

Seventh Semester B.E. Degree Examination, Feb./Mar. 2022  
**Pavement Materials and Construction**

Time: 3 hrs.

Max. Marks:100

**Note: Answer any FIVE full questions, selecting atleast TWO questions from each part.**

**PART – A**

- 1 a. Explain the desirable properties of aggregates to be used in different types of pavement construction. (10 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. (10 Marks)
- 2 a. How is bitumen produced? (05 Marks)  
b. Enumerate the properties of bitumen and tar. (07 Marks)  
c. What are the tests conducted on bitumen? Mention the importance of each. (08 Marks)
- 3 a. Explain the uses of bitumen emulsion. How are they prepared? (10 Marks)  
b. List the different types of cutbacks. When are these used? (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. Explain the material specification and construction steps for Bituminous surface dressing. (10 Marks)  
b. Explain the objectives, type of material and method of application for (i) Prime coat (10 Marks)  
(ii) Tack coat.
- 8 a. Explain with a neat sketch, different joints in rigid pavement. (10 Marks)  
b. Enumerate the steps involved in the construction of cement concrete pavements. (10 Marks)

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