AQ – 2808

Second Semester M. E. Civil Engg. (Transportation Engg. and Management) Examination

ADVANCED RAIL ROAD ENGINEERING

2 SFTR 1

P. Pages : 2

Time : Three Hours] [Max. Marks : 80

Note : (1) All questions carry marks as indicated.
(2) Answer any **Five** questions.
(3) Due credit will be given to neatness and adequate dimensions.
(4) Assume suitable data wherever necessary.
(5) Illustrate your answer wherever necessary with the help of neat sketches.

1. (a) What is coning of wheel ? Explain behaviour of coned wheel on curved path. 8

   (b) State and explain the factors on which stresses in sleepers depends. 8

2. (a) Explain various types of rail failures with neat sketches. 8

   (b) Explain geotextile method for soil stabilization. 8

3. (a) Draw a neat sketch of :—

   (i) Symmetrical split.

   (ii) Diamond crossing. 8

   (b) What are the requirements and characteristics of good crossing ? 8

4. (a) Explain 'negative superelevation' with neat sketch. 8

   (b) If a 8^0 curve track diverges from main curve of 5^0 in an opposite direction in the layout of B:G yard. Calculate the superelevation and the speed on the branch line if the maximum speed permitted on the main line is 45 kmph. 8

5. (a) Explain 'Hauling capacity of a locomotive'. 8

(b) What would be the gradient for a BG track when the grade resistance together with curve resistance due to a curve of 3^0 shall be equal to the resistance due to a ruling gradient of 1 in 200 ? Assume 'w' be the weight of train and 1 in x be the required gradient. 8

6. (a) Explain "Automatic Signalling". 8

(b) Explain in brief :—

(i) Trolly buses.

(ii) Elevated Railway. 8