

**Unit IV**

7. (a) Explain the procedure of orienting the runway. **5**
- (b) The runway length required for landing at sea level in standard atmospheric conditions in 3000 m. Runway length required for take off at a level site at sea level in standard atmospheric conditions is 2500 m. Aerodrome reference temperature is 25°C and that of the standard atmosphere at aerodrome elevation of 150 m is 14.025 °C. If the effective runway gradient is 0.5 per cent, determine the runway length to be provided. **10**
8. (a) Explain the necessary of airport lighting. **7**
- (b) Explain briefly the various factors which affect the layout of taxiway. **8**

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**B. Tech. EXAMINATION, May 2018**

(Sixth Semester)

(B. Scheme) (Main & Re-appear)

(CE)

CE310B

TRANSPORTATION ENGINEERING-II

*Time : 3 Hours]*

*[Maximum Marks : 75*

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Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

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**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit. Assume suitable data if necessary.

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**P.T.O.**

### Unit I

1. (a) Discuss the role of Railways industrial and economic progress of a nation. 7  
(b) Compare Railway Transportation with Road Transportation and mention characteristics of modern India. 8
2. (a) Describe the functions and requirements of railway track. 7  
(b) What are the possible causes of creep ? What are the effects of creep ? 8

### Unit II

3. (a) If an  $8^\circ$  curve track diverges from a main curve of  $5^\circ$  in an opposite direction in the layout of a B.G. yard, calculate the super-elevation and the speed on the branch line, if the maximum speed permitted on the main line is 45 kmph. 8  
(b) Explain the necessity of gradients. Discuss all the types of gradients giving permissible values adopted by Indian Railways. 7

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4. (a) What are the functions of a Railway Station ? Discuss the various requirements of a Railway Station. 8  
(b) What would be the permissible speed on the curve ? If on a  $8^\circ$  B.G. track, the average speed of different trains is 50 kmph and allowable cant deficiency is half that of maximum cant deficiency. 7

### Unit III

5. (a) Explain clearly the location and application of the following signals : 8  
(a) Outer signal  
(b) Home signal. 8  
(b) Mention the various steps needed for modernizing the railway track for running high speed trains in India. 7
6. Describe the various methods of hard rock tunneling and mention the advantages and disadvantages of each of them. 15

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