JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -2 EXAMINATION- 2025

B.Tech-VI Semester (CE)

COURSE CODE (CREDITS): 18B1WCE634 MAX. MARKS: 25

COURSE NAME: Transportation Engineering

COURSE INSTRUCTORS: Dr. Amardeep MAX. TIME: 1 Hour 30 Minutes

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Note: *(a) All questions are compulsory.*

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

Q.No	Question	CO	Marks
Q1	Please explain the following along with net sketches (if any): a) Pilot tunnel method b) Forepoling method c) Linear plate method d) Needle beam method	CO-4	8
Q2	(a) What do you mean by wind rose diagram? Discuss in detail about its importance with the help of net sketches. (b) Discuss about different aircraft characteristics and their impact.	CO-1	3+3
Q3	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)	CO-3	3
Q4	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

Q5	Explain the following in details: a) ICAO lighting system. b) Different design consideration to the visual aids for the taxiway. c) Different types of runways along with their application.	CO-2	3
Q6	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.	CO-3	3