

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-V (NEW) EXAMINATION – SUMMER 2024****Subject Code: 3150611****Date: 31-05-2024****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.

Q.1 (a) Explain in brief about IRC **03**

(b) Enlist advantages and disadvantages of Rail transport with respect to Road transport. **04**

(c) Discuss Role of Transportation for National Development In detail. **07**

Q.2 (a) Draw the typical cross-section of a highway showing all the components of it. **03**

(b) Enlist Factors controlling road alignment and explain any one. **04**

(c) Discuss Classification of Roads in detail. **07**

OR

(c) Discuss Stopping Sight Distance in detail with sketch. **07**

Q.3 (a) Enlist Different test conducted on aggregates. **03**

(b) Explain Necessity of soil stabilization. **04**

(c) The speed of overtaking and the overtaken vehicle is 80kmph and 65 kmph respectively on two-way traffic. The acceleration of the overtaking vehicle is 3.6 kmph. Calculate Safe overtaking sight distance. Assume reaction time of a driver 2 sec **07**

OR

Q.3 (a) Enlist Different test conducted on bitumen. **03**

(b) Enlist Functions of modified bituminous binders. **04**

(c) Discuss in detail Marshal Mix Design. **07**

Q.4 (a) Enlist different types of Joints in Rigid Pavements, Explain any one. **03**

(b) Distinguish between flexible pavement and rigid pavement. **04**

(c) Discuss various types of Parking in details. (Types, sketch, advantages and disadvantages) **07**

OR

Q.4 (a) Draw neat sketch showing of Cross-sectional Elements of Rail-Road **03**

(b) Explain purpose of providing Points and crossings in rail. **04**

(c) Explain Coning of wheel and Super-elevation for Railway. **07**

Q.5 (a) Define 1. Harbor 2. Port **03**

(b) Explain classification of Harbor. **04**

(c) Discuss in detail about navigational aids. **07**

OR

Q.5 (a) Define 1. Runway 2. Taxiway **03**

(b) Explain classification of Airport. **04**

(c) Enlist different components of an aircraft and draw neat sketch of Aircraft showing different components. **07**