

002606

August/September 2022
B.Tech. (Civil) VI SEMESTER
Railway Engineering (PEC-CV-402-4)

Time : 3 Hours]

[Max. Marks : 75

Instructions :

1. *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
2. *Answer any four questions from Part-B in detail.*
3. *Different sub-parts of a question are to be attempted adjacent to each other.*

PART-A

1. (a) What do you understand by alignment of railway lines? (1.5)
- (b) Define creeps of rails. (1.5)
- (c) What are the functions of ballast? (1.5)
- (d) What do you understand by Gauge length? (1.5)
- (e) What is meant by wear of rails? (1.5)
- (f) Define track stresses. (1.5)
- (g) What do you understand by track curves? (1.5)
- (h) Define tractive resistance and power. (1.5)
- (i) What is the principle of signals? (1.5)
- (j) What are the main functions of tunneling? (1.5)

PART-B

2. (a) Explain different types of track stresses. (8)
(b) Give brief explanation of different types of sleepers. (7)
3. (a) What is the specification of good ballast? (7)
(b) Explain formation of subgrade and its function. (8)
4. Explain different types of sleepers fastenings and their functions. (15)
5. (a) Enumerate the various types of track junctions and simple track layouts. (7)
(b) Derive the detailed expression for Super-elevation. (8)
6. (a) Explain various types of rail joints. (10)
(b) What are the various functions of interlocking? (5)
7. (a) Enumerate various methods for soft rock tunnelling. (7)
(b) What is signalling? What are the objectives of signalling? List the types of signals. (8)