

**GUJARAT TECHNOLOGICAL UNIVERSITY****M.E -IV<sup>th</sup> SEMESTER-EXAMINATION – MAY- 2012****Subject code: 741301****Date: 12/05/2012****Subject Name: Advances in Transportation Engineering****Time: 02:30 pm – 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)** What do you understand by Intelligent Transportation System (ITS)? How it is useful in transportation network operations? **07**

**(b)** What is meant by High Performance Highway Construction Materials? Where and how do you apply Fly ash in highway construction? **07**

**Q.2 (a)** Discuss in detail application of Advanced Traffic Management System. **07**

**(b)** Describe the importance of use of recyclable waste materials in highway construction. **07**

**OR**

**(b)** Differentiate between NRMB and CRMB. What are their IS requirements and testing procedures? **07**

**Q.3 (a)** Explain the application of ITS in Public Transportation System with the example of BRTS in Ahmedabad. **07**

**(b)** Describe Adaptive Traffic Control System with examples. **07**

**OR**

**Q.3 (a)** Discuss: ITS applications in highway accident prevention. **07**

**(b)** Write a short note of ITS applications for road pricing. **07**

**Q.4 (a)** Give a brief note on Modified bitumen emulsion and its testing procedure. **07**

**(b)** Explain briefly about “Smart Vehicles”. **07**

**OR**

**Q.4 (a)** How will you prepare porous asphalt mix? What are the advantages of porous asphalt mix? **07**

**(b)** Discuss about ITS applications in regional strategic transportation planning. **07**

**Q.5 (a)** Where do you suggest micro surfacing? Explain its application procedure. **07**

**(b)** Describe binder specifications and gyratory compactor for the Superpave mix. **07**

**OR**

**Q.5 (a)** Compare the suitability and applicability of different fiber materials used in Fiber Reinforced Concrete. **07**

**(b)** What are the advantages of using High Performance Concrete in road construction? What are its IS requirements? **07**

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