**53 (CE 603) TREN II**

**2014**

# TRANSPORTATION ENGG. II

**Paper : CE 603**

*Full Marks : 100*

Time : Three hours

***The figures in the margin indicate full marks for the questions.***

*Answer **any five** from the following seven questions.*

1. Calculate the maximum permissible train load that can be pulled by a locomotive having four pairs of driving wheels carrying an axle load of 24 tonnes each. The train has to run at a speed of 80*kmph* on a straight level track (M.G).

   Also calculate the reduction in speed, if train has to climb a gradient of 1 in 200.

   If train climbs the gradient with 2° curve then what would be reduction in speed. 20

2. What is meant by Traction in railways ? Discuss tractive resistances in detail. 3+17

3. *(a)* Discuss different types of railway lines in detail. Differentiate between different types of lines. 10

*(b)* Define permanent way in railways, also discuss the meaning of the term locomotive. Discuss with suitable example. 10

4. *(a)* Discuss advantages of airways over other mode of transportation in India. 10

*(b)* Why regional planning for airways is required ? What are the information those are obtained from a proper regional planning of any locality ? 10

5. *(a)* Why airport site selection is a must for constructing a airport in any locality ? What are the factors upon which selection of a site depends ? Briefly discuss. 10

*(b)* What are the various types of surveys required for a suitable and reasonable site selection ? Describe the various surveys. 10

6. *(a)* What is meant by Basic runway length ? Make a complete definition. 10

*(b)* The length of runway under standard conditions is 1620*m*. The airport site has an elevation of 270*m*. Its reference temperature is 32·94°*C*. If the runway is to be constructed with an effective gradient of 0·20 per cent, determine the corrected runway length. 10

7. *(a)* Discuss Airport classification. What are the parameters based on which classification depends ? 4

*(b)* Discuss ICAO classification in detail. 16