

# CBCS SCHEME

USN

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15CT762

## Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019 Pavement Materials and Construction

Time: 3 hrs.

Max. Marks: 80

*Note: Answer any FIVE full questions, choosing ONE full question from each module.*

### Module-1

- 1 a. Explain the desirable properties of aggregates to be used in different types of pavement construction. (08 Marks)
- b. What are the various tests for judging the suitability of road stone for pavement construction? Discuss the objects of carrying out each of these tests. (08 Marks)

OR

- 2 a. Enumerate the properties of bitumen and tar. (08 Marks)
- b. Briefly explain the preparation of Bitumen. (08 Marks)

### Module-2

- 3 a. Explain the uses of bitumen emulsion. How they are prepared? (08 Marks)
- b. What is stripping of bitumen? What are its adverse effects? How is the extent of bitumen stripping estimated in lab? (08 Marks)

OR

- 4 a. List the different types of cut backs. When are these used? (08 Marks)
- b. Write a note on Adhesion failure. (08 Marks)

### Module-3

- 5 a. Explain proportioning of aggregates by Rothfutch's method. (08 Marks)
- b. Explain the steps in bitumens mix. (08 Marks)

OR

- 6 a. Explain the step by step procedure of Marshall method of mix design. (08 Marks)
- b. Explain (i) Voids in mineral aggregates (ii) Voids in total mix (iii) Density (iv) Stability. (08 Marks)

### Module-4

- 7 a. What are the desirable properties of subgrade soil? Enumerate the steps in preparation of subgrade. (08 Marks)
- b. Explain the circumstances in which construction of embankment becomes necessary. (08 Marks)

OR

- 8 a. Mention the special equipments for bituminous and cement concrete pavement construction. (08 Marks)
- b. What are the different types of compacting equipments used for pavement construction? (08 Marks)

**Module-5**

- 9 a. Enumerate the steps involved in the construction of cement concrete pavements. (08 Marks)  
b. Write a short note on flexible pavement. (08 Marks)

**OR**

- 10 a. Briefly describe the quality control tests used in construction of concrete pavements. (08 Marks)  
b. Write a note on various types of joints in concrete pavements indicating their purpose of providing. (08 Marks)

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