

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 compulsory3. Answer any **THREE** Questions from **Part-B**

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**PART -A**

- 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**

- 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  $8^\circ$  curve track diverges from a main curve of  $5^\circ$  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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