

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V(NEW) EXAMINATION – SUMMER 2022****Subject Code:3150611****Date:07/06/2022****Subject Name:Transportation Engineering****Time:02:30 PM TO 05:00 PM****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

		Marks
Q.1	(a) Write a short note on ICAO.	03
	(b) Compare the roadway and railway transportation.	04
	(c) What are the various tests carried out on Bitumen? Explain Ductility Test.	07
Q.2	(a) Explain the conning of wheel with neat sketch.	03
	(b) Explain PIEV theory.	04
	(c) Derive an expression for calculating overtaking sight distance on a Highway.	07
	OR	
	(c) Derive an expression for finding stopping sight distance at level and at grades.	07
Q.3	(a) Write Short note on: Street Lighting.	03
	(b) Distinguish between flexible pavement and rigid pavement.	04
	(c) Explain various methods of On-street Parking.	07
	OR	
Q.3	(a) Write the objective of highway maintenance works.	03
	(b) Explain construction step for WBM.	04
	(c) Describe the plate load test in detail. What is the limitation of plate load test?	07
Q.4	(a) Define Creep in rail. Write the theory behind it.	03
	(b) Explain importance of Highway Drainage.	04
	(c) A 5° curve diverges from a main curve of 4° in an opposite direction in the layout of a broad gauge yard. If the speed on the main curve is restricted to 54.33 kmph, determine the speed restriction on the branch line. Assume permissible cant deficiency as 7.5 cm.	07
	OR	
Q.4	(a) Draw the diagram of the “Points & Crossing” showing all components of it in detail.	03
	(b) Describe the maintenance of bituminous roads.	04
	(c) Write a note on “Junction and terminal”.	07
Q.5	(a) Explain various factors determining selection of Breakwater.	03
	(b) Distinguish between harbor and Port.	04
	(c) Describe main components of terminal building with sketch and what facilities are provided in the terminal building.	07

OR

- Q.5** (a) Enlist the different components of Airport. Explain the importance of Taxiway. **03**
- (b) What is runway orientation? What are the factors affecting runway orientation? **04**
- (c) What is the purpose of navigational aids? Explain any one aid. **07**