





OR

- 6 a. Calculate the group index of a sample of soil with the following data :
  - i) Percentage passing in 75 micron sieve = 60
  - ii) Liquid limit = 30 plasticity index = 12. (10 Marks)
- b. Describe procedure of finding penetration value of Bitumen sample and softening point of bitumen sample. (10 Marks)

**Module-4**

- 7 a. Elaborate BOOT concept. (05 Marks)
- b. Discuss importance of highway drainage. (05 Marks)
- c. List and explain the highway user benefits. (10 Marks)

OR

- 8 a. Differentiate and explain surface and sub-surface drainage system. (10 Marks)
- b. List and explain different methods of highway economic analysis. (10 Marks)

**Module-5**

- 9 a. Draw the sketch of coning of wheel and canting of rail. Explain the same. (10 Marks)
- b. List and explain the Aircraft characteristics. (10 Marks)

OR

- 10 a. Brief the Traffic regulations and control. (05 Marks)
- b. Explain briefly the traffic characteristics. (05 Marks)
- c. Explain orientation of runway by using wind rose diagram. (10 Marks)

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