

Code No: RT32015

**R13****SET - 1**

**III B. Tech II Semester Supplementary Examinations, November - 2017**  
**TRANSPORTATION ENGINEERING – II**  
(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 compulsory  
3. Answer any **THREE** Questions from **Part-B**

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**PART -A**

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|---|----|---|------|
| 1 | a) | What is coning of wheels? What is its purpose?                          | [3M] |
|   | b) | Explain the factors affecting the choice of railway gauge.              | [4M] |
|   | c) | List the factors responsible for selection of Airport site.             | [3M] |
|   | d) | List various design factors taken for the design of air field pavement. | [4M] |
|   | e) | Distinguish between quays and jetties.                                  | [4M] |
|   | f) | Write about classification of harbours based on utility and Roadstead.  | [4M] |

**PART -B**

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|---|----|--|------|
| 2 | a) | What do you understand by gauge? Mention the gauges used on Indian Railways and discuss their suitability at different locations with reasons.   | [8M] |
|   | b) | Write a short note on the following a) functions of rails b) requirements of rails.  | [8M] |
| 3 | a) | Write in detail about various gradients used on a railway track along with minimum values of each gradient.  | [6M] |
|   | b) | Draw a neat labeled diagram of a left hand turnout.  | [6M] |
|   | c) | List out various objectives of signaling in railways.  | [4M] |
| 4 | a) | Derive an expression to establish relationship among gauge, speed, radius of curvature and super elevation.  | [7M] |
|   | b) | An 8° curve track diverges from a main curve of 5° in an opposite direction in the layout of a B.G. yard. Calculate the super elevation and the speed on the branch line, if the maximum speed permitted on the main line is 45 Km/hr. | [9M] |
| 5 | a) | Write in detail about various aircraft characteristics.  | [8M] |
|   | b) | Write in detail about various airport markings with neat sketches.   | [8M] |
| 6 | a) | Write about LCN system of air field pavement with relevant figures.  | [8M] |
|   | b) | Explain any six factors for which a harbour engineer must have consideration while planning and designing a harbor.  | [8M] |
| 7 | a) | Write in detail about working principle of a light house with neat sketch.   | [9M] |
|   | b) | Discuss various advantages and limitations of water transport with reference to other modes of transport.  | [7M] |

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