

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -3 EXAMINATION- May-2023

COURSE CODE (CREDITS): 18B1WCE634

MAX. MARKS: 35

COURSE NAME: Transportation Engineering

COURSE INSTRUCTORS: Dr. Amardeep

MAX. TIME: 2 Hour

Note: (a) All questions are compulsory.

(b) Marks are indicated against each question in square brackets.

(c) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems

Q1. Two high-level platforms are to be provided on the inside as well as the outside of a 2° curve on a BG track with a superelevation of 100 mm. What should the required extra clearances for these platforms, both on the inside and the outside of the curve, be? (Length of bogie = 21,340 mm, c/c bogie distance = 14,785 mm, height of platform = 840 mm.) [CO-2] (5)

Q2. Write short notes on the following.

(a) Gradient in station yard

(b) Objectives for gradients

(c) Momentum gradient [CO-3] (3)

Q3. Tabulate different limiting values of various parameters concerning curves. [CO-3] (3)

Q4. What do you mean by negative superelevation? Discuss the whole procedure in detail.

[CO-1] (2)

Q5. Please explain the following along with neat sketches (if any): [CO-4] (6)

a) Pilot tunnel method

b) Forepoling method

c) Linear plate method

Q6. Make a list of different factors affecting the orientation of an airport. Please specify the different aircraft characteristics by considering the weight & wheel configuration for the same with the help of figure (if required). [CO-4] (2)

Q7. Calculate the superelevation, maximum permissible speed, and transition length for a 3° curve on a high-speed BG section with a maximum sanctioned speed of 110 km/h. Assume the equilibrium speed to be 80 km/h and the booked speed of the goods train to be 50 km/h. [CO-3] (5)

Q8. Please explain the following: [CO-4] (6)

- a) Apron and Hanger Lighting
- b) Boundary lighting
- c) Design consideration to be applied to the visual aids for the taxiway

Q9. What are the docks? Discuss in detail along with their different types and their application.
[CO-5](6)

UNIVERSITY EXAMINATION - MAY - 2023