JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATIONS-2022

B.Tech- 6th Semester (Civil)

COURSE CODE: 18B1WCE634   MAX. MARKS: 25

COURSE NAME: Transportation Engineering

COURSE CREDITS: 3   MAX. TIME: 1 Hour 30 Min

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1. Explain the procedure for rail fastening and plate laying in detail.   (3)

Q2. Differentiate between tram line method and telescopic method of plate laying in detail.   (3)

Q3 What do you mean by drainage of the track? What are the different types of drainage system? Explain the sand pile system in detail with the help of net sketeches.   (3)

Q4. Discuss in detail about the safe speed (as per new formula) and negative superelevation.   (3)

Q5. Calculate the superelevation and the maximum permissible speed for a 2° BG transitioned curve on a high-speed route with a maximum sanctioned speed of 110 km/h. The speed for calculating the equilibrium superelevation as decided by the chief engineer is 80 km/h and the booked speed of goods trains is 50 km/h.   (4)

Q6. A BG branch line track takes off as a contrary flexure through a 1 in 12 turnout from a main line track of a 3° curvature. Due to the turnout, the maximum permissible speed on the branch line is 30 km/h. Calculate the negative superelevation to be provided on the branch line track and the maximum permissible speed on the main line track (when it takes off from a straight track).

(5)

Q7. A curve of 600 m radius on a BG section has a limited transition of 40 m length. Calculate the maximum permissible speed and superelevation for the same. The maximum sectional speed (MSS) is 100 km/h.   (4)