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**Seventh Semester B.E. Degree Examination, Dec.2017/Jan.2018**  
**Pavement Materials & Construction**

Time: 3 hrs.

Max. Marks:100

**Note: Answer FIVE full questions, selecting at least TWO questions from each part.**

**PART – A**

- 1 a. Explain desirable properties of Road aggregates used for construction. (06 Marks)  
b. Brief the classification of road aggregate's based on petrology. (06 Marks)  
c. List various tests on road aggregates. Explain impact test procedure in detail. (08 Marks)
- 2 a. Explain the manufacturing process of Bitumen with neat figure. (06 Marks)  
b. Differentiate between Bitumen and Tar. (06 Marks)  
c. List out tests conducted on Bitumen? Explain softening point test on bitumen with neat diagram. (08 Marks)
- 3 a. Explain briefly the preparation of Bitumen Emulsion. What are types of Bitumen Emulsion? With application of each type. (10 Marks)  
b. List out types of adhesion tests. Explain in brief about Immersion trafficking test with neat diagram. (10 Marks)
- 4 a. Briefly explain the desirable properties of bituminous mix. (08 Marks)  
b. Explain the Marshall method of bituminous mix design. (12 Marks)

**PART – B**

- 5 a. Discuss the use of different compacting equipments. Explain with neat diagram, working principle of sheep foot Roller with advantages. (12 Marks)  
b. Explain the working principle of,  
(i) Dozers.  
(ii) Drag line (08 Marks)
- 6 a. Bring out construction steps involved in subgrade preparation. What are the quality control checks carried out. (12 Marks)  
b. Enumerate the steps in the formation of an embankment. (08 Marks)
- 7 a. Write the specification of materials and construction procedure for WBM roads. (10 Marks)  
b. Explain briefly the construction steps involved in bituminous concrete with quality control tests. (10 Marks)
- 8 a. With the neat figures, explain the following types of joints in rigid pavements:  
(i) Expansion joint  
(ii) Longitudinal joint.  
(iii) Construction joint. (12 Marks)  
b. Enumerate the steps involved in construction of cement concrete pavements. (08 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

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