

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS - 2016

B.Tech VI Semester

COURSE CODE: 10B11CE614

MAX. MARKS: 25

COURSE NAME: Transportation Engineering

COURSE CREDITS: 3

MAX. TIME: 1 HR 30 MINS

Note: All questions are compulsory. Carrying mobile phone during examinations will be treated as case of unfair means. Illustrate your answers with neat sketches wherever necessary.

Two marks are reserved for writing answers in sequential order.

1. There is an unsymmetrical split of 4° and 7° curves in a BG track. If the speed restriction on the main line is 57 kmph, what would be the speed restriction on the branch line. Permissible cant deficiency = 7.62 cm. [3]
2. Explain the following terms with neat and clean sketch of **Points & Crossings**. Also label the followings. [5]
 - a. Theoretical Nose of Crossing (TNC) and Actual Nose of Crossing (ANC)
 - b. Switch angle and Crossing angle
 - c. Heel divergence and Flange-way divergence
 - d. Point and Splice rails
 - e. Wing rails and Check Rails
 - f. Stock rails and Tongue rails
3. Discuss the utility of different types of yards in context of Indian Railways. [3]
4. Differentiate between the followings: [3]
 - a. Station and Yard
 - b. Dock platform and Island platform
 - c. Gravity yard and Hump yard.
5. Name different types of Ballast materials used in India. [1+1]

What material as Ballast you would suggest for high speed tracks and why?
6. Discuss the advantages of the prestressed concrete sleeper over the reinforced concrete sleeper. [2]
7. Explain **Coning of Wheels** and **Tilting of Rails** with neat and clean sketches. [3]
8. Explain how the minimum depth of Ballast section is decided. [2]