

**DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE –**

**RAIGAD -402 103**

**Winter Semester Examination – December - 2019**

**Branch: Civil Engineering**

**Subject:- Transportation Engineering (BTCVC505)**

**Date:- 18/12/2019**

**Sem.:- I**

**Marks: 60**

**Time:- 3 Hr.**

**Instructions to the Students**

1. Each question carries 12 marks.
2. Attempt **any five** questions of the following.
3. Illustrate your answers with neat sketches, diagram etc., wherever necessary.
4. If some part or parameter is noticed to be missing, you may appropriately assume it and should mention it clearly

**Q.1.**

**AI) Explain in detail classification of road? (03 Marks)**

**AII) what do you mean by alignment of road? What are basic requirements of ideal alignment? (03 Marks)**

**BI) Explain in detail engineering surveys to be made for fixing alignment of road ? (03 Marks)**

**BII ) Describe in detail (03 Marks)**

- 1) Jaykar Committee and its recommendations
- 2) IRC

**Q.2.**

**AI) Derive an expression for overtaking sight distance? Explain of overtaking zones with neat sketch? (06 Marks)**

**BI) While aligning a highway in buildup area, it was necessary to provide circular curve of radius 324 m. The design speed is 65 kmph, the length of wheel base is 6 m and width of pavement is 10.5 m. Design the following geometric features 1) Super elevation 2) Extra widening of pavement 3) length of Transition curve (03 Marks)**

**BII ) What is Camber ? Explain its types with and mention IRC recommendations of it ? (03 Marks)**

**Q.3.**

**AI) Write a short note on (03 Marks)**

- 1) Marshall stability test**
- 2) CBR test**

**AII ) What are different test to be carried out on Aggregate? Explain Shape test of aggregate in Details? (03 Marks)**

**BI ) Differentiae between Tar and Bitumen (03 Marks)**

**BII) Explain the term (03 Marks)**

- 1) Cutback Bitumen**
- 2) Bitumen Emulsion**

**Q.4.**

**AI) What are various engineering studies to be carried out for collection of traffic data? Explain any traffic volume study in detail? (03 Marks)**

**AII) What are various traffic control device? Explain in detail traffic signs? (03 Marks)**

**BI) What is need of parking ? what are its types ? explain its type with neat sketch (03 Marks)**

**BII) What are objectives of accidental studies? Discuss causes of road accidents? (03 Marks)**

**Q.5.**

**AI) Differentiate between rigid pavement and flexible pavement? (03Marks)**

**AII ) Enlist as method of design of Rigid pavement per IRC 37-2012? (03 Marks)**

**BI) What is pavement? What are requirement of good pavement? State Factors affecting on design of pavement? (03 Marks)**

**BII) Write a note on design guide lines of flexible pavement as per IRC37-2012 (03 Marks)**

**Q.6.**

**AI) Explain in detail importance of transportation? (03 Marks)**

**AII) Compare land transportation, water transportation and air transportation (03 Marks)**

**BI) What is role of transportation in development of nation? (03 Marks)**

**BII) Describe in detail (03 Marks)**

**1) 1) Rapid Transit system in Urban area :**

**2) Advantages and Disadvantages of Pipeline transportation**

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**Paper End**

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