

April 2014

Time – Three hours
(Maximum Marks: 75)

[N.B: (1) Answer any fifteen questions in PART - A and division (A) or division (B) of each question in PART - B.

(2) Each question carries 1 (one) mark in PART - A and 12 (twelve) marks in PART - B.]

PART - A

1. Define camber.
2. State any one advantage of roads.
3. Define plastic limit.
4. Write any one object of road arboriculture.
5. Define highway alignment.
6. Define preliminary survey.
7. What do you mean by soil stabilization?
8. Write any two compaction equipments.
9. Mention any two types of gauges.
10. Write any one function of rail.
11. State the use of fish plates.
12. Mention any one necessity of maintenance of track.
13. Define railway yard.
14. What do you mean by derailing switch?
15. Define fouling marks.
16. State any one advantage of underground railways.
17. Define abutment.
18. Mention any two types of causeways.
19. Write two types of wing walls.
20. What is elastomer bearing?

[Turn over.....

PART - B

- | | Marks |
|---|-------|
| 21. (A) (i) Describe about the ribbon development. | 4 |
| (ii) Explain the following: (a) Super elevation (b) Types of gradients. | 8 |
| <i>(Or)</i> | |
| (B) (i) What are the advantages of providing traffic signals? | 4 |
| (ii) How are the trees selected and located for a good highway landscaping? | 8 |
| 22. (A) (i) Write briefly about the necessity for highway realignment. | 4 |
| (ii) Explain in detail about the methods of construction of concrete roads. | 8 |
| <i>(Or)</i> | |
| (B) (i) Write briefly about flash point test on bitumen. | 4 |
| (ii) Write short notes on: (a) Hair pin bends (b) Breast walls. | 8 |
| 23. (A) (i) Define creep of rails and mention its causes. | 4 |
| (ii) Explain the different types of sleepers. | 8 |
| <i>(Or)</i> | |
| (B) (i) What are the functions of ballast? | 4 |
| (ii) Write short notes on: (a) Rail Joint (b) Maintenance of bridges. | 8 |
| 24. (A) (i) State the object of signalling in railways. | 4 |
| (ii) Explain the different types of railway stations. | 8 |
| <i>(Or)</i> | |
| (B) (i) What are the essential principles of interlocking? | 4 |
| (ii) Write short notes on: (a) Absolute block system (b) Warner signals. | 8 |
| 25. (A) (i) What are the factors to be considered in the alignment of a bridge? | 4 |
| (ii) Classify the road culverts according to the construction and explain. | 8 |
| <i>(Or)</i> | |
| (B) (i) What is cofferdam? Where is it used? | 4 |
| (ii) Explain with sketches any two types of caisson foundation. | 8 |