

B.E. (Civil Engineering) Seventh Semester (C.B.S.)
Transportation Engineering - II

P. Pages : 2

Time : Three Hours



TKN/KS/16/7529

Max. Marks : 80

- Notes : 1. All questions carry marks as indicated
2. Assume suitable data whenever necessary.

1. a) What do you understand by permanent way? Discuss the requirements of ideal permanent way. 7
b) Define 'Gauge' of a railway track. What are the factors which affect the selection of a gauge. 6

OR

2. a) Discuss the necessity and effects of coning of wheel. 6
b) Calculate the maximum permissible train load, a locomotive of type 2-6-4 can pull with an axle load of 28 tonnes. The train has to run on a straight level track with 90kmph (BG track) what will be the reduction in speed if the train negotiate a 3° horizontal curve. 7
3. a) Explain in detail 'Creep of rail'. 6
b) Using the sleeper density of $n+6.2$, calculate the number of sleepers required for constructing a railway track 1280m long (BG track). 7

OR

4. Write short notes on. 13
i) Negative superelevation and cant Deficiency.
ii) Length of Transition curve.
iii) Tongue Rail.
iv) Heel clearance and Flange way Depth.
5. a) Draw a neat diagram of Left Hand Turnout and show its various component parts. 7
b) What are the construction steps for Railway track? Discuss in brief. 7

OR

6. a) What is the necessity of Track Maintenance? Discuss. 6
b) Write short notes **any two**. 8
i) Types of signals.
ii) Interlocking.
iii) Marshaling yard.
7. a) Discuss the various factors which are to be considered while selecting a suitable site for an airport. 6

- b) The length of runway under standard conditions is 1800m. The airport is to be provided at an elevation of 300m above msl. The airport reference temperature is 28°C. If the effective gradient is 0.20%, determine the corrected runway length. **7**

OR

8. a) Explain the procedure of Runway orientation. **7**
b) Discuss in brief the runway geometric design standards. **6**
9. a) What do you understand by terminal area? What facilities are provided in this area? **7**
b) What are the different system of aircraft parking? Explain with a neat sketch, any one. **6**

OR

10. a) Discuss with a neat sketch, 'Runway Lighting'. **7**
b) Explain the need of air traffic control. **6**
11. a) What are the objects of Tunnel Ventilation? Discuss the requirements of a ventilating system. **7**
b) What are the objects of providing a tunnel with permanent lining? Discuss in brief the various materials used for lining. **7**

OR

12. Write short notes on. **14**
a) Drainage in Tunnels.
b) Tunnel Lighting.
c) Tunnel Survey.
