



WINTER -14 EXAMINATION

Subject Code: 12253

Model Answer

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**Important Instructions to examiners:**

- 1) The answers should be examined by key words and not as word-to-word as given in the model answer scheme.
- 2) The model answer and the answer written by candidate may vary but the examiner may try to assess the understanding level of the candidate.
- 3) The language errors such as grammatical, spelling errors should not be given more importance. (Not applicable for subject English and Communication Skills).
- 4) While assessing figures, examiner may give credit for principal components indicated in the figure. The figures drawn by candidate and model answer may vary. The examiner may give credit for any equivalent figure drawn.
- 5) Credits may be given step wise for numerical problems. In some cases, the assumed constant values may vary and there may be some difference in the candidate's answers and model answer.
- 6) In case of some questions credit may be given by judgment on part of examiner of relevant answer based on candidate's understanding.
- 7) For programming language papers, credit may be given to any other program based on equivalent concept.

1. (A) Attempt any THREE of the following:	12
(a) Define the terms: i) In-valid carriage ii) Motor Cab iii) Un-laden weight iv) Certificate of fitness	4
Answer: <b>Definition:</b> (Each correct definition carry 1 mark)	
i) <b>In-valid carriage:</b> It is defined as a motor vehicle specially designed and constructed, and not merely adapted, for the use of a person suffering from some physical defect or disability, and used solely by or for such a person.	1
ii) <b>Motor cab:</b> It is defined as, any motor vehicle constructed or adapted to carry not more than six passengers excluding the driver for hire or reward.	1
iii) <b>Un-laden Weight:</b> It is defined as, the weight of a vehicle or trailer including all equipment ordinarily used with the vehicle or trailer when working, but excluding the weight of a driver or attendant;(and where alternative parts or bodies are used the un-laden weight of the vehicle means the weight of the vehicle with the heaviest such alternative part or body.)	1
iv) <b>Certificate of fitness:</b> It is defined as, document in the prescribed form, showing that vehicle is mechanically fit and comply with all the specifications and requirements of motor vehicle act.	1
(b) What is registration mark? How it is displayed on transport vehicles?	4
Answer: <b>Registration Mark:</b> The registering authority shall assign to the vehicle, for display, a distinguishing mark (registration mark) consisting of one of the groups of such of those letters and followed by such letters and figures as are allotted to the State by the Central Government from time to time and displayed and shown on the motor vehicle. The registration mark is issued by the registering authority will be valid throughout the India.	1



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**Display of registration mark on transport vehicles:**

In case of transport type of vehicle the registration mark should be affixed on the front and rear side as well as left and right side of the vehicle clearly and legibly, in the form of security license plate as specified in CMVR 50.

e. g **MH 14 DR 2253**

3

The letters and figures should be painted by black colour on yellow background.

The dimension of letters and figures and the space between different letters and numerals and letters and edge of the plain surface as specified in CMVR 5

**Letters:**

Minimum height - 6.5cm, Minimum Thickness – 1.5cm,

**Numerals:**

Minimum height - 9 cm, Minimum Thickness - 2 cm

**Minimum space between letters or Numerals – 1.5 cm**

**(c) Compare rural transport with urban transport.**

4

**Answer: Comparison of Rural transport with Urban transport: (Any 4 points- each carry 1 mark)**

Sr. No.	Factor	Rural Transport	Urban Transport
1	Area of Operation	Village Areas	Urban, Sub urban areas
2	Purpose of transport	It is basically used to transport the agricultural products and few passengers.	It is basically used as a public transport where the place of work and place of residence is far away and for transportation of industrial goods.
3	Means of Transportation	e. g Bullock cart, cycles, Motor cycles, tractors etc.	Buses, taxies, trucks, tempos, rickshaws, motor cycle etc.
4	Administration of transportation	MSRTC provides transport service in rural area.	MSRTC/ Municipal Corporation undertaking/ Private Undertaking runs the transport services.
5	Cost of Transport	Low operational cost as compare to Urban	More operational cost.
6	Traffic Density and Frequency of services	Low traffic density, so transport services are available with less frequency.	High traffic density, so transport services are operated 24 hrs.
7	Passenger Comfort	It is less comfortable due to poor infrastructural facilities.	More Comfortable as compare to rural transport.
8	Road condition	All weather access roads are not available. Narrow, earth roads which consumes more fuel.	All weather access roads are available. Wider and Well laned roads which save fuel consumption.
9	Pollution and traffic condition	Less pollution and problem of traffic jam.	More pollution and problem of traffic jam.

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<b>(d) What is meant by 'Valuation of vehicle'? How it is done?</b>	4
<b>Answer: Valuation of vehicle:</b> The process of determining the current worth of a vehicle is called as valuation. Valuation is done to assess the market value of used vehicle at the time of sale or in an event of an accident to claim insurance.	1
<b>Procedure of Valuation:</b> a. Know the current market value of vehicle. b. 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. c. Calculate the depreciation of vehicle based on usage and aging. d. Analyze the mechanical condition and damage occurred with respect to Body, Chassis, Aesthetics, Engine condition, vibrations, noise etc. e. Consider the Tyre condition and decide tyre cost. f. Kilometers driven (you can find this on the odometer on the dashboard) g. Considering all above factors the valuation of used car is done.	3
1. (B) Attempt any ONE of the following:	06
(a) What is 'Motor vehicle insurance'? State its types and describe any one type with its significance.	6
<b>Answer: Motor vehicle Insurance:</b> It is the insurance which provides social compensation for the benefit of general public who are injured or who have got death or whose vehicle is damaged in road accident. Motor vehicle Insurance is an agreement between the insurer and the insured wherein the insurer provides financial cover for the vehicle and the insured in return pays specific premium annually. It provides protection for your vehicle against the financial loss and liability that could result as a part of accident or theft.	2
<b>Types of Motor vehicle Insurance:</b> The motor vehicle insurance is covered under the two types of insurance policies-	
i) <b>Comprehensive insurance</b> ii) <b>Third Party insurance</b>	1
<b>Description and significance of Motor vehicle Insurance: (Any one)</b>	
i) <b>Comprehensive insurance-</b> It covers the risk of vehicle and its owner or driver as well as third party which involves in an accident. Fire and theft cover is also provided against damage to the insured's vehicle. It does not include any mechanical breakdown. The extent of comprehensive insurance may vary in detail from company to company. It is required to renew the policy annually, and it can be renewed two months in advance.	3
ii) <b>Third Party insurance</b> – It means the person or property other than the vehicle and vehicle owner are safeguarded under this insurance. It is compulsory to all vehicles to safeguard the interest of pedestrians. Personal injuries and personal vehicle damages will not be covered by this policy. For two wheelers, we can take this policy for life time. For other vehicles this policy has to be renewed annually.	

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(b) Draw signs:

- i) No Entry
- ii) Restriction end
- iii) One way

6

Answer: (Note: Each traffic sign carries 2 marks)

(i) No Entry Sign:



(ii) Restriction end Sign:



6

(iii) One way Sign:



OR

2. Attempt any FOUR of the following:

16

(a) Differentiate between duties and responsibilities of STA and RTA

4

Answer: **Difference between duties and responsibilities of STA and RTA:**

Sr. No.	STA (State Transport Authority)	RTA (Regional Transport Authority)
1	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.
2	To co-ordinate and regulate the activities and policies of the Regional Transport Authorities	To fix the fares for the auto-rickshaws, taxies etc. from time to time throughout the region
3	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
4	To consider applications for grant, renewal, and transfer of permit on interstate routes	To consider applications for grant and renewal of licence and permit within the region

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(b) State any four provisions regarding construction of motor vehicles as per M. V. Act.	4												
<p><b>Answer: Provisions regarding construction of motor vehicles as per M. V. Act: (Any four)</b></p> <p>The Central government may make rules regulating the construction, equipment and maintenance of motor vehicles and trailers to all or any of the following matters namely,</p> <ol style="list-style-type: none"> <li>The width, height, length and overhang of vehicles and of the load carried,</li> <li>The size, nature and condition of tyres,</li> <li>Brakes and steering gear,</li> <li>Signaling appliances, lamps and reflectors</li> <li>Speed governors.</li> <li>The emission of smoke, visible vapours, sparks, ashes, grit or oil,</li> <li>The reduction of noise caused by vehicles,</li> <li>The embossment of chassis number and engine number and the date of manufacturing.</li> <li>Safety belts, handle bars of motorcycles, auto dippers and other equipments essential for safety of drivers, passengers and other road users.</li> <li>Provision for transportation of goods of dangerous or hazardous nature to human life.</li> <li>Use of safety glasses including prohibition of the use of tinted safety glasses.</li> </ol>	4												
(c) What is necessity of driving licence? State the validity period of driving licence.	4												
<p><b>Answer: Necessity of Driving License:</b></p> <p>No person shall drive a motor vehicle in any public place unless he holds an effective driving license issued to him authorizing to drive the vehicle of particular class mentioned therein; and no person shall so drive a transport vehicle hired for his own use or rented under any scheme, unless his driving licence specifically entitles him to do so.</p> <p>Driving a motor vehicle without a valid driving licence is an offence.</p> <p><b>Validity period of driving license:</b></p> <table border="1"> <thead> <tr> <th>Type of Licence</th> <th>Validity period</th> </tr> </thead> <tbody> <tr> <td>Learner's Licence</td> <td>6 Months</td> </tr> <tr> <td>Transport Licence</td> <td>3 Years</td> </tr> <tr> <td>License to drive vehicle carrying hazardous chemicals.</td> <td>1 Year</td> </tr> <tr> <td>After the age of 50 yrs</td> <td>5 Years</td> </tr> <tr> <td>All other class of licence (Till the age of 50 years)</td> <td>20 years or up to the age of 50 years whichever is earlier</td> </tr> </tbody> </table>	Type of Licence	Validity period	Learner's Licence	6 Months	Transport Licence	3 Years	License to drive vehicle carrying hazardous chemicals.	1 Year	After the age of 50 yrs	5 Years	All other class of licence (Till the age of 50 years)	20 years or up to the age of 50 years whichever is earlier	2
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(d) How do you select a vehicle for transportation of goods? Describe it.	4												
<p><b>Answer:</b> For economic and efficient transportation of goods a proper and effective management of vehicles is important.</p> <p><b>Selection of a vehicle for transportation of goods is based on following factors:</b></p> <ol style="list-style-type: none"> <li>Distance to be covered</li> <li>Time taken for movements</li> <li>Power unit e.g. petrol and diesel engine</li> <li>Pay load unit of vehicle- forms the body of the vehicle. It is constructed on the chassis of the vehicle. The length of the chassis is specified under the chapter VII of the M.V. Act. The selection of length of chassis mainly depends upon the load to be carried and road conditions.</li> <li>Working condition of vehicle</li> <li>Type of goods to be carried</li> </ol>	4												





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3. Attempt <b>any FOUR</b> of the following:	16
a) What is permit? State purpose of 'National permit'.	4
Answer: <b>Permit:</b> It is the document issued by a state or Regional transport authority or an authority prescribed in this behalf under M.V. Act authorizing the use of a motor vehicle on the road or on a particular route or region as a transport vehicle.	1
<b>Purpose of National permit:</b> 1) The national permit is granted to the vehicles running on the routes in two or more regions within the same state or on the interstate routes for a long period. 2) No owner of a motor vehicle shall use or permit the use of the vehicle as a transport vehicle in any public place, whether or not such vehicle is actually carrying any goods save in accordance with the conditions of a permit granted or countersigned by a Regional or State Transport Authority authorizing him the use of the vehicle in that place in the manner in which the vehicle is being used. 3) If it is proposed to use the vehicle or vehicles in two or more region lying within the same state, the application shall be made to the Regional Transport Authority of the region in which the major portion of the proposed route or area lies. 4) Government generates revenue by granting new permits. 5) No national permit shall be granted in respect of a goods carriage which is more than nine years old at any point of time.	3
b) Is the tax once paid can be refunded? If yes, give the circumstances.	4
Answer: <b>Yes</b> , Tax once paid can be refunded. <b>Circumstances for refund of tax:</b> (Any three - 1 mark each) 1. The vehicle is proposed to keep as non use. 2. The tax is paid in excess amount than specified. 3. The vehicle is used on government duty. 4. The vehicle is used on general public utility. 5. Refusal by the registration authority to renew the registration certificate, Suspension or cancellation of the registration certificate for some specified period.	1 3
c) Give the procedure and documents required to obtain conductor's license.	4
Answer: <b>Documents required for conductors License:</b> 1. An application for conductor license is to be made in the Form L. Con A 2. Medical certificate issued by RMP 3. Three copies of recent passport size Photograph. 4. SSC passing Certificate. 5. School Leaving certificate 6. Address Proof and photo identity card. <b>Procedure for conductors License:</b> 1. Any person who possesses such minimum educational qualification as may be prescribed by State Government and is not disqualified, and who is not for the time being disqualified for holding or obtaining a conductor's license may apply to the licensing authority having jurisdiction in the area in which he ordinarily resides or carries on business for the issue to him of a conductor's license. 2. Application shall be in such form (L CON A) and shall contain such information as may be prescribed. 3. Application shall be accompanied by a medical certificate in prescribed form, signed by a registered medical practitioner and also two clear recent photographs. 4. Pay appropriate fee. 5. After fulfilling above requirements he / she is required to undergo oral test in front of RTA. Some	1 3





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f) What are the basic elements of transport management?	4
Answer: <b>Basic elements in transport management:</b> (Any 4 points - each point carry 1 Mark) <b>1) Market potential:</b> It includes -Type of goods/ passengers, Period of use, Probable competition. <b>2) Selection of vehicle:</b> It depends upon type of load, Class of passenger and type of service required. Depending upon load to be carried, road conditions, working conditions, type of goods to be carried etc, the appropriate vehicle to be selected e.g. If a vehicle is to be selected of transporting large loads, the choice will be for high powered vehicles The selection of chassis length mainly depends upon the load to be carried and road conditions e.g. 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. <b>3) Organization setup:</b> Govt., Semi Govt., Private. <b>4) Legal compliance:</b> Documents required as per MVA, Registration. <b>5) Policies of transport organization:</b> Policies towards passengers and employees. i) <b>Policies towards passenger:-</b> Luxury service, Concession Pass for students and senior citizen, Express service on special route, Night service on special route, Vehicles for Special private Tours/Yatras/ functions/ Educational tours on public demand, Providing passenger amenities etc. ii) <b>Policies toward employees –</b> Bonus , Overtime allowance, Special duty Allowance, Provident fund, Health insurance, Co-operative Societies, Free travelling packages to employee and their family members, Training for Skill up gradation	4
4. A) Attempt any <b>THREE</b> of the following.	12
a) Describe what factors do you consider for buying new car?	4
Answer: <b>Factors to be considered for buying new car:</b> (1 mark for each point) Choosing a car is an important decision that merits carefully planning. Cars come in all sorts of sizes, configurations, shapes and prices so you have to draw a checklist as follows- <b>1) Firstly identify the car as per your need –</b> i) Calculate the amount you will pay for new vehicle i.e. Ex-showroom price, on road price, discount offered etc. ii) Locate the nearest authorized dealers and service stations. iii) Checkout various car loan scheme and opt for lowest interest, you will pay. iv) Check out your requirement – e.g. your need, daily running kilometers, Safety, comfort, road conditions, traffic condition, Size of family etc. <b>2) Checkout the features and quality of new vehicle –</b> i) Checkout the features offered and additional optional fittings, which suits your lifestyle. ii) 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>3) Gather expert reviews –</b> i) Read expert comments and reviews on the vehicle, you are buying. ii) Do the comparative study with other same class of vehicles to checkout for added benefits. iii) Enquire about extended warranty as well as regular service contract. <b>4) Test drive the vehicle –</b> i) Analyze and be sure that the vehicle has characteristics that you are looking for. ii) Inspect and feel carefully all the interior and exterior such as bonnet, of vehicle. iii) Checkout your vehicle thoroughly including braking, electrical, steering system etc before driving at home.	4

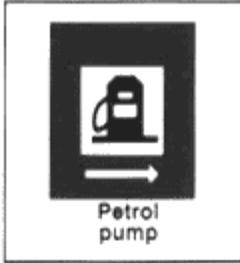


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<p><b>3. Informatory Signs:</b> <b>Importance:</b> These signs give information about high-way facilities, parking facilities.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> <div style="text-align: center;">  </div> </div>	
<p>d) List any four LMV manufactures and give one product of each.</p>	4
<p>Answer: <b>LMV manufactures and their products:</b> (one manufacturer with one product-1 mark each)</p> <ol style="list-style-type: none"> <li>1) TATA MOTORS Ltd., Pune, Maharashtra. Products Light commercial vehicles: Tata TL 4X4, Tata SFC 410 EX, Tata LPT 712 EX, Tata 207 DI EX- Single cab, Tata 207 DI - Single cab, Tata 207 DI - Crew cab, SFC 407 EX Turbo, SFC 407 Turbo Truck, LPT 709 E Turbo Container truck , LPT 407 Turbo Truck, SFC 709 E Aerial lift turbo Truck. TATA Indica, TATA Safari, Nano, Indigo etc.</li> <li>2) Mahindra &amp; Mahindra Ltd., Nashik/Mumbai, Maharashtra. Products: Alfa, Gio, Bolero Maxi Truck, Bolero Jeep, Genio, Maximo etc.</li> <li>3) Maruti Suzuki India Ltd., Manesar/Gurgaon Product: Omni Van, ALTO, Ritz, WagonR, ZEN Estillo, Swift VDi, Swift Dezire, SX4</li> <li>4) Ashok Leyland Ltd. Product- Dost, Partner, STiLE</li> </ol> <p>(Note: Credit shall be given to any other LMV Manufacturer and its product)</p>	4
<p>4. B) Attempt <b>any ONE</b> of the following :</p>	6
<p>a) Describe how will you prepare for selling of your old vehicle? Also state when and where you sell?</p>	6
<p>Answer: <b>Preparation for selling of old vehicle:</b> <b>Give vehicle "Curb Appeal":</b> 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". Before you advertise your car for sale, make sure it looks clean and attractive. This goes beyond just taking it to the car wash.</p> <ol style="list-style-type: none"> <li>1) Wash and vacuum the car.</li> <li>2) Make sure that vehicle is free from abnormal sounds, dents, scratches.</li> <li>3) If necessary, make low cost repair or replacement of parts.</li> <li>4) Wipe the brake dust off the wheel covers and treat the tyres with a tyre gloss product.</li> <li>5) Thoroughly clean the windows (inside and out) and all the mirrored surfaces.</li> <li>6) Wipe down the dashboard and empty the ashtrays.</li> <li>7) Keep all maintenance records ready to show prospective buyers.</li> <li>8) If necessary, do the servicing.</li> </ol>	3
<p><b>When to sell vehicle?</b></p> <ol style="list-style-type: none"> <li>1) Consider the age and mileage of the vehicle. If vehicle covered 1, 60,000 km then it has more mechanical problems than a newer car.</li> <li>2) If the cost of the repairs is too more, it is costing you more to keep the vehicle in running condition</li> </ol>	2



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<p>then sell the vehicle. 3) Check financial condition, if there is need of money then sell the vehicle. 4) Check dealership offers.</p> <p><b>Where to sell vehicle:</b> After making advertisement of selling vehicle, one can sell the vehicle to, 1) Friends, relatives. 2) Garages, private sell 3) Online 4) Auction</p>	1
<p>b) State general causes of road accidents and suggest suitable remedies for them.(Any six)</p>	6
<p>Answer: <b>Causes of road accident and their remedies:</b> (<i>cause with suitable remedies – 1 mark each</i>)</p> <p>1) <b>Carelessness – for example</b> using a handheld mobile telephone while the vehicle is moving, driving through the red light, emerging from a side road into the path of another vehicle, listening loud music <b>Remedy</b> - Avoid all the driving distractions while driving.</p> <p>2) <b>Lack of experience and licensing untrained drivers</b> (that is those without the knowledge of road signs) <b>Remedy</b> - As a golden rule, while driving look well ahead and all around carefully also follow all traffic signs and signals so that you are ready for any hazards that might occur.</p> <p>3) <b>Aggressive driving habits like Overspeed</b>, improper lane changing, improper overtaking etc- <b>Remedy</b>- Avoid the aggressive driving habits for safe drive, training to drivers, Awareness programs.</p> <p>4) <b>Bad Weather conditions</b> like bad lights, fogs, heavy rain etc. <b>Remedy</b> - It is necessary to use fog lamps or low beam headlights and operate efficiently other important devices like indicators, horn, wipers, parking light etc.</p> <p>5) <b>Lack of sensitivity and responsibility</b> - Driving under the influence of alcohol, intoxicated substances and under stress caused by economic or family problems. <b>Remedy</b> - Avoid consumption of alcohol while driving and be a responsible driver. Drivers training regarding traffic rules and regulations may avoid accident.</p> <p>6) <b>Breakdown of vehicle:</b> It includes tyre burst, failure of brakes, steering, propeller break etc. <b>Remedy:</b> Preventive and scheduled maintenance of vehicle.</p>	6
<p>5. Attempt <b>any FOUR</b> of the following :</p>	16
<p>a) Explain what is defensive driving?</p>	4
<p>Answer: <b>Defensive driving:</b> It means "driving to save lives, time, and money, in spite of the conditions around you and the actions of others. It is a form of training for motor vehicle drivers that goes beyond mastery of the rules of the road and the basic mechanics of driving. Its aim is to reduce the risk of collision by anticipating dangerous situations, despite adverse conditions or the mistakes of others. This can be achieved through adherence to a variety of general rules, as well as the practice of specific driving techniques.</p> <p><b>Defensive driving included</b></p> <ol style="list-style-type: none"> <li>1. Don't start the engine without securing each passenger in the car, including children and pets. Safety belts save thousands of lives each year.</li> <li>2. Leave space to escape dangerous situations.</li> <li>3. Slow down, especially during inclement weather conditions or at night.</li> <li>4. Always adhere to speed limits.</li> <li>5. Concentrate on your driving at all times and keep a watchful eye on pedestrians and pets along the roadside.</li> </ol>	4



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<p>6. Never drive if you are impaired by lack of sleep or being under the influence. 7. Check your mirrors frequently. 8. Follow the rules of the road. Don't contest the right of way or try to race another car. Be respectful of other motorists. 9. Expect the unexpected and plan for escape routes. 10. Assume that drivers will run through stop signs or red lights and be prepared to react.</p>	
<p>b) Describe the working of 'BEST'.</p>	4
<p>Answer: <b>Working of BEST</b> (Bombay Electric Supply and Transport) (<i>consider any four point</i>)</p> <ol style="list-style-type: none"><li><b>1) Organization setup:</b> The Transport Division is headed by Assistant General Manager (Transport), and he is assisted by Chief Manager (Traffic). BEST's entire operation is divided into 25 depots, and all these depots are placed in zones. The Dy. Chief Managers (Traffic) are zonal in-charge, who are assisting the Chief Manager (Traffic). The Depot Managers are heading each Depot. Traffic Superintendents/ Asst Traffic Superintendents, Sr. Traffic Officers, Traffic Officers, Assistant Traffic Officers and Sr. Asst. /Office Asst. assist the Depot Managers. This team of officers directly controls the operational and administrative activities of the respective Depot. Apart from this team, the supervisory category viz. Bus Inspectors, for plugging the leakage in revenue, Starters for controlling the bus operation etc., are appointed at depots. Each depot is provided with a wireless vehicle, which is used to monitor the operation of buses in the jurisdiction of the depot.</li><li><b>2) Traffic Control Room:</b> It works round the clock. The section is provided with VHF sets connecting all the depots as also the Police Control, Traffic Police Control, and Railways etc. This officer regulates the entire operation smoothly with the help of the Divisional Officers, by being in touch with them through wireless sets.</li><li><b>3) Bus Control Room:</b> It functions round the clock, to attend to the vehicle breakdowns on field. The total operational area is divided into zones. Emergency breakdown vans are provided for each zone. These vehicles are provided with necessary spares/units so as to carry out emergency repairs on the field itself. For speedy communication these vehicles are equipped with VHF sets.</li><li><b>4) Traffic Training Center:</b> The BEST has established a Training Center, to provide training and refresher courses to the operating crew members. On line training to new bus drivers is also provided with the help of training vehicles. At the depots Accident Prevention Training Vehicle counseling the operating staff about safe driving habits.</li><li><b>5) Ticket &amp; Cash department:</b> The Ticket and Cash Department collects the daily revenue earned at the depots. The same is counted, consolidated, and remitted in the banks. Inventory of ticket blocks to be issued to the conductors, is also maintained by the Ticket &amp; Cash Department.</li><li><b>6) Accident &amp; Claims Section:</b> The Accident and Claims Section, as the name suggests, is established for settling the claims of personal injury / death due to accident involving our buses. Also various programs on Road Safety / Passenger Safety, to create awareness amongst the operating staff, passengers, pedestrians, and school children, are organized by this section in co-ordination with Training Center.</li><li><b>7) Traffic Planning Section:</b> The Planning Section is established to prepare the schedules for different routes. The schedules are revised after every four months. Uneconomic routes are discontinued and the financial viability of the routes is appraised both at depot level as also at the Head Quarter level.</li></ol>	4





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e) Write function of ARAI.	4
<p>Answer: <b>Functions of Automotive Research Association of India:</b> (<i>any four point</i>)</p> <p>i) 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 &amp; D, testing, certification, homologation and framing of vehicle regulations.</p> <p>ii) 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.</p> <p>iii) 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.</p> <p>iv) 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</p>	4
f) Give important instructions to a motor vehicle driver.	4
<p>Answer: <b>Instructions to a motor vehicle driver</b> (<i>Note: credit should be given to any 4 proper driving instruction, each point carry 1 mark</i>)</p> <p>For driving motor vehicle always keep attention on the activities happening around the vehicles and react accordingly. Some general instructions in driving of motor vehicle are as follow.</p> <ol style="list-style-type: none"><li>1) Use seat belts.</li><li>2) Adjust rear view, side view mirrors.</li><li>3) Drive with both hands on steering wheel.</li><li>4) Speed of the vehicle should be adjusted as per traffic conditions and match the flow of traffic.</li><li>5) Drive with constant speed as far as possible.</li><li>6) Scan the surrounding area of vehicle to know what is ahead, behind and beside you.</li><li>7) Avoid sudden action like- braking, turning, and overtaking.</li><li>8) Never overtake or stop at a blind spot on the road.</li><li>9) Make proper use of accelerator, clutch, gears, brakes, steering and horn.</li><li>10) Avoid overtaking from the left side of the vehicle.</li><li>11) Reduce the speed of vehicle before the curve.</li><li>12) Don't drive on the absolute edge of the road.</li><li>13) Change the lanes using proper signals with care.</li><li>14) Keep well to the left in normal driving mode.</li><li>15) While overtaking give proper signal i.e. blow of horn or flashing of lights.</li><li>16) Always park off the road.</li><li>17) Do not drive when mentally and physically stressed.</li><li>18) Do not drive the vehicle by consuming alcohol.</li></ol>	4
6. Attempt any <u>FOUR</u> of the following.	16
a) Describe functions and facilities available at VRDE.	4
<p>Answer: <b>Functions of VRDE:</b></p> <ol style="list-style-type: none"><li>1. Its primary function is to help the defense and automotive industry regarding design, development, testing and certification of vehicle components.</li><li>2. To evaluate requirements of defense services as well as automotive industry.</li></ol>	2



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**Facility available at the VRDE are**

1. Material Engineering Facility: It is capable of all type of processing treatment and testing of material, most types of fabrication and prototyping and limited quantity of production. Facility consists of foundry shop, heat treatment shop, machine shop, fabrication shop and material testing lab.
2. I. C. Engine laboratory: For testing of engines of wheeled and light tracked vehicle and to study all parameters at various conditions and endurance.
3. National Centre of Automotive Testing (NCAT): National Proving Ground tracks and instruments are available for automotive road testing.
4. Emission Laboratory: Emission test system for two/four wheeler, multi cylinder petrol and diesel engines.
5. Automotive Electro-Magnetic Compatibility (EMC) test facility.

2

b) Write location and one product of each of the following automobile manufactures.

- i) Maruti Udyog Ltd.
- ii) Ashok Leyland Ltd.
- iii) Mahindra & Mahindra Ltd.
- iv) Piaggio Vehicles Pvt. Ltd.

4

Answer: (location - 1/2 mark, any one product - 1/2 mark)

i) **Maruti Udyog Ltd. :** Plant Located at Manesar, Gurgaon

**Products** – Passenger Cars- a) Swift, Alto, Wagon R , Alto 800, Ritz.

ii) **Ashok Leyland Ltd.:** Plant Located at Chennai

**Products** – Buses: City Bus- LLE CNG BS4, VIKING BS4, CHEETAH BS3

Trucks- Long haul- 2516II, 3116, 3118il

Mining and construction- 1616XL, 1618 il, 2518il

Light vehicle- Dost, PARTNER, STiLE, MiTR

iii) **Mahindra & Mahindra Ltd.:** Plant located at Nashik, Kandivili (E) Mumbai, Jhahirabad

**Products** – Passenger vehicles – Quanto, Bolero, Scropio, XUV 500

Commercial vehicle – Maxximo, Bolero Maxi Truck, Mahindra Navistar Trucks

Tractor – Sarpanch, Arjun, Bhoomiputra.

iv) **Piaggio Vehicles Pvt. Ltd**— Plant Located at Baramati , Pune.

**Products** – Three Wheelers -Ape city CNG, Ape city LPG, Ape city petrol,

(Note: Credit shall be given to any other product)

4



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<p>c) Draw an organizational structure of MSRTC depot.</p>	<p>4</p>
<p>Answer: Organizational structure of MSRTC depot.</p> <div style="text-align: center;"> <pre> graph TD     DM[Depot Manager] --&gt; TC[Traffic Control]     DM --&gt; MED[Mechanical Engineering Department]     DM --&gt; S[Stores]     DM --&gt; A[Administration]     DM --&gt; Acc[Accounts]          TC --&gt; ATST[Assistant Traffic Superintendent]     ATST --&gt; TI[Traffic Inspector]     TI --&gt; TCtr[Traffic Controller]     TCtr --&gt; ATIn[Assistant Traffic Inspector]     ATIn --&gt; DC[Driver/Conductor]          MED --&gt; ASWS[Assistant Workshop Superintendent]     ASWS --&gt; HM[Head Mechanic]     HM --&gt; AM[Assistant Mechanic]     AM --&gt; H[Helper]          S --&gt; SA[Store Assistant]     SA --&gt; FO[Fuel &amp; Oil]     FO --&gt; SP[Spare parts]     SP --&gt; OS[Other Store]          A --&gt; AA[Administration Assistant]     AA --&gt; PR[Personnel Record]     PR --&gt; DR[Default Record]     DR --&gt; LM[Labour Matter]          Acc --&gt; AC[Accountant]     AC --&gt; SC[Sr. Clerk]     SC --&gt; JC[Jr. Clerk]          </pre> <p>(Credit should be given to equivalent organization chart.)</p> </div>	<p>4</p>
<p>d) What is purpose of levying tax? State the authorities to collect motor vehicle tax.</p>	<p>4</p>
<p><b>Answer: Purpose of levying tax</b></p> <ol style="list-style-type: none"> <li>1) Raising the revenue of government.</li> <li>2) Economical growth of state and nation.</li> <li>3) Reduction in unemployment.</li> <li>4) Reduction in regional disparities.</li> <li>5) Distributional justice to all the people.</li> </ol> <p><b>Authorities to collect motor vehicle Tax.</b></p> <ol style="list-style-type: none"> <li>1) District Transport authority</li> <li>2) Regional Transport Authority</li> <li>3) The director of Transport</li> </ol>	<p>2</p> <p>2</p>
<p>a) What is meant by 'Temporary permit'? State the authority and to whom it is granted. Give its validity period.</p>	<p>4</p>
<p><b>Answer: Temporary permit:</b></p> <p>Transport authority may, without following the procedure laid down in section 80 of M.V. Act, grant permit, to be effective for a limited period to authorize the use of a transport vehicle temporarily in following situations is called as a temporary permit -</p> <ol style="list-style-type: none"> <li>a) For the conveyance of passengers on special occasions such as to and from fairs and religious gatherings</li> <li>b) For the purpose of seasonal business</li> <li>c) To meet a particular temporary need</li> </ol>	<p>2</p>



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d) Pending decision on an application for the renewal of a permit and may attach to any such permit such condition as it may think fit. <b>Authority to whom permit is granted</b> - Regional Transport Authority, State Transport Authority <b>Validity period of temporary permit:</b> Four months, but not exceeding one year.	1 1
f) Explain the role of CIRT in transport management.	4
<b>Answer: Role of CIRT:</b> <i>(Any four points)</i> a) Central Road Research Institute is a premier national laboratory engaged in research and development in the field of roads and road transportation. b) 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. c) Traffic and transportation planning in mega and medium cities. d) Management of roads in different terrains. e) Utilization of industrial waste in road construction. f) To improve environment pollution. g) Road traffic safety analysis and design. h) Bridge design and evaluation, bridge materials and construction techniques, instrumentation for bridges and highways.	4