

Transportation Systems Engineering

Example of True-False questions for Midterm

1. Space mean speed is smaller than time mean speed **if and only if** all cars have the same speed.

Answer: _____

2. In Social Optimum conditions, delay is equal in all used routes **if and only if** these routes have equal free flow travel times.

Answer: _____

3. A shockwave between two different traffic states has units of speed (km/hr) and a value equal to the ratio of difference in flows divided by the differences in densities.

Answer: _____

Example of a short question for Midterm

The following figure 1b shows a time-space diagram of a link with a traffic signal at its downstream end for two successive cycles. We assume that the system is described during all times by a triangular flow-density diagram, shown in figure 1a and that Kinematic Wave Theory is valid at all times. Complete the time-space diagram by filling two types of information: (i) the different states from the flow-density plot (A, B, C, D or E) and the slopes of the shockwaves (a, b, c, d, e).

No calculations are required. It is not necessary that you use all the letters. As an example state "A" and slope "a" are shown in figure 1b.

