



USN

--	--	--	--	--	--	--	--	--	--

10CV763

**Seventh Semester B.E. Degree Examination, July/August 2021**  
**Pavement Materials and Construction**

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1 a. List all the desirable properties of aggregates should possess to be used in the pavement and explain in detail their effects. (10 Marks)  
b. Briefly explain the detailed procedure of Rothfutch's method of proportioning of aggregates with a sample graph. (10 Marks)
- 2 a. Differentiate between bitumen and tar. (10 Marks)  
b. List different tests to be conducted on a bitumen. Explain the following in detail with diagram.  
i) Softening points  
ii) Penetration tests. (10 Marks)
- 3 a. What do you mean by emulsion and cut back bitumen. Briefly explain the desirable properties of bitumen. (10 Marks)  
b. What is stripping? List the tests that have been developed to assess the adhesion characteristics of bituminous binder and explain the stripping value test. (10 Marks)
- 4 a. What are the qualities that are expected by a good bituminous mix? And also state the requirements of design mix. (10 Marks)  
b. Briefly explain the procedure for Marshall mix design. (10 Marks)
- 5 a. List and explain various types of equipment used for  
i) Excavation  
ii) Compaction. (10 Marks)  
b. List all the different methods of soil stabilization and explain Soil – time stabilization in details. (10 Marks)
- 6 a. Explain briefly the steps involved in construction of subgrade. (10 Marks)  
b. What are the quality control checks done during construction of subgrade? (10 Marks)
- 7 a. What are the properties required for a soil to be suited for embankment construction? (10 Marks)  
b. Explain with neat sketch, the structure of flexible pavement with various layers. (10 Marks)
- 8 a. State the advantages and disadvantages of rigid pavement. (10 Marks)  
b. Write a short note on :  
i) Mastic Asphalt  
ii) Prime coat and Tack coat. (10 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.