

M.E. Second Semester (Civil Engineering (Transpo. Engg. & Manag.)) (New CGS)

13111 : Advanced Rail Road Engineering : 2 SFTR 1

P. Pages : 1

AU - 3336

Time : Three Hours



Max. Marks : 80

- Notes :
1. Answer **any five** question.
 2. Due credit will be given to neatness and adequate dimensions.
 3. Assume suitable data wherever necessary.
 4. Diagrams and chemical equations should be given wherever necessary.
 5. Retain the construction lines.
 6. Illustrate your answer necessary with the help of neat sketches.
 7. Use of pen Blue/Black ink/refill only for writing the answer book.

1. a) Explain in brief various stresses induced in Railway track. 8
b) Discuss the role of railways in industrial and economic progress of a nation. 8
2. Attempt **any two**.
a) What is necessity of welding the rails? How the welding of rails is carried out? 8
b) Explain the various spikes with neat sketches and state the purpose of spikes. 8
c) What are the function of formation? Discuss the different methods for improving the poor subgrades. 8
3. a) What is crossing? What are essential requirement of good crossing? Discuss various types of crossing in use of Indian railway. 8
b) Draw neat sketches of. 8
i) Left hand turnouts. ii) Track Triangle.
4. a) Calculate the maximum permissible speed on curve of high speed B.G. track having the following particulars: 10
i) Degree of curve = 1°
ii) Amount of super elevation = 8.0 cm
iii) Length of transition curve = 130 meter.
iv) Maximum speed of a section likely to be sanctioned = 153 kmph
b) What are objects of providing superelevation? State the limits of superelevation and cant deficiency for B.G & M.G. 6
5. a) Explain the signals based on functional characteristics. 8
b) Differentiate between the following:- 8
i) A.T.C. and C.T.C. ii) Absolute block system.
and Automatic block system.
6. a) Explain:- 8
i) Electric locomotive. ii) Diesel locomotive.
b) Explain in brief:- 8
i) Underground Railways. ii) Elevated Railway.
