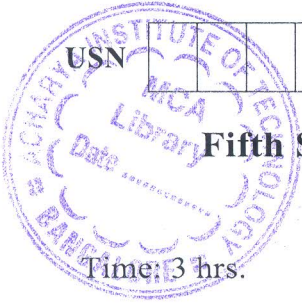


CBCS SCHEME

21CV52



Fifth Semester B.E. Degree Examination, Dec.2023/Jan.2024 Transportation Engineering

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Explain the importance of transportation. Write the advantages and disadvantages of different modes of transportation. (10 Marks)
- b. Explain interpretation of planning survey. Briefly explain Vision 2021. (10 Marks)

OR

- 2 a. Explain Engineering Surveys. (10 Marks)
- b. Explain briefly various stages of work in new highway project. (10 Marks)

Module-2

- 3 a. A state highway passing through a rolling terrain has a horizontal curve of radius equal to ruling minimum radius. Design all geometric features of horizontal curve, assuming suitable data. (12 Marks)
- b. With a neat sketch briefly explain about camber and width of carriage way. (08 Marks)

OR

- 4 a. Find safe overtaking sight distance for design speed 96 kmph, acceleration of overtaking vehicle 1.92 kmph/sec, draw neat sketch of overtaking zone (minimum). (10 Marks)
- b. Write the difference between flexible pavement and rigid pavement. (10 Marks)

Module-3

- 5 a. Explain the properties of aggregates and tests to be conducted on aggregates. (10 Marks)
- b. CBR tests were conducted on two specimens of a soil. Determine CBR value of the soil, if 100 divisions of load dial represents 190kg load in the calibration chart of the proving ring.

Penetration of plunger, mm	Load dial reading, divisions	
	Specimen 1	Specimen 2
0.0	0	0
0.5	8	0.5
1.0	15	1.5
1.5	23	2.5
2.0	29	6.0
2.5	34	13
3.0	37	20
4.0	43	30
5.0	48	38
7.5	57	50
10.0	63	58
12.5	67	63
-	-	-

(10 Marks)

OR

- 6 a. Explain the design elements of highway embankment. (10 Marks)
b. Explain in brief the specification of material and construction steps of WMM layer. (10 Marks)

Module-4

- 7 a. With a neat sketch, explain the procedure for design of filter material in highway drainage. (10 Marks)
b. Explain in brief three methods of economic evaluation of highway projects. (10 Marks)

OR

- 8 a. Explain in briefly highway user benefits and Vehicle Operation Cost (VOC). (10 Marks)
b. Write note on BOT and BOOT. (10 Marks)

Module-5

- 9 a. Explain about traffic regulation and controls. (10 Marks)
b. Define the term "Runway Orientation". Explain about any one type of wind rose diagram. (10 Marks)

OR

- 10 a. Explain briefly functions of sleepers and ballast. (10 Marks)
b. Explain factors affecting selection of sites for an airport. (10 Marks)
