

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

LIST -2 EXAMINATION- APRIL-2023

COURSE CODE (CREDITS): 18B1WCE634

MAX. MARKS: 25

COURSE NAME: Transportation Engineering

COURSE INSTRUCTORS: Dr Amardeep

MAX. TIME: 1 Hour 30 Minutes

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

Q1. Explain the following in details: [CO-1 & 2] (6)

- a) ICAO lighting system.
- b) Different design consideration to the visual aids for the taxiway.
- c) Different types of runway along with their application.

Q2. Calculate the maximum permissible speed on a 1° curve on a Rajdhani route with a maximum sanctioned speed of 130 km/h. The superelevation provided is 50 mm and the transition length is 60 m. The transition length of the curve cannot be increased due to the proximity of the yard. [CO-3] (3)

Q3. Explain the simplified method along with its different steps for calculating permissible cant and speed. [CO-3] (2)

Q4. 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. (2)

[CO-3]

Q5. Please explain the following along with neat sketches (if any): [CO-4] (8)

- a) Pilot tunnel method
- b) Forepoling method
- c) Linear plate method
- d) Needle beam 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. Differentiate between minimum turning radius and circling radius. Also discuss about the different facilities dependent on both. [CO-4] (2)