

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST -1 EXAMINATION- September 2017

B.Tech V Semester

COURSE CODE: 10B11CE511

MAX. MARKS: 15

COURSE NAME: Highway Engineering

COURSE CREDITS: 04

MAX. TIME: One Hr

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means. Assume any other missing data accordingly.*

Q1. How much camber is to be provided (crown to be raised) on a road having width of 7 m with bituminous concrete surface located in heavy rainfall area? (1.5)

Q2. What is off-tracking? Explain with sketch. (1.5)

Q3. What should be the clearance required from the centre line, on the inside of the horizontal curve so as to provide-

(i) SSD of 100 metre

(ii) OSD of 350 metre

The radius of horizontal curve is 380 m and length of curve is 225 m, on this highway (2-lane).

(State your answer with clean figure)- (3)

Q4. A road has a total width of 7.5 m including extra widening on curve and design speed of 60 kmph. Calculate the length of transition curve and its shift on this curve of 200 m radius. Assume other data accordingly. (3)

Q5. Briefly explain the engineering surveys needed for locating a new highway. (3)

Q6. Write short notes on- (a) Indian Roads Congress (b) Third twenty year road development plan (3)

CE-5, BT