

UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017

Program/course: Bachelor in Planning
Subject: Traffic and Transport Planning – I
Code : BPLC 241

Semester – III
Max. Marks : 100
Duration : 3 Hrs

No. of page/s: 03 (Excluding Cover)

Note: Laptops and Mobile Phones are not allowed.

Section – A – Short Answer Type Questions (Word Limit – 60)

Attempt all questions. (5 Questions x 4 Marks) = 20 Marks

- Q1. What do you understand by Traffic Engineering and Transport Planning? What are the present issues, problems and challenges in both the fields? Support your answer with sketches/graphs/diagrams.
- Q2. How a Public Transport (PT) System plays an important role in urban mobility? Explain and define the various features of a public transport systems. Support your answer with sketches/graphs/diagrams.
- Q3. Discuss and define the following terms: Kerb, Median, Camber and Shoulder? Support the answer with sketches/diagrams etc.
- Q4. Discuss and explain the role of primary surveys in any transport study. Describe about any four types of primary surveys with their relevancy in transport planning. Support your answer with sketches/graphs/diagrams.
- Q5. Discuss and define the role of pedestrian facilities in any urban road infrastructure. Why these facilities should be part of urban road design code? Support your answer with sketches/graphs/diagrams

Section – B – Medium Answer Type Questions (Word Limit – 200)

Attempt any 5 questions. (5 Questions x 8 Marks) = 40 Marks

- Q1. Discuss and define the traffic signage on an urban road. How are they important for any road user? Explain the location and placement of traffic signage. Name any 6 traffic signage. Support your answer with graphs/sketches/diagram.
- Q2. What do you understand by Junction Improvement and Junction Design? What are the advantages of Junction Improvement? Explain and elaborate on various components of junction improvement.
- Q3. What do you understand by Stopping Sight Distance? Discuss the types of sight distances. Explain the factors affecting the Sight Distance. Support your answer with graphs/sketches/diagram.
- Q4. What do you understand by Pavement? Discuss the types of pavements. Elaborate on the advantages and disadvantages of types of pavement. Support your answer with graphs/sketches/diagram.
- Q5. In two districts (district A with heavy rainfall and district B with light rainfall), major district road of WBM with gravel pavement, 6.50 m wide (for A) with median of 0.75 m and state highway of cement concrete with high type of bituminous pavement, 7.50 m wide (for B) with median of 2.50 m respectively. What should be the height of the crown with respect to the edges in both the cases? Given: Camber for cement concrete with high type of bituminous surface is 1 in 60 (1.7%) and for WBM with gravel pavement is 1 in 33 (3%).
- Q6. What is a traffic signal? What are the advantages and disadvantages of traffic signals? Define the components of traffic signals. What is Pre-timed, Semi-actuated and fully actuated traffic signal? Draw layout and band diagram for 2 phase traffic signal.

Section – C – Long Answer Type Questions (Word Limit – 500)

Attempt all questions. (2 Question x 20 Marks) = 40 Marks

- Q1. “Cross Sections are the inherent components for development of any road project. Cross sections consist of all standard components such as median, carriage way/Motor Vehicle lanes, railing/physical barrier, footpath, cycle track, green belt, service lanes, street lights, utility lines and building lines etc. The arrangement of these components in ROW is always as per the requirement.” Comment and Review the same. What are the typical components of any Cross Section, explain them in detail? Develop typical cross sections for 18 m, 30 m, 50 m and 60 m ROW. Candidate is expected to use information as per his knowledge potential. Examples/Cases/Sketches/diagrams/figures would also be appreciated.
- Q2. “Traffic Delineators, Road Markings, Traffic Calming Devices and Traffic Rotaries play an important role in delineating, streamlining and smooth movement of traffic.” Comment and review the statement. Define and explain the types of traffic delineators, road markings, traffic calming devices and traffic rotaries. Discuss their role in urban traffic engineering. Candidate is expected to use information as per his/her knowledge potential. Examples/Cases/Sketches/diagrams/figures would also be appreciated. Citing examples would be appreciated.

Roll No: -----



UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, December 2017

Program/course: Bachelor in Planning
Subject: Traffic and Transport Planning – I
Code : BPLC 241

Semester – Three
Max. Marks : 100
Duration : 3 Hrs

No. of page/s: 03 (Excluding Cover)

Note: Laptops and Mobile Phones are not allowed.

Section – A – Short Answer Type Questions (Word Limit – 60)

Attempt all questions. (5 Questions x 4 Marks) = 20 Marks

- Q1. Define and explain the road cross sectional components: Shoulder and cross slope or camber. How are they important in any road work? Support the answer with sketches/diagrams etc.
- Q2. What are the factors affecting the demand in Transport Sector? Explain and define 4 types of factors affecting the same in any urban area. Describe that how are they correlated?
- Q3. What do you understand by the Inner Cordon and Outer Cordon points in any transport planning process? Support your answer with sketches/graphs/diagrams etc.
- Q4. Discuss and define following components of a transport plan: Mode, Network, Nodes and Links. Support your answer with sketches/graphs/diagrams etc.

Q5. Discuss and define following components of a transport plan: corridors, origin and destination, Trip rate and trip length. Support your answer with sketches/graphs/diagrams etc.

Section – B – Medium Answer Type Questions (Word Limit – 200)

Attempt any 5 questions. (5 Questions x 8 Marks) = 40 Marks

- Q1. In two districts (district A with heavy rainfall and district B with light rainfall), major district road of WBM with gravel pavement, 3.75 m wide (for A) with median of 0.75 m and state highway of cement concrete with high type of bituminous pavement, 7.50 m wide (for B) with median of 2.50 m respectively. What should be the height of the crown with respect to the edges in both the cases? Given: Camber for cement concrete with high type of bituminous surface is 1 in 60 (1.7%) and for WBM with gravel pavement is 1 in 33 (3%).
- Q2. Describe the Road Classifications in general and for urban areas. Explain each road type as per the classification. Support the answer with sketches/diagram/maps etc.
- Q3. Discuss and define the transport planning process in any transport project. What are the key components of transport planning process? Support the answer with sketches/diagram/maps etc.
- Q4. Define and explain following components of roads: Kerb, Median, Bus Bay, Cycle Track and Parking. Support the answer with sketches/diagram/maps etc.
- Q5. Define and explain following terms: Super Elevation, Sight distance and Passenger Car Unit or Equivalent Car Space. Mention their values also. Support the answer with sketches/diagram/maps etc.
- Q6. what do you understand by the road classifications. Explain and discuss various types of urban roads as per the characteristics. Support the answer with sketches/diagram/maps etc.

Section – C – Long Answer Type Questions (Word Limit – 500)

Attempt all questions. (2 Questions x 20 Marks) = 40 Marks

- Q1. “Cross Sections are the inherent components for development of any road project. Cross sections consist of all standard components such as median, carriage way/Motor Vehicle lanes, railing/physical barrier, footpath, cycle track, green belt, service lanes, street lights, utility lines and building lines etc. The arrangement of these components in ROW is always as per the requirement.” Comment and Review the same. What are the typical components of any Cross Section, explain them in detail? Develop typical cross sections for 18 m, 30 m, 50 m and 60 m ROW. Candidate is expected to use information as per his knowledge potential. Examples/Cases/Sketches/diagrams/figures would also be appreciated.
- Q2. “Information/data from any source is very important and relevantly use in any transport planning and traffic engineering study. Primary information or surveys play a coherent role in analysis of the existing condition in any study.” Comment and review the statement. Define and explain the various types of surveys be conducted for collection of primary data in any transport study. Discuss the methodology to conduct Registration Number Plate Survey and Post Card Questionnaire Survey. Support your answer with examples, graphs/sketches/charts etc. Citing cases would be appreciated.