

1562

April 2025

Time – Three hours  
(Maximum Marks: 100)

[N.B. Answer all the questions, choosing any two subdivision from each question. Each subdivision carries 10 marks.]

1.
  - (a) Explain the requirements of ideal road.
  - (b) Differentiate between flexible and rigid pavement.
  - (c) Explain about the sight distances.
  - (d) Write about the following: (2+2+2+4)  
camber, super elevation, right of way and widening of pavement.
2.
  - (a) Explain about the various factors affecting the highway alignment.
  - (b) Discuss about bituminous road with its advantages and disadvantages.
  - (c) What are the various types of excavating equipment? Explain any two.
  - (d) Explain the construction of Water Bound Macadam roads with neat sketch.
3.
  - (a) Explain the causes and prevention of creep of rails.
  - (b)
    - (i) What is meant by coning of wheels? (3)
    - (ii) Define sleeper density. List the types of sleepers with its functions. (7)
  - (c) What are the functions and requirements of good ballast?
  - (d) Explain about the types of rail joints with neat sketch.

[Turn over....]

4. (a) Write about right hand turnouts with neat sketch.

(b) Explain about the types of yards.

(c) Explain the types of signals in railway.

(d) Write about the following : (3+3+2+2)

level crossing, principle of interlocking, fouling mark and turntable.

5. (a) Explain the wind rose diagram with neat sketch.

(b) Write about the various correction factors for runway as per ICAO.

(c) Discuss the classifications of harbour.

(d) Write a short note on spring fenders, jetties and dolphins.

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