

Code No: J2202/R16

M. Tech. II Semester Regular Examinations, May-2017

TRAFFIC FLOW ANALYSIS

Transportation Engineering (22)

Time: 3 Hours

Max. Marks: 60

Answer any FIVE Questions
All Questions Carry Equal Marks

- | | | |
|-------|--|----|
| 1. a | Differentiate between microscopic & macroscopic study of traffic streams | 6M |
| b | Discuss various methods of collecting traffic flow | 6M |
| 2. a | Explain | 6M |
| (i) | Space mean speed | |
| (ii) | Time mean speed | |
| b | Explain Gap acceptance theory | 6M |
| 3. a | How Speed-Flow-Concentration are related? | 6M |
| b | Discuss about Shockwave theory | 6M |
| 4. a | Write about Car following theory | 7M |
| b | Discuss about fuel consumption models | 5M |
| 5. a | Write about fundamentals of Queuing theory | 6M |
| b | A toll booth at the entrance to a bridge can handle 120veh/hour, the time to process a vehicle being exponentially distributed. The flow is 90veh/hour with a poissonian arrival pattern. Determine: | 6M |
| (i) | the average number of vehicles in the system | |
| (ii) | the length of queue | |
| (iii) | the average time spent by the vehicle in the system | |
| (iv) | the average time spent by the vehicle in the queue | |
| 6. a | List the assumptions made in Simple Queuing Approach | 7M |
| b | Discuss concepts of blocks & Anti-blocks | 5M |
| 7. a | Explain Underwood's analysis of pedestrian delays | 6M |
| b | What are the warrants for pedestrian crossing facilities? | 6M |
| 8. a | What are the formulation steps in simulation? | 6M |
| b | How do you design the computer simulation program? | 6M |
