

**III B. Tech I Semester Supplementary Examinations, October/November - 2018****TRANSPORTATION ENGINEERING – I**

(Civil Engineering)

Time: 3 hours

Max. Marks: 70

Note: 1. Question Paper consists of two parts (**Part-A** and **Part-B**)2. Answering the question in **Part-A** is compulsory3. Answer any **THREE** Questions from **Part-B**

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**PART –A**

- |   |    |                                                    |      |
|---|----|----------------------------------------------------|------|
| 1 | a) | What are urban roads? How are they classified?     | [3M] |
|   | b) | Write about horizontal transition curves?          | [4M] |
|   | c) | What are the factors affecting LOS?                | [4M] |
|   | d) | Compare various abrasion tests of aggregate.       | [3M] |
|   | e) | Write about wheel load stresses of rigid pavement. | [4M] |
|   | f) | List various types of highway construction.        | [4M] |

**PART -B**

- |   |    |                                                                                                                          |      |
|---|----|--------------------------------------------------------------------------------------------------------------------------|------|
| 2 | a) | Define Arterial, Sub-Arterial, collector & local streets?                                                                | [3M] |
|   | b) | Give list of drawings to be submitted for highway alignment. Explain.                                                    | [8M] |
|   | c) | What are various engineering surveys for highway alignment?                                                              | [5M] |
| 3 | a) | What are the steps involved to design super elevation?                                                                   | [8M] |
|   | b) | What is i) Kerb ii) Road Margin iii) Width of roadway iv) Right of way                                                   | [8M] |
| 4 | a) | How the traffic volume survey results are presented?                                                                     | [8M] |
|   | b) | Write about the causes of preventive measures of accidents.                                                              | [8M] |
| 5 | a) | List about tests in bitumen. Write about any two tests.                                                                  | [8M] |
|   | b) | Write about desirable properties aggregate.                                                                              | [8M] |
| 6 | a) | Describe various functions of different components of flexible pavement.                                                 | [8M] |
|   | b) | Determine spacing of contraction joints of 6.5 cm thick slab having 30 cm thickness and $f=1.5$ for the following cases. | [8M] |
|   |    | i) For plain cement concrete, allowable $Sc=0.6 \text{ kg/cm}^2$                                                         |      |
|   |    | ii) For reinforced cement concrete, 1cm diameter bars at 0.3 m spacing                                                   |      |
| 7 | a) | Discuss the various failures of flexible pavement.                                                                       | [8M] |
|   | b) | Write about various processes of pavement evaluation.                                                                    | [8M] |

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