



NTK/KW/15/7353

**Faculty of Engineering & Technology
Fourth Semester B.E. (Civil Engg.) (C.B.S.)
Examination**

TRANSPORTATION ENGINEERING

Time : Three Hours]

[Maximum Marks : 80

1. (a) What were the recommendations of Jaykar Committee ? Discuss. 7
(b) Explain the following terms :—
(i) CRF
(ii) CRR
(iii) IRC. 6

OR

2. (a) Discuss the engineering surveys to be carried out during the planning of road system. 7
(b) Bring out salient features of 2nd road development plan in India. 6
3. (a) Enumerate the factors that govern the geometric design of a road. 7
(b) Design the superelevation for the speed of 80 kmph with given radius of curve is 250 m. 6

OR

4. (a) Calculate SSD and OSD for a design speed of 80 kmph; take $A = 3.0$ kmph/sec. 7
(b) Calculate the length of summit curve for SSD of 120 m, which is formed at the intersection of (+) 2.5 and (-) 5.0 gradients. 6

5. (a) Explain in detail the Penetration test on bitumen. Write its IRC recommended values. 7
(b) Discuss CBR Test on sub-grade soil. 7

OR

6. (a) Discuss the factors affecting the design of pavement. 7
(b) Explain the construction of Cement Concrete Road. Comment on dowel bar. 7
7. (a) Enlist different traffic characteristics. Explain Road user characteristics in detail. 7
(b) What do you understand by origin and destination study ? How is it carried out ? Discuss any three methods. 6

OR

8. Write short notes on any **THREE** :—
(i) 30th Highest hourly volume of traffic.
(ii) Enoscope
(iii) Passenger Car Unit
(iv) Parking Study
(v) Causes of Accidents. 13
9. (a) Enumerate various points to be considered while selecting site for a bridge. 7

- (b) What is Economic Span of a bridge ? Derive expression for the same. 6

OR

10. (a) What is Scour ? Explain the process of calculation of Scour Depth under the bridge pier. What would be the maximum scour depth ? 7
- (b) What is Affluse ? Discuss in detail. 6
11. (a) Explain the construction of well foundation. Comment on tilting of well and its correction. 7
- (b) What is cofferdams ? Discuss its various types in brief. 7

OR

12. Write short notes on any **THREE** :—

(i) Wing Wall

(ii) Rating of Bridge

(iii) Bridge bearing

(iv) Rational method for calculating peak run-off

(v) Clearance.