

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE- SEMESTER-V (NEW) EXAMINATION – WINTER 2020****Subject Code:3150611****Date:29/01/2021****Subject Name:Transportation Engineering****Time:10:30 AM TO 12:30 PM****Total Marks: 56****Instructions:**

1. Attempt any FOUR questions out of EIGHT questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

		MARKS
<b>Q.1</b>	(a) What are the different modes of transportation? Write the importance of it in context to socio-economic development.	<b>03</b>
	(b) Draw the detail cross section of highway, showing all the components of it. Explain the use of Camber	<b>04</b>
	(c) Define sight distance. Derive an expression for calculation of stopping sight distance on a highway.	<b>07</b>
<b>Q.2</b>	(a) Differentiate between Flexible and Rigid Pavement	<b>03</b>
	(b) Write the objective and classification of highway maintenance works	<b>04</b>
	(c) Write in detail the reason of failure and suggestion for improvement of following distresses in pavement (i) Potholes, (ii) Eigator cracking	<b>07</b>
<b>Q.3</b>	(a) What are the advantages of common rail gauge throughout the nation?	<b>03</b>
	(b) Draw the cross section of permanent way showing all components of it. Write the importance of rail.	<b>04</b>
	(c) Write a note on “Coning of wheel”	<b>07</b>
<b>Q.4</b>	(a) Define Creep in rail. Write the theory behind it	<b>03</b>
	(b) Draw the diagram of the “Points & Crossing” showing all components of it in detail	<b>04</b>
	(c) Write a note on “Junction and terminal”	<b>07</b>
<b>Q.5</b>	(a) What are the different traffic control devices? Explain in detail about the warning sign.	<b>03</b>
	(b) Enlist the different types of parking? Explain at list one advantage of each type of parking.	<b>04</b>
	(c) Draw the typical diagram of harbour showing all components. Write down the importance of Jetty, turning basin and Breakwater.	<b>07</b>
<b>Q.6</b>	(a) Define: (i) Running Speed (ii) Spot Speed (iii) Volume	<b>03</b>
	(b) Enlist different types of traffic surveys. What is the significance of Delay studies?	<b>04</b>
	(c) What are the different points to be taken care while selecting the site for airport?	<b>07</b>
<b>Q.7</b>	(a) Enlist the different components of Airport. Explain the importance of Taxiway.	<b>03</b>
	(b) Where and why super elevation is required?	<b>04</b>
	(c) Enlist the test on aggregates. Explain any one in detail.	<b>07</b>

- Q.8** (a) Differentiate between Dry dock & Wet dock **03**  
(b) Explain in detail about where and why transition curve is required? **04**  
(c) Derive an expression for finding the extra widening required on horizontal curve **07**

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