



10CV763

Seventh Semester B.E. Degree Examination, Jan./Feb.2021
Pavement Materials and Construction

Time: 3 hrs.

Max. Marks:100

- Note: 1. Answer FIVE full questions, selecting at least TWO questions from each part.**
2. Assume missing data suitably.

PART – A

- 1 a. Explain the requirements and desirable properties of road aggregates. (10 Marks)
b. List out the laboratory tests on road aggregates and with neat sketch, explain the impact value test on aggregate. (10 Marks)
- 2 a. What is meant by Bitumen and Tar, briefly summarise the properties of Bitumen and Tar. (10 Marks)
b. Enumerate the preparation of Bitumen for pavement. (04 Marks)
c. Discuss the requirements necessary for Bitumen and Tar. (06 Marks)
- 3 a. List out the various characteristics and uses of Bitumen emulsion. (08 Marks)
b. Define the term Cut back bitumen? Explain the distillation process of Cut back bitumen test. (06 Marks)
c. Explain the mechanism of Stripping value test. (06 Marks)
- 4 a. List out the desirable properties of Bituminous mixer. (06 Marks)
b. Explain the concept of Marshall stability test on bituminous MIX. (08 Marks)
c. Explain briefly the voids in mineral aggregates and voids filled with bitumen. (06 Marks)

PART – B

- 5 a. Explain with neat sketch of pneumatic tyred roller compaction and mention their advantages and limitations. (10 Marks)
b. Describe with neat diagram of power shovel for excavation, and its advantages. (10 Marks)
- 6 a. Explain the construction steps of highway embankment and briefly summarise about quality control tests. (08 Marks)
b. What are the steps used in the preparation of subgrade? (06 Marks)
c. Discuss the quality control tests for construction of highway subgrade. (06 Marks)
- 7 a. Explain the field control checks for Bituminous Macadam base course. (08 Marks)
b. Write a note on components of flexible pavements. (04 Marks)
c. Draw a neat sketch and explain clearly the construction method of Bituminous bound Macadam pavement. (08 Marks)
- 8 a. Explain with neat sketch, show the alternate bay method for cement concrete pavement construction and mention their advantages and draw backs. (10 Marks)
b. What are the requirements of a good joint? Explain briefly with diagram of expansion joint. (10 Marks)

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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.