ode No: 126AE

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech III Year II Semester Examinations, May - 2016
TRANSPORTATION ENGINEERING – I
(Civil Engineering)

Time: 3 hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a) Classify the road systems at regional/ national and urban level. [2]
b) What are the factors effecting highway alignment? [3]
c) What are the design issues in highway geometrics? [2]
d) How do you frame design controls in geometrics of highway explain from each feature with specification? [3]
e) What are the different traffic signs and their relevance? [2]
f) Present different types of road markings, their specifications and their relevance. [3]
g) Draw and explain different types of grade separated interchanges. [2]
h) Draw typical conflict points in an intersection and suggest different types of treatments. [3]
i) Present different types of pavement failures. [2]
j) Draw the cross sectional view of joints and filler in concrete pavements. [3]

PART - B

(50 Marks)

2.a) Present on different road developments in India.
b) What are the different road network patterns and explain their benefits? [5+5]

OR

3.a) Present on Engineering surveys to be conducted for highway construction.
b) Present the different drawings to be developed for facilitating to construct a highway. [5+5]

4.a) Develop the equation form for super elevation design.
b) What is the IRC suggested approach for super elevation implementation? [5+5]

OR

5.a) Develop the equation form for Extra widening at transition curve.
b) Develop the equation forms for designing the different vertical curves. [5+5]

6.a) Explain the survey procedure for speed studies and present the different forms of representation.
b) What are the different types of parking surveys and explain them in detail? [5+5]

OR

7.a) Present on accident record form and different processing diagrams to analyze accidents.
b) Present the design procedure of isolated traffic signal. [5+5]

8.a) Present the different types of islands and their functionality in reducing the conflicts.
b) Present the design procedure of rotary as traffic Control Island. [5+5]

OR

9.a) What are the requirements of at grade intersection?
b) Present on different types of intersections. [5+5]

10.a) Present the construction procedure of any black top road?
b) Present the test procedures to characterize the highway materials? [5+5]

OR

11.a) Present the construction procedure of cement concrete road?
b) Present the construction procedure of concrete joints? [5+5]

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