

**GANPAT UNIVERSITY**  
**B.TECH- SEMESTER-VIICIVIL ENGINEERING**  
**REGULAR EXAMINATION NOV/DEC- 2016**  
**SUBJECT: 2CI: 711- TRANSPORTATION ENGINEERING –I**

**Time: 3 Hours**

**Max Marks: 70**

**Instructions: - (1) Answer to the two sections must be written in separate answer books.**

**(2) Figures to the right indicate full marks.**

**(3) Assume suitable data if required.**

**SECTION – I**

**Que1**

**Answer the following Questions.**

- (A) Explain Objective of Accident Studies. (4)
- (B) Explain relation between traffic flow parameters. (6)
- (C) Write PCU factors for following vehicle: (2)
  - (a) Bullock cart (b) Bicycle

**OR**

**Que1**

**Answer the following Questions.**

- (A) Explain with neat sketch: collision diagram & condition diagram. (6)
- (B) Write a short note on History of Transportation Engineering. (6)

**Que2**

**Answer the following Questions.**

- (A) Explain Traffic Regulation concerning the driver. (5)
- (B) Write down Drawbacks of transport. (6)

**OR**

**Que2**

**Answer the following Questions.**

- (A) Write a shot note on preventive measure for accident. (5)
- (B) How all citizens are involved in transportation? (6)

**Que3**

**Answer the following questions.**

- (A) Give reasons for the following: (6)
  - 1. The transportation project is an important public project.
  - 2. The planning aspects of transport engineering relate to urban planning.
- (B) Discuss the application of using software in highway and transportation engineering. (6)



## SECTION – II

**Que 4**                      **Answer the following Questions.**

- (A) What are the objects and scope of traffic engineering? Explain. (6)
- (B) Indicate how the traffic volume data are presented and the results used in traffic engineering? (6)

**OR**

**Que 4**                      **Answer the following Questions.**

- (A) Describe in details factor affecting capacity and Level of Service. (6)
- (B) Discuss briefly Travel time and delay studies. (6)

**Que 5**                      **Answer the following Questions.**

- (A) Define Traffic rotary. Write down the advantages and disadvantages of traffic rotary. (6)
- (B) What are the purposes of signs? Explain types of signs with neat sketch. (5)

**OR**

**Que 5**                      **Answer the following Questions.**

- (A) Write short note on “Types of Interchange with neat sketch”. (6)
- (B) Describe about planning for pedestrian, cyclist and disable people. (5)

**Que 6**                      **Answer the following Questions.**

- (A) A fixed time 2-phase signal is to be provided at an intersection having a North- South and East-West road where only straight-ahead traffic is permitted. The design hour flows from the various legs and saturation flows for these legs are given in the following table. (6)

	North	South	East	West
Design hour flow (q) in PCU s / hour	900	500	950	1100
Saturation flow (s) in PCU s / hour	2500	2100	3200	3100

Calculate the optimum cycle time and green times for the minimum overall delay. The intergreen time should be the minimum necessary for efficient operation. The time lost per phase due to starting delays can be assumed to be 2 seconds. The value of the amber period is 2 seconds. Draw the timing diagram for each phase.

- (B) Enlist travel demand measures techniques; explain Closing Side Streets and Car Pooling. (6)

**End of Paper**