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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)

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