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Total Number of Pages: 2

210

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**B.Tech**  
**PECI5410**

**8<sup>th</sup> Semester Regular / Back Examination 2015-16**  
**TRAFFIC ENGINEERING AND TRANSPORTATION PLANNING**  
**BRANCH: CIVIL**  
**Time: 3 Hours**  
**Max Marks: 70**  
**Q.CODE: W182**

210

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**Answer Question No.1 which is compulsory and any five from the rest.**  
**The figures in the right hand margin indicate marks.**

- Q1** Answer the following questions: **(2 x 10)**
- a) Enumerate the human factors governing road user behavior. **(2)**
- b) What are the vehicular characteristics concerning to traffic engineer? **(2)**
- c) Differentiate time-mean speed and space-mean speed. **(2)**
- d) What is the need for vehicle volume counts in traffic engineering? **(2)**
- e) What are the specific uses of O-D survey? **(2)**
- f) What are the ill-effects of parking? **(2)**
- g) Explain the basic need for regulation of traffic? **(2)**
- h) Define Basic capacity and Practical capacity. **(2)**
- i) Define the term Passenger Car Unit (PCU). **(2)**
- j) What are the different stages of transport planning process? **(2)**
- Q2** a) What are the types of off-street parking? Explain the different types along with diagrams of layout. **(5)**
- b) What types of traffic regulatory measures one should take for on-street parking? What are the ideal locations to prohibit parking? **(5)**
- Q3** a) Describe the factors affecting highway capacity and Level of Service. **(5)**
- b) Enumerate some of the well-known traffic management measures. **(5)**  
What are the advantages of one-way streets?
- Q4** What is the need for economic evaluation of transport plans? Explain the details of costs and benefits of transport projects. What are the important methods adopted for economic evaluation of highway projects? **(3+3+4)**
- Q5** a) What do you mean by *modal split*? Describe the factors that affect the choice among alternative modes? **(2+3)**
- b) Enumerate the various factors governing trip generation and attraction rates. **(5)**

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**Q6** a) What is trip distribution? Describe the different methods applied for calculating trip distribution. **(1+4)**

b) Explain the Rotary design elements in details along with sketches. **(5)**

**Q7** a) What is the importance of "Capacity" in highway transportation studies? Explain in details the capacity of Freeways and Expressways in rural areas. **(2+3)**

b) How do you calculate the capacity of a rotary intersection? **(5)**

**Q8** Write short notes on **any two**: **(5 x 2)**

a) Bus-bays

b) Speed zoning

c) Multiple linear regression analysis

d) Gravity model

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