

Dec-25-0627

CEPC-503 (Public Transportation Systems)

B. Tech.-5th NEP

Time : 3 Hours

Max. Marks : 60

The candidates shall limit their answers precisely within the answer-book (40 pages) issued to them and no supplementary/continuation sheet will be issued.

Note: Attempt five questions in all, select one question each from section A, B, C, D. Section E (Question-9) is compulsory.

1. (a) Explain the need of mass transportation in urban areas. (6)
(b) Discuss the characteristics of mass transportation systems. (6)
2. (a) Classify different types of airports with examples. (6)
(b) Write a short note on aircraft characteristics influencing airport design. (6)

Section - B

3. (a) Discuss the role of railways in transportation system. Compare highways and railways as modes of transport. (8)
(b) Explain creep in rails with sketches. What are its causes? (4)
4. (a) Write short notes on LWR, SWR and CWR. (6)
(b) Explain different types of railway sleepers and discuss the functions of ballast in railway track. (6)

Section - C

CEPC-503

5. (a) Write a short note on widening of gauge on curves. (6)
(b) With a neat sketch, explain the layout of a diamond crossing. (6)
6. (a) Write detailed notes on station and yards. (6)
(b) With sketch, explain the cross-section elements of a railway track (6)

Section - D

7. (a) List and explain the ITS components and tools. (4)
(b) Describe different types of signals used in station yards. (8)
8. (a) Explain objectives and types of railway signals. (6)
(b) What do you understand by ITS? Explain benefits of ITS in modern transportation. (6)

Section-E (Compulsory)

- 9 a) List any two advantages-of rail transport. (6)
b) Write two types of ballast. (6)
c) Define equilibrium cant. (6)
d) Name two types of crossings. (6)
e) Mention two ITS tools. (6)
f) State any two objectives of railway signalling. (6×2=12)