

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER- V(OLD) EXAMINATION – SUMMER 2019****Subject Code:150601****Date:19/06/2019****Subject Name:Highway 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.

- Q.1** (a) Explain briefly modified classification of road system in India as per third twenty year road development plan. **07**
(b) Discuss soil classification based on grain size. **07**
- Q.2** (a) Explain the term traffic volume. What are the objectives of traffic volume studies? **07**
(b) Explain the different Engineering properties of Aggregate and suitable tests Required to check those properties. **07**
- OR**
- (b) Explain different types of Joints used in Rigid Pavements. **07**
- Q.3** (a) Explain with sketches mandatory signs and warning signs to control the traffic. **07**
(b) Discuss about traffic islands and types of intersections. **07**
- OR**
- Q.3** (a) Explain Road User Characteristics and Vehicular Characteristics. **07**
(b) Define Sight Distance. State its different types and explain SSD. **07**
- Q.4** (a) What is camber? What are the objects of camber? Sketch different types of camber. **07**
(b) Distinguish between rigid and flexible pavement. **07**
- OR**
- Q.4** (a) Discuss briefly various requirements of an ideal highway alignment. What are obligatory points? Discuss how these control the alignment. **07**
(b) I) Explain the significance of sub grade soil? Which are the desirable properties of soil as a highway material? II) Enumerate the advantages and disadvantages of WBM road. **07**
- Q.5** (a) Discuss about road arboriculture and street lighting. **07**
(b) Discuss the desirable properties of bitumen. Explain the penetration test and its use. Also compare Tar and Bitumen. **07**
- OR**
- Q.5** (a) Explain various methods of parking with sketch. **07**
(b) Explain total reaction time of driver. Explain PIEV Theory. **07**
