
CO-4	To explain the motor vehicle act, laws related to insurance and PUC Norms	36

List of Open Source Software/learning website:

1. <http://ocw.mit.edu/>
2. <https://nptel.ac.in/course.php>