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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Eighth Semester, B.E. - Civil Engineering

Semester End Examination; July - 2021

Highway Traffic and Safety Measures

Time: 3 hrs

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Define the term traffic engineering. Illustrate the scope of traffic engineering. 10
- b. Explain the factors which affect road user characteristics' with a neat sketch. Illustrate the psychological characteristic of road user by PIEV theory. 10
- 2 a. Explain the vehicular characteristics affecting road design. 10
- b. Explain the power performance of the vehicle. 10
- 3 a. Define origin and destination studies. Illustrate the methods of conducting origin and destination studies. 10
- b. Table below represents the consolidated data of spot speed studies on a road section. Determine the most preferred speed at which maximum proportion of vehicle travels.

Speed range, kmph	No. of speed observations	Speed range, kmph	No. of speed observations
0 - 10	0	50 - 60	216
10 - 20	11	60 - 70	68
20 - 30	30	70 - 80	24
30 - 40	105	80 - 90	0
40 - 50	233		

- 4 a. Explain the classification of on-street and off-street parking facilities. 10
- b. Summarize the measures to increase pedestrian safety in urban areas. 10
- 5 a. Explain the objectives of accident studies. Summarize the causes of accidents. 10
- b. Explain the procedure of investigation of accident. 10
- 6 a. Describe the concepts of 3E's in accident studies. 10
- b. Explain the various statistical methods adopted for accident studies with their uses. 10
- 7 a. Enumerate any five warning signs with neat sketches. 10
- b. Identify the advantages and disadvantages of traffic signals. 10
- 8 a. Explain any five carriage way markings. 10
- b. Summarize the regulation measures on driver concerned to traffic. 10
- 9 a. Explain the various principles to be considered in the design of intersection. 10
- b. Explain the concept of channelization. List the purpose of providing channelization. 10
- 10a. List the advantages and disadvantages of rotary intersection. 10
- b. List the advantages and disadvantages of cloverleaf interchange. 10