



SUMMER- 18 EXAMINATION

Model Answer

Subject Name: Transport Management

Subject Code:

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(b)	What do you understand by Telescopic fare? When and where they are made available?	04																														
Ans	<p>(Note: Equivalent credit shall be given to any other suitable explanation)</p> <p>The telescopic fare structure, a system in which the fare decreases in slabs as the length of the journey increases and the fare does not increase proportionately with distance.</p> <div data-bbox="435 485 1214 1108" data-label="Figure"> <table border="1"> <caption>Data for Fare Calculation Methods</caption> <thead> <tr> <th>Stage Number</th> <th>Straight Line Method (Rs.)</th> <th>Tapered Scale Method (Rs.)</th> </tr> </thead> <tbody> <tr><td>1</td><td>5</td><td>5</td></tr> <tr><td>2</td><td>10</td><td>10</td></tr> <tr><td>3</td><td>15</td><td>15</td></tr> <tr><td>4</td><td>20</td><td>20</td></tr> <tr><td>5</td><td>25</td><td>25</td></tr> <tr><td>6</td><td>30</td><td>28</td></tr> <tr><td>7</td><td>35</td><td>30</td></tr> <tr><td>8</td><td>40</td><td>32</td></tr> <tr><td>9</td><td>45</td><td>34</td></tr> </tbody> </table> </div> <p>Generally in this fare method first few kilometers would have straight fare that means increasing according to distance up to some extent. After that fare will be increasing according to kilometer. Tapered scale of fare provides a decreasing rate of charge as the distance traveled increases. Normally in this fare method, the first few kilometers would have a straight line type of fare which would then progressively taper off. Suppose, the fare rate is Rs.1/- per kilometer then the fare for 5 kilometer may be Rupees 5/- and any journey within this 5 kilometers will be charged Rupees.5/- . This is known as minimum fare. After 5 kilometers the fare rate may decrease proportionately. For instance, the fare for 15 kilometers may be fixed as Rupees.13/- instead of Rupees.15/-. For example In case of railway fare calculation Telescopic fare method is used.</p>	Stage Number	Straight Line Method (Rs.)	Tapered Scale Method (Rs.)	1	5	5	2	10	10	3	15	15	4	20	20	5	25	25	6	30	28	7	35	30	8	40	32	9	45	34	02
Stage Number	Straight Line Method (Rs.)	Tapered Scale Method (Rs.)																														
1	5	5																														
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9	45	34																														
(c)	State the factors to be considered while buying used vehicle.	04																														
Ans	<p>Factors to be considered for buying a used vehicle: (Any 8 points- each carry 1/2 mark)</p> <ol style="list-style-type: none"> 1) Tyres: the condition of tyres its life and nature of wear must be noted. 2) Body: The condition of the body and paint must be checked. 3) Battery: The condition of battery is also essential before valuation because its cost is also high. 4) Rattling noise: Check noise level and its origin or source. 5) Engine: Starting qualities, good pick up, low fuel combustion, power output must be checked on road test. Check also engine oil pressure. Exhaust smoke will also indicate the condition of cylinder and working parts. 6) Running Condition: On the road test it is possible to know drive the mechanism such as clutch, gear box, universal joint, differential. The wear and tear can be seen on road test. 7) Registration and Tax payment: The vehicle R.C. book must be checked. This will indicate the model and year of manufacture and number of owners; the tax paid to the insurance, expiry date can also be seen. 8) Make and Model, Year: This can be seen from R.C. book but with experience it is possible to indicate the number of years of service of vehicle. 9) Number of Owners: From R.C. book it is possible to know the number of owners and type of persons who owned. 10) Popularity of the make depending upon the public opinion market rates of the vehicles goes up and down. 																															



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(d)	State the objectives of Advance techniques traffic management for safe and effective driving skills.	04																				
Ans	<p>Objectives of Advance techniques traffic management for safe and effective driving skills: (Any 04)</p> <ol style="list-style-type: none"> 1. To evaluate and analyses information and communication technologies and concepts to achieve traffic efficiency and improve environmental quality. 2. To achieve energy saving conserve time and enhance safety and comfort for drivers. 3. To adopt location information based technologies into vehicles. 4. To adopt various technologies into infrastructure, traffic management and traveler information services which shows dramatic improvement in the safe and efficient. 5. To evaluate, develop, analyses and integrate new sensor. 																					
(e)	Differentiate between the working of BEST and MSRTC.	04																				
Ans	<p><i>(Note: Equivalent credit shall be given to any other suitable explanation)</i></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">Sr. No.</th> <th style="width: 15%;">Points</th> <th style="width: 45%;">Working of BEST</th> <th style="width: 35%;">Working of MSRTC.</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">01</td> <td>Governed by</td> <td>Working under autonomous governing body</td> <td>Working under state government</td> </tr> <tr> <td style="text-align: center;">02</td> <td>Purpose</td> <td>BEST is to work for earning profit and satisfy social needs</td> <td>MSRTC is to work for social needs.</td> </tr> <tr> <td style="text-align: center;">03</td> <td>Area / territory</td> <td>Works in Mumbai and its sub urban area</td> <td>Works in entire state of Maharashtra.</td> </tr> <tr> <td style="text-align: center;">04</td> <td>Limit of operation</td> <td>BEST works within the corporation Limit of Thane, Mumbai, Kalyan-Dombiwali</td> <td>MSRTC services are within Maharashtra and inter state.</td> </tr> </tbody> </table>	Sr. No.	Points	Working of BEST	Working of MSRTC.	01	Governed by	Working under autonomous governing body	Working under state government	02	Purpose	BEST is to work for earning profit and satisfy social needs	MSRTC is to work for social needs.	03	Area / territory	Works in Mumbai and its sub urban area	Works in entire state of Maharashtra.	04	Limit of operation	BEST works within the corporation Limit of Thane, Mumbai, Kalyan-Dombiwali	MSRTC services are within Maharashtra and inter state.	(Any 04 points)
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(f)	State 'VRDE'. Describe its role for transport undertaking.	04																				
Ans	<p>VRDE states for vehicle Research Development Establishment. The VRDE plays an important role in transport Industry. At VRDE all types of tests are conducted on Automobile vehicle before launching.</p> <p>Role of VRDE: (Any three)</p> <ol style="list-style-type: none"> 1. Its primary function is to help the defence and automotive industry regarding design, development, testing and certification of vehicle components. 2. To evaluate requirements of defence services as well as automotive industry. 3. The National Centre for Automotive Testing (NCAT), a separate division of VRDE, provides one stop solution to all vehicles testing (Laboratory as well as Road testing). 4. Development of specialist vehicles and systems for various roles including road mobile launchers and support vehicles for strategic missile programmes 5. Development of engines for unmanned aerial vehicles. 6. Development of light battle tank and systems for various combat roles. 7. Development of armoured wheeled vehicles and variants for various roles. 8. Development of systems and unmanned vehicles for nuclear, biological and chemical recycle and after-treatment. 9. Development of light unmanned aerial vehicles for low intensity conflict operations. 10. Development of multi feed gasification with poly generation technology. 11. Testing of military and commercial vehicles and engines for design validation and performance evaluation including emission tests. 	01 03																				



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(g)	Define (Any four) (i) Articulate vehicle: (ii) Gross vehicle weight: (iii) Private service vehicle: (iv) Maxi-car: (v) Invalid carriage (vi) P.U.C.:	04
Ans	(i) Articulated vehicle: It is a vehicle to which a semitrailer is attached. (ii) Gross vehicle weight: The total permissible weight carried by the vehicle. This weight includes material stress, the permissible axle load and maximum loads set by the manufactures. (iii) Private service vehicle: Private Service Vehicle means a motor vehicle constructed or adapted to carry more than six persons excluding the driver and ordinarily used by or on behalf of the owner of such vehicle for the purpose of carrying persons for, or in connection with, his trade or business otherwise than for hire or reward but does not include a motor vehicle use for public purpose. (iv) Maxi-car: means any motor vehicle constructed or adapted to carry more than six passengers, but not more than twelve passengers, excluding the driver, for hire or reward. (v) Invalid carriage: it is specially designed vehicle and constructed vehicle which is for the use of person suffering from some physical defect or disability and utilized solely for such persons. (vi) P.U.C.: PUC is a certification mark that is provided to vehicles that undergo the PUC Test successfully. The certification indicates that the vehicle's emissions are in alignment with standard pollution norms and are not harmful to the environment. All vehicles on Indian roads are mandated to carry a valid PUC certification.	(Any four- 01 mark each)
02	Attempt any FOUR of the following:	16
(a)	How the exemptions granted to vehicles by government from permit?	04
Ans	Answer: (Note: Equivalent credit shall be given to any other suitable explanation) Exemption from permit includes vehicles which are purchased by state government and central government. These vehicles are not connected with any commercial enterprises. Exemption from permit also includes vehicles which are utilized by staff members of state transport authority and Regional Transport Authority. The following mentioned vehicles are exempted from tax being used for state Government, Central Government, Municipal Corporation, as well as work for social, cultural, educational, agricultural activities. Vehicles exempted from Tax Payment: 1) Vehicles belong to state government, local self-government, Municipal Corporation etc. 2) Ambulance working on no loss no profit basis. 3) Invalid carriage. 4) 5) Vehicles belong to Orchestra, Tamasha Mandal, Drama Theatre, etc. 6) Vehicles under non use. 7) Tractors and traliors used for agriculture purpose.	04



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	(b)	Which factors should be considered for valuation of old vehicles?	04
Ans	<p>Factors to be considered for valuation of old Vehicle : (Any 04-1 mark for each point)</p> <p>1) Know the current market value of vehicle 2) Calculate the depreciation of vehicle based on market value. for this consider – i) Make, Model and Variant e.g. Maruti Swift VDi ii) Month and Year of Manufacture e.g. July 2009 iii) The city in which the car was registered. 3) Calculate the depreciation of vehicle based on usage and aging. 4) Analyze the mechanical condition and damage occurred with respect to Body, Chassis, and Aesthetics, Engine condition, vibrations, noise etc. 5) Consider the tyre condition and decide tyre cost. 6) Kilometres driven (you can find this on the odometer on the dashboard)</p>		
	(c)	Write down importance of warranty system.	04
Ans	<p>Importance of warranty system: A warranty is usually a written contract for a product and declares the maker's responsibility to repair or replace a defective product or its parts. When you make a major purchase, the manufacturer or seller makes an important promise to stand behind the product. Some warranties provide coverage only if you maintain or use the product as directed. For example, a warranty may cover only personal uses as opposed to business uses of the product. Make sure the warranty will meet your needs. In warranty system defective parts are replaced or repaired in stipulated time. The cost is not charged from the customer. These expenses of repairs are born by the manufacturer. Sometimes with the understanding of parent company the warranty claims are offered to their customers even after expiry of warranty period.</p> <p>If you have purchased any product under warranty and found any defect within warranty period, contact the retailer and try to resolve the problem. Otherwise Contact your state or local consumer protection office - if you can't resolve the situation with the seller or manufacturer. If all else fails, you may want to consider a lawsuit.</p>		04
	(d)	What is permit? State its types. Explain any one of them.	04
Ans	<p>permit means a permit issued by a State or Regional Transport Authority or an authority prescribed in this behalf under this Act authorising the use of a motor vehicle as a transport vehicle</p> <p>Types of Permits.</p> <ol style="list-style-type: none"> 1. Stage carriage permit 2. Contract carriage permit 3. Private service vehicle permit 4. Goods carriage permit 5. National permit 6. All India Tourist permit <p>(Any one type of permit explanation- 02 marks)</p> <p>Stage Carriage Permits:</p> <ul style="list-style-type: none"> • State Transport Authority announces scheme for grant of stage carriage permit from time to time, depending upon the requirement of buses on different route of the city. • These permits are issued under section 72 of Motor Vehicles Act, 1988. • The permit holders can operate their bus under their allotted routes for picking up passengers from one place to another. <p>All private stage carriage buses come under this category Contract Carriage Buses Permits:</p> <ul style="list-style-type: none"> • This is the most common type of permit used for hire and reward purpose. • The permit holder can operate under a contract with his client for a fixed destination within state or outside the state. • For this an agreement should be executed between the clients and the operators and the list 		01
			01



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of passengers should also be available with the driver of bus.

- The permit holder cannot pick passengers other than those mentioned in the list.
- Such types of buses are also known as Chartered Buses.
- These permits are issued under section 74 of Motor Vehicles Act, 1988.
- The applicant has to apply on form PCA along with other formalities.

Temporary permit

- A temporary permit is issued by STA under Section 87 of Motor Vehicles Act, 1988 to transport vehicle for a limited period, enabling the vehicle to go outside the state for the following reasons:-

1. For the conveyance of passengers on special occasions such as to and from fairs and religious gatherings, or
2. For the purposes of a seasonal business, or
3. To meet a particular temporary need, or Pending decision on an application for the renewal of a permit.

Goods Carrier Permits:

- Such permit is granted under Section 79 of the Motor Vehicles Act, 1988, to a goods vehicle operating within the state.
- Permits granted to a particular vehicle for carrying a particular load has to be plied for that particular area only.

National Permits:

- National permits are issued to goods vehicles to enable them to go outside the home state.
- National Permit is issued for a minimum of four continuous states (including the home state).
- For obtaining such permits the maximum age of a particular vehicle should not exceed 12 years. However, maximum age in case of a multi-axle vehicle should not exceed 15 years.
- For the issue of National Permit, applicant has to apply on form 46 and 48 along with other formalities

All India Tourist Permit (AITP):

- This permit is given to luxury buses which have white colour with a blue ribbon of five centimetres width at the center of exterior of the body and the word 'Tourist' shall be inserted on two sides of the vehicle within a circle of sixty centimetres diameter.
- A tourist permit shall be deemed to be invalid from the date on which the motor vehicle covered by the permit completes 9 years in the case of Motor Cab and 8 years where the motor vehicle is other than a motor cab, unless the motor vehicle is replaced by another, the latter vehicle shall not be more than 2 years old on the date of such replacement.
- The seating layout shall be two and two or one and two or one and one on either side, all seats facing forwards.
- The Vehicles should also have other facilities like public address system, drinking water, push full back seats, fans, curtains, a separate driver cabin etc.
- The applicant has to apply on form 45 & 48 along with other formalities.

Every motor vehicle or motor cab under the Authorization Certificate issued under these rules shall exhibit the words 'All India Tourist Permit' on the back of the motor vehicle in contrasting colours, so as to be clearly visible



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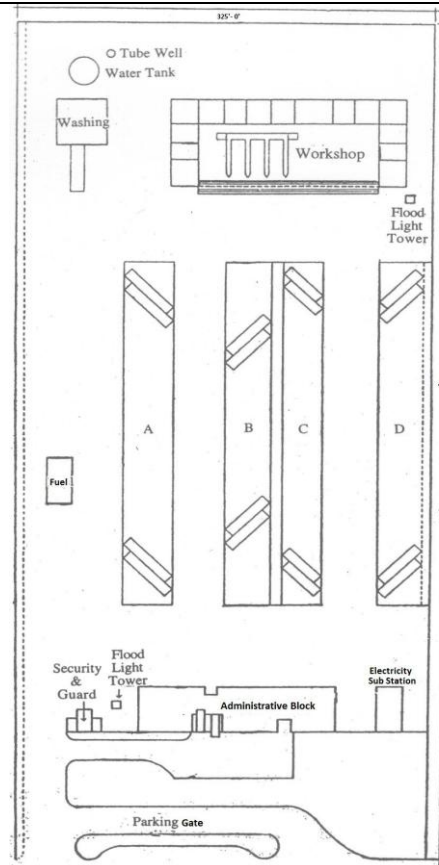
(e)	Differentiate between Rural and Urban transport. (Any 4 points)		04
Ans	Sr. No.	Rural transport	Urban transport
	01	Road conditions are not suitable for vehicle as well as for passenger	Road conditions are good hence suitable for vehicle as well as for passenger
	02	No. of passengers are less	No. of passengers are less
	03	Utilization of vehicle is less	Utilization of vehicle is more
	04	More maintenance cost	Less maintenance cost
	05	Highly skilled technicians are not available	Highly skilled technicians available
(f)	What is procedure of claiming compensation for accidental vehicle?		04
Ans	The person who are injured or whose property is damaged or nominee of the person who have got death are required to apply for compensation in appropriate form along with the duly filled discharge receipt and the undertaking to Claim Enquiry Officer of the district in which the accident have taken place within the period of six months from the date of accident 2. In case of all major accident prefer spot survey. The surveyor will visit the workshop for inspection of the vehicle and finalization of the claim amount with the owner and / or repairer. 3. Provide copies of the legal documents, viz FIR, Challans, postmortem report or certificate of injury to the insurance company for quick disposal of claim. 4. The Claims Enquiry Officer decides who the right claimant is and submits a report in Form-III to Claims Settlement commissioner who issues the sanction order of the claim in Form IV to the insurance company.		04
03	Attempt any FOUR of the following:		
(a)	What is certificate of fitness and its validity?		16
Ans	Certificate of fitness: It is the document in the prescribed form, showing that vehicle is mechanically fit and comply with all the specifications and requirements of motor vehicle act. If the vehicle to be used for commercial operation the vehicle is inspected physically by Transport Authority on regular basis for its road worthiness. The Certificate of Fitness is issued in Form 38. This certificate while remains effective, be valid throughout India		02
	Validity of fitness certificate: Every transport vehicle must possess a valid fitness certificate, newly registered transport vehicles certificate is valid for first two years and then it has to be renewed every year after inspection of vehicle by the concerned RTO. The fitness certificate for motor cars and motorcycles is valid for 15 years and then renewed for next 5 years.		02
(b)	Explain the significance of Bus Depot with layout.		04
Ans	<i>(Suitable Explanation & Layout should get full marks)</i> Significance of Bus Depot: Bus depot has important roles for a region that chooses bus mode in their transport system. Bus depot development attracts many attentions in the world of real estate development as it is a fixed infrastructure and facility that involves considerable land-use, long-term investment (site selection), resources and buildings. The bus depot carries acceptable overall costs for its public administration and public transport operator body, reaches the marked and brings social benefit for the community, with long time perspective. It is optimal for the important stakeholders that are related to the depot. For the owner of public transport (e.g. a county) and its transport operator body, sufficient capacity and optimal location is the desirable situation. It has good building and design with sufficient dimension and right facilities to accommodate people and buses activity continuously in short and long period.		02

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General layout of vehicle bus depot

02

(c) **State basic document required in Transport operations. Explain any one of them.**

04

Ans (Types of records -2marks, Description of any two – 2 marks each) **Following are the types of records maintained in transport organization:**

1. Log Book
2. Trip operational sheet (TOS)
3. Vehicle ledger
4. Truck history card
5. Monthly Operational Performance Statement (MOPS)
6. Goods consignment note
7. Trip sheet

1) Log Book: Each vehicle has a log book which contains the details about the running time for a trip and allied factors. The driver of motor vehicle fills or updates log book regularly. The data like the station, date, start time, stop time, idle time due to rest, maintenance, fuelling, loading and unloading of goods etc and total distance covered, are written in the log book by the driver. At the end of trip, the driver produces the log book along with other documents. The log book gives the clear picture about a trip. The log book records play an important role in deciding the routes, scheduling time-table and economy of goods transport. The format of log book is given below-

2) Trip Operational sheet (TOS): Trip operation sheet gives detailed information about a trip like loading (Dispatching) and unloading (destination) points, distance between stations, number of days taken for journey, Number of idle days, Fuel consumption, lubrication consumption, Repairs



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	<p>and spares, miscellaneous accessories, Fines and expenses incurred in journey, Commissions and general expenses and Government and municipal charges etc.</p> <p>3) Vehicle Ledger: The data obtained from Trip Operational Sheet (TOS) is posted in a ledger called a vehicle ledger. The trip is indicated by a trip number which is also known as T.O.S No. Additional columns are provided for gross profit before vehicle tax, depreciation and tyre cost. The balance of cash available is given in last column. Thus the vehicle ledger is collective record of the trips exposing the financial aspect of transportation.</p> <p>4) Truck History Card: The performance of truck is evaluated from the truck history card this card gives detailed information about the mileage, tax paid, no. of repairs etc. Thus the truck history card helps in deciding whether scrap the truck or not.</p> <p>5) Monthly Operational Performance Statement (MOPS): The Performance of vehicle during a month is revealed by the monthly operational performance statement. The actual working of the vehicle is tabulated in the M.O.P.S. and is compared with standard that have been laid down for it performance. The variations in performance are noted and the reasons for are given. The owner can give attention to those fields where the performance is very poor and immediate corrective action is taken. Thus M.O.P.S. gives the retrospective effect and point out the reasons inefficiency. <i>Note: Equivalent credit shall be given to any other suitable records.</i></p>	
(d)	<p>State various functions of traffic signs with its different categories.</p>	04
Ans	<p><i>(Note: Equivalent credit shall be given to any other suitable explanation)</i></p> <p>Functions of traffic signs:</p> <ol style="list-style-type: none"> 1. Traffic signs or road signs are signs erected at the side of or above roads to give instructions or provide information to road users. 2. Traffic signs are devices placed along, beside, or above a highway, roadway, pathway, or other route to guide, warn, and regulate the flow of traffic, including motor vehicles, bicycles, pedestrians, equestrians, and other travellers. <p>Different categories of traffic signs:</p> <ol style="list-style-type: none"> 1. Danger warning signs 2. Priority signs 3. Prohibitory or restrictive signs 4. Mandatory signs 5. Special regulation signs 6. Information, facilities, or service signs 7. Direction, position, or indication signs 8. Additional panels 	02 02
(e)	<p>Draw and explain a universal organizational set up of Automobile Industry.</p>	04
Ans	<p><i>(Any suitable structure and explanation shall be given due credit)</i></p> <p>Organizational structure refers to the way that an organization arranges people and jobs so that its work can be performed and its goals can be met. When a work group is very small and face-to-face communication is frequent, formal structure may be unnecessary, but in a larger organization decisions have to be made about the delegation of various tasks. Thus, procedures are established that assign responsibilities for various functions. It is these decisions that determine the organizational structure.</p> <p>First, the organization's work must be divided into specific jobs. This is referred to as the division of labor. Second, unless the organization is very small, the jobs must be grouped in some way, which is called departmentalization. Third, the number of people and jobs that are to be grouped together must be decided. This is related to the number of people that are to be managed by one person, or the span of control—the number of employees reporting to a single manager. Fourth, the</p>	02

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way decision-making authority is to be distributed must be determined. The departments are grouped basically according to the functions. All the functions like production, assuring quality of product, safety, maintenance, Human Resource, Marketing and sales works under the respective Sr. manager or General Manager according to span of control. All the functions are coordinated by executive directors and all strategies are framed by Board of directors and chairman.

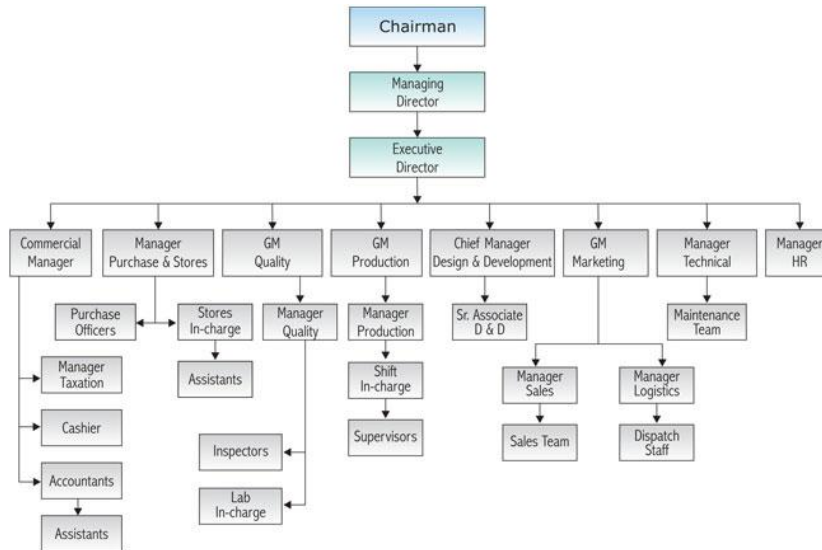


Figure: Organizational structure

02

(f) **Explain working of CRRI and ARAI with their full form.**

04

Ans (Note: Equivalent credit shall be given to any other suitable explanation)

Working of CRRI: Central Road Research Institute is a premier national laboratory engaged in research and development in the field of roads and road transportation. The major research and development program of CRRI relates to the entire spectrum of pavement design and performance, rural roads, traffic and transportation engineering, management and improve technologies for pavement rehabilitation. CRRI does Traffic and transportation planning in mega and medium cities. It is also works in the area of Management of roads in different terrains, Utilization of industrial waste in road construction, to improve environment pollution, road traffic safety analysis and design, bridge design and evaluation, bridge materials and construction techniques, instrumentation for bridges and highways.

02

Working of ARAI: The Automotive Research Association of India (ARAI) has been playing a crucial role in assuring safe, less polluting and more efficient vehicles. ARAI provides technical expertise in R & D, testing, certification, homologation and framing of vehicle regulations. The objectives of the Association are Research and Development in automotive engineering for industry, product design and development, evaluation of automotive equipment and ancillaries, standardization, technical information services, execution of advanced courses on the application of modern technology and conduct of specific tests. It also responsible for car mileage figure for every car sold in India. ARAI claims to be the first Indian institute to develop HCNG fuel engine. In order to meet the development requirements of Industry, several facility and competence build-up projects have been completed. Most notable amongst these are Engine Design/Simulation Software Installation, development of bi-fuel CNG kits, new techniques and software capabilities in Noise, Vibration, Harshness Analysis as well as Vehicle Crash Analysis and VDACS software for chassis dynamometer control. Amongst the new facilities added are the Particulate Measurement System and most modern Digitally Controlled Load Simulation

02



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04		Attempt any FOUR of the following:	16
(a)		What are different conditions of RTA to grant a stage carriage permit?	04
Ans		Following are the different conditions of RTA to grant a stage carriage permit: (Any 04- 1 mark each) <ol style="list-style-type: none">1. The vehicle should be used in a specified area only.2. According to RTA the stage carriage should be commenced with effect from a specified date.3. Minimum or maximum number of strips specified on the form should be followed.4. The copy of time table given by RTA should be exhibited in the vehicle.5. Passengers or goods will not be taken up or set down except as be specified.	
(b)		List different passenger amenities necessary to provide in Bus Transport operation.	04
Ans		Following amenities and infrastructural facilities are to be provided in a depot: (Any 8 points- each point carry ½ Mark) <ol style="list-style-type: none">1. Waiting hall for passenger2. Rest room for passenger3. Canteen facility4. Drinking water5. Toilet and wash room6. Parking for two wheelers and four wheelers7. Cycle stand8. Mobile charging facility	
(c)		Describe the procedure of change of Registration Mark.	04
Ans		<i>(Note: Equivalent credit shall be given to any other suitable explanation)</i> Registration of vehicle which is arrived from other state or Assignment of new registration mark (RMA) when vehicle is registered in one state and it is utilized in other state, then it is required to get new registration number. The condition is that the vehicle is running in other state more than one year. For getting new registration number the “NO OBJECTION CERTIFICATE” from original registration authority of previous state. Application of change of Registration Mark: <ol style="list-style-type: none">1) Fill up Application form numbers 20, 26, and 27.2) Fill up form no. 29 ad 30 in case of transfer of ownership.3) Fill up form no. 33 in case of change of address only.4) Fill up form no. 28 to get NOC (No- objection certificate). For that it is required to affix chassis print from the original registering authority along with consent from financier.5) Fill up forms TCA and TCR in case of transport vehicles.6) It is required to reproduce proof of entry tax in case vehicle has arrived within 30 months of date of its previous / old registration.7) It is required to take / prepare affidavit from the owner (on 100 Rs/ 500 Rs stamps) of the vehicle stating that vehicle is not involve in any accident crime or theft.8) It is required to reproduce all valid documents of the vehicle.9) Payment of repaired fees.10) To reproduce vehicle insertion at R.T.O office.11) Fill up form FT and AT.	04



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(d)	Differentiate between Maharashtra State Transport and Private Bus Services. (Any 4 points)			04
Ans	Sr. No.	Maharashtra State Transport services	Private Bus Services	
	01	MSRTC is run by government of Maharashtra	Private Bus Services is run by individual owner (sole proprietor) or private company.	
	02	Overhead expenses are large.	Overhead expenses are less.	
	03	MSRTC is run for social benefit	Private Bus Services is run for profit only	
	04	Because of large fleet management quality of service and delivery is average.	Because of small fleet management quality of service and delivery is better.	
	05	Fare is predefined considering social aspects.	Fare is decided and may vary at any time as per the wish of owner.	
(e)	Explain economic factors that influence the good transport operation.			04
Ans	Following are the Economic factors that influence the good transport operation: (Any 04)			
	<ol style="list-style-type: none"> 1. Cost of fuel 2. Cost of labour 3. Cost of maintenance of vehicle 4. Bank Loan Interest if vehicle is purchased on bank loan scheme 5. Depreciation value of vehicle 6. Market inflation rate 			
(f)	State and explain the basic elements of transport.			04
Ans	<p>Basic elements of transport Management: (Any four elements -1 mark for each element)</p> <ol style="list-style-type: none"> 1. Market potential: Type of goods/ passengers, Period of use, Probable competition. 2. Selection of vehicle: Type of load, Class of passenger, Type of service. 3. Organization setup: Govt., Semi Govt., Private. 4. Legal compliance: Documents required as per MVA, Registration. 5. Policies of transport organization: Policies towards passengers and employees. <p style="text-align: center;">OR</p> <ol style="list-style-type: none"> 1. Market potential: It includes - Type of goods/ passengers, Period of use, Probable competition 2. Selection of vehicle: It depends upon Type of load, Class of passenger, Type of service. a. Depending upon load to be carried, road conditions, working conditions, type of goods to be carried etc. the appropriate vehicle to be selected. i.e. If a vehicle is to be selected of transporting large loads, the choice will be for high powered vehicles. b. The selection of chassis length mainly depends upon the load to be carried and road conditions. MSRTC has preferred the buses with short length of chassis to run in Konkan region: because the roads in that region are narrow and most of the Konkan region consist of ghat section hence to take the turn, the buses with short chassis are preferable than ordinary buses. 3. Organization setup: Govt., Semi Govt., Private. 4. Legal compliance: Documents required as per MVA like a. Registration certificate b. Tax certificates c. Insurance certificate d. PUC certificate e. Permits etc 5. Policies of transport organization: Policies towards passengers and employees. a. Policies towards passenger:- 1. Luxury service, 2. Concession Pass for students and senior citizen, 3. Express service on special route, 4. Night service on special route, 5. Vehicles for Special private Tours/Yatras/functions/ Educational tours on public demand, b. Policies toward employees – 1. Bonus for employees – Bonus is compensation for the work that the employee has performed in addition to the employee’s regular salary or wages for motivational purpose. 2. Overtime Allowances – Overtime allowance is admissible for work done in excess of one hour of the prescribed hours of work on any working day and includes work done on Sundays or any other holidays 3. Health insurance: To provide the 			



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		health insurance to the employee and his family to maintain healthy working atmosphere. 4. Free Travel packages: The state transport undertaking like MSRTC provides such packages to their employees and their family for specific period per year. 5. Employee Training: Transport organizations provide training to employees to upgrade their skills as per need.	
05		Attempt any FOUR of the following:	16
	(a)	Explain meaning of Taxation with its objectives.	04
	Ans	Taxation: (2 marks) Taxes in India are levied by the Central Government and the state governments. Some minor taxes are also levied by the local authorities such as the Municipality. A Tax is nothing but a compulsory contribution to nation. Objectives of taxation: (Any two objectives – 1 mark each) 1. Raising the revenue of government. 2. Economical growth of state and nation. 3. Reduction in unemployment. 4. Reduction in regional disparities. 5. Distributional justice to all the people.	
	(b)	Explain the Rules of Central Government regarding Transport and storage of Petroleum Products.	04
	Ans	(Note: Equivalent credit shall be given to any other suitable explanation) Rules of Central Government regarding Transport and storage of Petroleum Products: (Any 4 points) 1. A supplier of oil/petroleum product must arrange a set of routes to replenish the inventories of asset of customer. 2. While deciding routes for delivery of petroleum product customers on the same routes are decided accordingly the transport vehicle is arranged. 3. No one shall import, transport or store any petroleum except in accordance with the rules made under Section 4. 4. Central Government may make rules regulating import, transport and storage of petroleum prescribing various forms and conditions of licences, and also conditions subject to which petroleum may be stored. 5. No one shall produce, refine or blend petroleum except in accordance with rules made under it's sub-section (2). Under this Sub-Section (2) of the Act, the Central Govt. may make rules prescribing the conditions to which petroleum may be produced, refined or blended.	
	(c)	State the factors to be considered while buying a new Vehicle.	04
	Ans	The factors to be considered while buying new vehicle: (Any 4 points -1 mark each) a) Features and quality of new vehicle: Checkout the features offered and additional optional fittings, which suits your lifestyle. Checkout the quality factors of new vehicle like mileage, fuel storage capacity, option of using alternative fuels like CNG/LPG, also safety features like airbags, antilock braking system etc. b) Ex-showroom price and on road price: There is huge difference between on-road price and ex-showroom price. Ex-showroom price is the basic price which does not include Insurance, RTO registration charges, extended warranty if any and sometimes the Municipality Road tax etc. After adding all these you will get on road price. c) Use of vehicle: Select the vehicle on basis of for what purpose you are buying a new vehicle (Personal use, Commercial use, expected seating capacity etc.) d) Inspecting the vehicle: Before purchasing the vehicle inspect the vehicle for whether the features are as per your demands or not. e) Gather expert reviews: Read expert comments and reviews on the vehicle, you are buying. Do	



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the comparative study with other same class of vehicles to checkout for added benefits. Enquire about extended warranty as well as regular service contract.
f) **Test drive the vehicle:** Analyze and be sure that the vehicle has characteristics that you are looking for. Inspect and feel carefully all the interior and exterior such as bonnet, of vehicle. Checkout your vehicle thoroughly including braking, electrical, steering system etc before driving at home.
g) **When and where to buy:** Vehicles prices hike up and down often, Ex- Showroom price & tax applicable can also varied as per location hence it's important to decide when and where to buy a vehicle.
h) **Closing the deal:** Vehicles prices hike up and down often, so negotiate the price of the vehicle. Remember the Actual price of the car may be far less than the Advertised price so bargain as much as possible.

(d) **Describe the role of GPS and Navigation system for vehicle and traffic Control Management.**

04

Ans

Role of GPS and traffic navigation system: (Any 4 points - 1 mark each)
1. **To locate vehicle:** A vehicle tracking system enables the fleet operator to find out the location of the vehicle throughout the journey of the vehicle, against time. Most transporters use GPS to locate their vehicles.
2. **Fleet Management:** GPS vehicle tracking system also helps the fleet owners to see the vehicle's current data like its mileage, speed, engine capacity, direction of travel etc. for the fleet owners to manage their fleets and improve their business strategies
3. **Vehicle Security:** Vehicle tracking system can be used to protect their vehicles from theft. The system shows the location of the vehicle and hence helps to recover your stolen vehicle. It is even possible to stop the vehicle's engine remotely
4. **Teens Safety:** Vehicle Tracking System can also be used by the parents to ensure the safety of their teen-agers driving the vehicle. System gives you the report of where the vehicle went, its speed, how long it stopped and etc
5. **School Buses:** Vehicle Tracking System proves beneficial for schools to track the bus locations. This system will be helpful to keep an eye on the movement of school buses.
6. Apart from utilizing the data generated by the vehicle tracking system for **enforcing the schedule of the bus**, this data also provides important inputs for decision making.
7. The system **facilitates computation of exact distance travelled in a given time span**, computation of the speed of the bus at a given location, analysis of the time taken by the bus to cover certain distance.
8. It becomes a very **powerful tool in case the Transport Corporations** are hiring private buses, as computation of the distance travelled, based on which payments are made becomes totally objective.



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(e)	Differentiate between RTA and STA (any four points)		04																											
Ans	<table border="1"> <thead> <tr> <th data-bbox="203 325 332 367">Sr.No</th> <th data-bbox="332 325 844 367">STA</th> <th data-bbox="844 325 1445 367">RTA</th> </tr> </thead> <tbody> <tr> <td data-bbox="203 367 332 409">1</td> <td data-bbox="332 367 844 409">It is the State Transport Authority</td> <td data-bbox="844 367 1445 409">It is the Regional Transport Authority</td> </tr> <tr> <td data-bbox="203 409 332 556">2</td> <td data-bbox="332 409 844 556">STA give effect to the directives issued under section 67 to control road transport by state Government throughout the state.</td> <td data-bbox="844 409 1445 556">RTA decides the policies to control road Transport as per the directives of STA Throughout the region.</td> </tr> <tr> <td data-bbox="203 556 332 661">3</td> <td data-bbox="332 556 844 661">To co-ordinate and regulate the activities and policies of the Regional Transport Authorities</td> <td data-bbox="844 556 1445 661">To fix the fares for the auto-rickshaws, taxis etc. from time to time throughout the region</td> </tr> <tr> <td data-bbox="203 661 332 766">4</td> <td data-bbox="332 661 844 766">To conduct not less than two meetings in a year</td> <td data-bbox="844 661 1445 766">To conduct not less than six meetings in a year and do the business regarding control of road transport</td> </tr> <tr> <td data-bbox="203 766 332 808">5</td> <td data-bbox="332 766 844 808">Chairman- Transport secretary</td> <td data-bbox="844 766 1445 808">Chairman- Divisional/Revenue Commissioner</td> </tr> <tr> <td data-bbox="203 808 332 955">6</td> <td data-bbox="332 808 844 955">Members- I.G.(Police), Chief Engineer of PWD, Few MLA's and Two non-government Representatives</td> <td data-bbox="844 808 1445 955">Members- Deputy I.G.(Police), Superintending Engineer of PWD, Few MLA's and One non-government representative</td> </tr> <tr> <td data-bbox="203 955 332 1029">7</td> <td data-bbox="332 955 844 1029">Secretary – Transport commissioner or Joint transport commissioner</td> <td data-bbox="844 955 1445 1029">Secretary – Regional transport officer</td> </tr> <tr> <td data-bbox="203 1029 332 1134">8</td> <td data-bbox="332 1029 844 1134">To consider applications for grant, renewal, and transfer of permit on interstate routes</td> <td data-bbox="844 1029 1445 1134">To consider applications for grant and renewal of license and permit within the region</td> </tr> </tbody> </table>	Sr.No	STA	RTA	1	It is the State Transport Authority	It is the Regional Transport Authority	2	STA give effect to the directives issued under section 67 to control road transport by state Government throughout the state.	RTA decides the policies to control road Transport as per the directives of STA Throughout the region.	3	To co-ordinate and regulate the activities and policies of the Regional Transport Authorities	To fix the fares for the auto-rickshaws, taxis etc. from time to time throughout the region	4	To conduct not less than two meetings in a year	To conduct not less than six meetings in a year and do the business regarding control of road transport	5	Chairman- Transport secretary	Chairman- Divisional/Revenue Commissioner	6	Members- I.G.(Police), Chief Engineer of PWD, Few MLA's and Two non-government Representatives	Members- Deputy I.G.(Police), Superintending Engineer of PWD, Few MLA's and One non-government representative	7	Secretary – Transport commissioner or Joint transport commissioner	Secretary – Regional transport officer	8	To consider applications for grant, renewal, and transfer of permit on interstate routes	To consider applications for grant and renewal of license and permit within the region		
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(f)	State the procedure of hiring of a Truck.		04																											
Ans	<p>Procedure to hire a truck for transport operation:</p> <ol style="list-style-type: none"> 1. From booking office obtain the stock of goods to be lifted to various destinations. 2. Analysis the crossing / transshipment points through which consignments are to be dispatched. 3. Analysis the possibilities of adjustments in loading calculate the number of vehicle required for hire etc. 4. Contact approved truck suppliers for each destination for the availability of truck and rates contact at least five suppliers. 5. Record their name and rates in register. 6. Obtain from other transport companies the rates at which they hire out the trucks and cross checks the rates of the suppliers. 7. Choose that truck supplier whose services are prompt and whose rates are competitive and economical. 8. Decide about the terms and conditions for transport of goods- <ol style="list-style-type: none"> i. Speed: The goods should be transported within the shortest possible time. ii. Safety: The Physical damage to goods must be prevented by careful handling. The safety of the goods gives the customer faith in the organization. iii. Capacity: An efficient transport system must have an adequate capacity for all sorts of demands. iv. Frequency: The frequency of a service is related to speed and capacity. v. Regularity: Regularity of operation is obtained when the frequency of operation is evenly spread. vi. Responsibility: The transport operator must take the responsibility of safe transport of consignment, should compensate for the loss or damage to the goods, if any when the goods are in his custody. 		04																											



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06		Attempt any FOUR of the following:	16																																																				
(a)		Describe the taxation structure of passengers and goods transport vehicles.	04																																																				
Ans	<p>(Note: Equivalent credit shall be given to any other suitable explanation)</p> <p>Vehicle used or kept to be used in Maharashtra state are liable for payment of taxes as per BMV Tax act w.e.f. 1958</p> <p>Taxation structure of passengers transport vehicles: One time Tax: It is applicable for non transport vehicles as below.</p> <table border="1"> <thead> <tr> <th>Sr. No.</th> <th>Manufactured in</th> <th>Class of vehicle</th> <th>Purchase by individual</th> <th>Purchase by company</th> </tr> </thead> <tbody> <tr> <td>01</td> <td>India</td> <td>Motor cycle Auto rikshaw</td> <td>7%</td> <td>21%</td> </tr> <tr> <td></td> <td></td> <td>LMV and Omni Bus</td> <td>4%</td> <td>12%</td> </tr> <tr> <td>02</td> <td>Imported</td> <td>Motor cycle Auto rikshaw</td> <td>7%</td> <td>21%</td> </tr> <tr> <td></td> <td></td> <td>LMV and Omni Bus</td> <td>8%</td> <td>12%</td> </tr> </tbody> </table> <p>Taxes on passengers vehicles</p> <table border="1"> <thead> <tr> <th>Sr. No</th> <th>Type of Permit or Class of Vehicle</th> <th>Tax rate per seat per annum</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Vehicles on contract carriage permits or running on inter state routes</td> <td></td> </tr> <tr> <td>(a)</td> <td>Ordinary Omni bus.</td> <td>1000</td> </tr> <tr> <td>(b)</td> <td>Tourist vehicles or ordinary omni buses having seating arrangement as prescribe under rule 128 of CMVR , 1989.</td> <td>4000</td> </tr> <tr> <td>(c)</td> <td>Air conditioned vehicles operated by private operators.</td> <td>5000</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Sr.No</th> <th>Type of Permit or Class of Vehicle</th> <th>Tax rate per seat per annum</th> </tr> </thead> <tbody> <tr> <td>2.</td> <td>Inter State route permit Vehicles</td> <td></td> </tr> <tr> <td>(a)</td> <td>Air conditioned vehicles.</td> <td>5000</td> </tr> <tr> <td>(b)</td> <td>Other than A/C vehicles.</td> <td>4000</td> </tr> </tbody> </table>		Sr. No.	Manufactured in	Class of vehicle	Purchase by individual	Purchase by company	01	India	Motor cycle Auto rikshaw	7%	21%			LMV and Omni Bus	4%	12%	02	Imported	Motor cycle Auto rikshaw	7%	21%			LMV and Omni Bus	8%	12%	Sr. No	Type of Permit or Class of Vehicle	Tax rate per seat per annum	1	Vehicles on contract carriage permits or running on inter state routes		(a)	Ordinary Omni bus.	1000	(b)	Tourist vehicles or ordinary omni buses having seating arrangement as prescribe under rule 128 of CMVR , 1989.	4000	(c)	Air conditioned vehicles operated by private operators.	5000	Sr.No	Type of Permit or Class of Vehicle	Tax rate per seat per annum	2.	Inter State route permit Vehicles		(a)	Air conditioned vehicles.	5000	(b)	Other than A/C vehicles.	4000	02 02
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Sr.No	Type of Permit or Class of Vehicle	Tax rate per seat per annum
3.	Special Permit Vehicles U/Sec-88(8)	
(a)	Tourist vehicles or ordinary omni buses having seating arrangement as prescribe under rule 128 of CMVR , 1989.	4000
(b)	Ordinary omni bus not covered in 1(a).	5000
(c)	Air Conditioned Vehicles.	5000

Sr.No	Type of Permit or Class of Vehicle	Tax rate per seat per annum
4.	Private Service Vehicles.	
(a)	Air Conditioned Vehicles.	1800
(b)	Other than Air Conditioned Vehicles.	800
(c)	Standees.	250

Taxation structure of goods transport vehicles:

The taxation applied for goods vehicles is mentioned in this schedule. The following table illustrates the same.

Vehicle Type and Laden Weight (in Kilograms)	Tax per year (in INR)
Less than 750	880
Equal to or more than 750 but less than 1500	1,220
Equal to or more than 1500 but less than 3000	1,730
Equal to or more than 3000 but less than 4500	2,070
Equal to or more than 4500 but less than 6000	2,910
Equal to or more than 6000 but less than 7500	3,450
Equal to or more than 7500 but less than 9000	4,180



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Equal to or more than 9000 but less than 10500	4,940
Equal to or more than 10500 but less than 12000	5,960
Equal to or more than 12000 but less than 13500	6,780
Equal to or more than 13500 but less than 15000	7,650
Equal to or more than 15000	8,510
Equal to or more than 15000 but less than 15500	7,930
Equal to or more than 15500 but less than 16000	8,200
Equal to or more than 16000 but less than 16500	8,510
Equal to or more than 16500	Inclusive of INR 8510 plus INR 375 for every 500 kilos or part thereof in excess of 16,500 kilos

Schedule A (VII):

This schedule deals with the category of vehicles that might come as an exclusion to the schedules already mentioned above. The vehicles that can be considered herein are non-transport ambulances, vehicles with temporary location in the state or with seating capacity more than 12. The following table depicts the tax amount levied on them.

Unloaded Weight of vehicle (ULW) (in kilograms)	Tax (in INR)
Less than 750	600
Equal to or more than 750 but less than 1500	800
Equal to or more than 1500 but less than 2250	900
Equal to or more than 2250 and permitted to have 6 or less passengers	1000



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		More than 2250			
		Permitted to have 6 or more passengers (limited to 12)	175		
		Permitted to have 12 or more passengers	500		
(b)		State various types of Booking and explain any one.			04
Ans		<p>(Any 4 points- 1 mark each) Answer: Following types of booking used in transport management.</p> <p>1. To Pay at Destination: In this type of booking the party has to pay the cash and take delivery. 2. Paid: In this type, party to pay the freight charges in advance. 3. Billing: In this type, party has to pay the charges on submission of bills. There are five copies of a goods consignment notes for consignee copy, consigner copy, driver's copy, head office copy for accounts and office copy. 4. Online Payment: Payment through Internet banking in advance or after the delivery of Consignment.</p>			
(c)		Describe the procedure of preparation of vehicle for sale by owner. State their usefulness.			04
Ans		<p>Preparation for selling of old vehicle. 1. Give vehicle "Curb Appeal": When people come to buy car, they will probably make up their minds to buy it or not within the first few seconds. This is based on their first look at the car. So car should have "Curb Appeal". 2. Before you advertise your car for sale, make sure it looks clean and attractive:</p> <p>1) Wash and vacuum the car.</p> <p>2) Make sure that vehicle is free from abnormal sounds, dents, scratches.</p> <p>3) If necessary, make low cost repair or replacement of parts.</p> <p>4) Wipe the brake dust off the wheel covers and treat the tyres with a tyre gloss product.</p> <p>5) Thoroughly clean the windows (inside and out) and all the mirrored surfaces.</p> <p>6) Wipe down the dashboard and empty the ashtrays.</p> <p>7) Keep all maintenance records ready to show prospective buyers.</p> <p>8) If necessary, do the servicing.</p> <p>3. Documentation: Following documents are required while selling the vehicle -</p> <p>i) Registration certificate</p> <p>ii) Tax certificate</p> <p>iii) Insurance certificate</p> <p>iv) PUC certificate</p> <p>v) NOC certificate</p> <p>4. Set your vehicle price: Keep the written estimate of repair on damage if any before selling. Take a copy of service record from the dealer to assure that the vehicle is maintained properly. Set the price of vehicle that will be best negotiable.</p>			04
(d)		How traffic is controlled in the city of Mumbai by Advance techniques?			04
Ans		<p>(Note: Equivalent credit shall be given to any other suitable explanation)</p> <p>Following are the Advanced Traffic Control techniques or devices which are used to control Traffic in the city of Mumbai. (Any 04)</p> <p>1. Traffic camera: A traffic enforcement camera system, consisting of a camera and a vehicle-monitoring device, is used to detect and identify vehicles disobeying a speed limit or some other road legal requirement.</p> <p>2. Ramp meter: A ramp meter, ramp signal or metering light is a device, usually a basic traffic light or a two-section signal (red and green only, no yellow) light together with a signal controller that regulates the flow of traffic entering freeways according to current traffic conditions.</p>			04



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3. Highway advisory radio: The Highway Advisory Radio System (HARS) is a low power radio station designed to provide current information to motorists about local road conditions, closures, and delays. Motorists could obtain HAR information by tuning their FM car radios to a predefined frequency.

4. Roadside traffic sensors: These sensors send available traffic information to develop optimal traffic control strategies addressing traffic needs at a single intersection, along an arterial or freeway, along a given corridor, or throughout a given area to the advance traffic management system.

5. Variable speed limits: Variable speed limits that change with road congestion and other factors

6. Smart card: Smart cards can provide identity documentation, authentication, data storage, and application processing. Smart cards may provide strong security authentication for single sign-on (SSO) within large organizations.

7. Bluetooth- Bluetooth is a wireless standard used to communicate between electronic devices like mobile phones, smart phones, headsets, navigation systems, computers etc. Bluetooth road sensors are able to detect Bluetooth MAC addresses from Bluetooth devices in passing vehicles. If these sensors are interconnected they are able to calculate travel time and provide data for origin and destination matrices

8. Traffic signal: These signals are used to control traffic flow at temporary traffic control zones.

9. Dynamic message sign: This is an electronic traffic sign often used on roadways to give travellers information about special events. Such signs warn of traffic congestion, accidents, incidents, roadwork zones, or speed limits on a specific highway segment. In urban areas, VMS are used within parking guidance and information systems to guide drivers to available car parking spaces. Note: Credit shall be given to any other advance traffic devices

(e) **Describe 'ISO systems and EURO Norms' for Motor Industry in India.**

04

Ans (Note: Equivalent credit shall be given to any other suitable explanation)

ISO systems for Motor Industry in India: The globalization has generally intensified the competition in international as well as domestic markets. Consumers now demand enhanced product quality and variety. In the automotive sector the global and regional outsourcing of components has risen over time. The product quality is a critical concern in automotive sector. Vehicle manufacturers (also called automotive Original Equipment Manufacturers, OEMs) and governments are interested in the safety and quality of vehicles sold, and therefore, also in the quality of auto components. With platform-sharing across a number of vehicle models – a general practice followed by automobile manufacturers – the failure of a common key component poses larger risks. Poor quality of vehicles can lead to excessive fuel consumption, high costs of dismantling & repairs, and accidents. In many advanced countries the vehicle sales are subjected to stringent product recall liabilities and severe penalties in accident lawsuits. The ISO/TS-16949 “standard was developed to satisfy a pressing need of the automotive suppliers, which – since the 1990s were subject to a confusing mass of military, national and customer standards” The ISO/TS-16949 Standard has been developed by the International Automotive Task Force, IATF an ad-hoc group of major global vehicle producers and national automotive associations and approved by the ISO technical committee ISO/TC 176 ‘Quality Management and Quality Assurance’, responsible for the ISO-9000 QMS. The IATF also manages the ISO/TS-16949 accredits through its oversight offices. As per the IATF list updated on August 14, 2013, there are 45 contracted ISO/TS-16949: 2009 Certification Bodies; among those, the Indian Register Quality Systems, IRQS, is based in India.

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	<p>EURO Norms for Motor Industry in India: EURO norms or Bharat stage emission standards (BSES) are emission standards instituted by the Government of India to regulate the output of air pollutants from internal combustion engines and Spark-ignition engines equipment, including motor vehicles. The standards and the timeline for implementation are set by the Central Pollution Control Board under the Ministry of Environment & Forests and climate change. While the norms help in bringing down pollution levels, it invariably results in increased vehicle cost due to the improved technology & higher fuel prices. However, this increase in private cost is offset by savings in health costs for the public, as there is lesser amount of disease causing particulate matter and pollution in the air.</p>	02
(f)	<p>Explain the importance of Automobile Engineer in Transport Organization.</p>	04
Ans	<p>An Automobile Engineer is the real technocrat in automobile as well as transport industry, so he is required to play an important role as a responsible person as follows- (<i>Any four points, each carry 1 mark</i>)</p> <ol style="list-style-type: none">1. Automobile engineers as an authority have to perform different functions in the office of STA/RTA as licensing authority, registration authority, Taxation authority etc.2. In transport organizations, planning and scheduling various transport operations - Route Survey and trip planning, Scheduling of buses and Crews,3. To maintain different records and its analysis.4. Traffic analysis and control.5. To adopt new technology and to introduce various improvement programs in new generation vehicle.6. To try for different means of fuel economy.7. To try to make vehicle more attractive, more comfortable and more reliable.8. He is required to carry out the research and impart drivers training and road safety aspects.	