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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Seventh Semester, B.E. - Automobile Engineering

Semester End Examination; Dec - 2016/Jan - 2017

Vehicle Transport Management

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

- 1 a. Duly mentioning influence of various modes of public transport used, describe the development of surface transportation system and its infrastructure. 10
- b. Duly mention facilities to be provided for, explain with neat sketches, the Drive-through and Head-on type Bus Stations. 10
- 2 a. Describe the functioning of a garage, with a neat layout, indicating all the necessary planned sections and equipments, for a large road transport undertaking. 12
- b. Define maintenance of road vehicles. Describe the maintenance systems for public service vehicles duly mentioning the objectives and advantages of it. 8

UNIT - II

- 3 a. Discuss different forms of ownership in relation to road transport undertaking. What are the limitations of each of them? 8
- b. Explain with appropriate sketch, the functions and responsibilities of the Traffic, Secretarial and Engineering Departments of a road transport organization administration. 12
- 4 a. With reference to internal organization, explain with appropriate sketch, the functions and responsibilities of Centralized and Decentralized control of a public road transport system. 12
- b. Identify the factors, which affect the punctuality of public road transport operation. Give explanation about the remedies for the same. 8

UNIT - III

- 5 a. Explain the factors considered for estimating traffic volume. 5
- b. Prepare a table of estimated number of passengers travelling at different times of the day from 6 am to 11 pm at one hour interval from the following data,

Probable weekday travelers

Workmen (Monday – Saturday)	-	1000/day	
Students (Monday – Saturday)	-	250/day	
Shoppers (Monday – Friday)	-	400/day	15
(Saturday)	-	800/day	
Pleasure seekers (Monday – Saturday)	-	250/day	
Casuals (Monday – Saturday)	-	400/day	
Sunday traffic	-	500/day	

Assume suitable timings for different group of passengers. Estimate, the number of buses required to cater the estimated number of passengers. Suitable assumptions shall be made wherever found necessary with valid reasons.

- 6 a. Briefly explain Timings Bus workings, schedules and concept of Flat Graph and graph of Overlaps. Indicate by means of a flat graph the time table for the buses as shown below. With valid reasons, suggest modifications, if required.

Time table - Route A to Route B									
A	Departure	08.00	09.30	11.00	13.30	16.30	18.00	19.30	21.00
B	Arrival	08.45	10.15	11.45	14.15	17.15	18.45	20.15	21.45
B	Departure	09.00	10.30	12.00	14.30	17.30	19.00	20.30	22.00
A	Arrival	09.45	11.15	12.45	15.15	18.15	19.45	21.25	22.45

10

- b. Define Cautionary, Mandatory and Informatory Signs. Also, Sketch the following signs: Left Reverse Bend, Slippery Road, Loose Gravel, Dangerous Dip.

10

UNIT - IV

- 7 a. Describe various methods of fare collection pertaining to public transport system.
- b. Explain the following fare structures :
- i) Concession fares
 - ii) Straight and tapered fare scales
 - iii) Standard layout and Anomalous Fare Table
 - iv) Inter availability of tickets and summation of fares.
- 8 a. Explain the main items of expenditure which come under total cost production. Also describe any two methods of making provision for depreciation of public service vehicles.
- b. Compute total operating cost per vehicle mile from the following data of, (i) Wages cost (ii) Overhead cost (iii) Mileage Cost. Further, Discuss the influence of vehicle speed and annual mileage covered for public service vehicles with Wages, overheads and total cost.

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(I) Wages Cost

KMPH	65	66	67	68	69	70	71	72	73	74
Wages Cost/km (`)	825	733	660	550	508	471	440	413	388	367

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(II) Overheads cost

KM per annum (Thousands)	50	55	60	65	70	75	80	85	90	95
Overheads costs/km(`)	3996	1998	1332	999	799	666	571	500	444	400

(III) Mileage cost (Fuel+ Lubricating oil + tyres + maintenance and repairs) = ` 574 per vehicle km.

UNIT - V

- 9 a. Explain the specific duties of Public relations office, Press and Publications and publicity sections of public relations division in relation to public transport organization. 9
- b. With respect to public service vehicle operation, state the causes of accidents. Explain the measures may be taken to prevent the same. 11
- 10 a. With respect to public transport vehicle design, explain:
 - i) Types and capacities ii) Basic features 10
 - iii) Entrance and exits iv) Comfort and Capacity.
- b. With respect to future public transport, discuss the energy situation, environmental and social issues and vehicle with new technology. 10

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