



INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

B.Tech VI Semester End Examinations (Regular), November – 2020

Regulation: IARE–R16

TRANSPORTATION ENGINEERING

Time: 2 Hours

(CE)

Max Marks: 70

Answer any Four Questions from Part A

Answer any Five Questions from Part B

PART – A

1. Explain the significance of central road research institute and central road fund. [5M]
2. Obtain an expression for stopping sight distance and overtaking sight distance. [5M]
3. Explain spot speed, running speed, space speed, time mean speed and average speed. [5M]
4. What are the various types of at grade Intersections and explain them with neat sketches? [5M]
5. List out various tests on bitumen and explain briefly any three tests. [5M]
6. Write some brief notes on i) Motor vehicle actd ii) Indian roads congress [5M]
7. Explain briefly on street and off street parking. [5M]
8. What is traffic rotary? What are its advantages and limitations in particular to traffic conditions in India. [5M]

PART – B

9. What are the objectives of highway planning in our country? Explain the second 20 year road development plan. [10M]
10. Discuss the basic requirements of an ideal alignment? What are the controlling factors for highway alignments, describe in detail. [10M]
11. Explain the concept of PIEV theory in detail. [10M]
12. A valley curve is formed by descending grade of 1in25 meeting an ascending grade of 1in30. Design length of valley curve for design speed of 80KMPH and allowable rate of centrifugal acceleration $0.6m/s^3$. [10M]
13. Explain the methods of conducting speed and delay studies with its principle. [10M]
14. List out the various methods of carrying out origin and destination studies. What are the uses of origin and destination study. [10M]
15. What are the various types of traffic islands used? Explain the uses of each with neat sketches show few typical patterns of channelized intersections. [10M]
16. Explain the design factors considered in rotary intersection and describe in detail of rotary design. [10M]
17. List the various quality control tests during construction of surface dressing and open grade premix carpet. [10M]
18. Describe the importance of highway drainage and discuss briefly the requirements of highway drainage system. [10M]