

Code No: H2202/R13

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

TRAFFIC FLOW ANALYSIS

(Transportation Engineering)

Time: 3 Hours

Max. Marks: 60

*Answer any FIVE Questions
All Questions Carry Equal Marks*

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| 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 |
