B.E. (Civil Engineering) Seventh Semester (C.B.S.)

Transportation Engineering - II

P. Pages : 2 **NRT/KS/19/3526**

Time : Three Hours * 0 2 2 7 * Max. Marks : 80

Notes :
1. All questions carry marks as indicated.
2. Solve Question 1 OR Questions No. 2.
3. Solve Question 3 OR Questions No. 4.
4. Solve Question 5 OR Questions No. 6.
5. Solve Question 7 OR Questions No. 8.
6. Solve Question 9 OR Questions No. 10.
7. Solve Question 11 OR Questions No. 12.
8. Assume suitable data whenever necessary.
9. Illustrate your answers whenever necessary with the help of neat sketches.
10. Use of non programmable calculator is permitted.

1. a) Define Gauge o railway track. What are the factors which affect the selection of gauge ? **7**

b) Discuss the necessity & effect of coning of wheel. **6**

OR

2. a) What do you understand by "Permanent way" ? Discuss the requirement of ideal permanent way. **7**

b) What are the possible causes of creep ? Discuss in brief. **6**

3. a) What are the types of rails ? What are the requirements of an ideal rail section ? **6**

b) Write a note on sleepers & list out the function of sleeper ? **7**

OR

4. a) Derive the relationship of super elevation with gauge, speed & radius of a curve. **7**

b) Write a short notes on **any two.** **6**

i) Rail failures

ii) Cant deficiency

iii) Length of transition curve

iv) Heel clearance & flange way depth.

5. a) Draw a neat diagram of 'Left Hand Turnout' & show its various component. **7**

b) Why signals are sued on railway track ? Describe different types of signals in brief ? **7**

OR

6. Write a short note on **any three.** **14**

a) Throw of switch

b) Warner signals

c) Tongue rail

d) Inter locking

e) Marshaling yard

7. a) Explain three controls of an overaft. **6**

b) Explain the procedure of Runway Orientation. **7**

OR

8. a) Write a short note "Wind Rose" ? **6**

b) Calculate the actual length of runway from the following data : **7**
- Airport Elevation : R.L. 100
- Airport reference temp. : 28ºC
- Basic Length of runway : 600 m
- Height pt along the length : R.L. 98.2
- Lowest pt along the length : R.L. 95.2

9. a) Draw the typical layout of a small domestic terminal building ? What are the facilities are provided in this area ? **7**

b) Write a short note on : **6**

i) Approach lighting.

ii) Runway marking

OR

10. a) Explain in brief with neat sketch the "I.L.S. System" ? **7**

b) What are the characteristics of ideal layout of Airport. **6**

11. a) Explain in brief how you would transfer the centre line and grade of a proposed tunnel from the ground surface to the interior of tunnel with neat sketch. **7**

b) Write a detail Tunnel Surveying. **7**

OR

12. Write a short note on **any three.** **14**

a) Tunnel ventilation.

b) Tunnel lining

c) Drainage in Tunnel

d) Lighting in Tunnel

e) Economics of Tunneling.

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