

--	--	--	--	--	--	--	--	--	--

ANNA UNIVERSITY
B.E. DEGREE (PART-TIME) EXAMINATIONS, November/ December 2013
CIVIL ENGINEERING
IV SEMESTER
PTCE 385 RAILWAYS, AIRPORTS, DOCKS AND HARBOURS

Time : Three Hours

Max Marks : 100

ANSWER ALL QUESTIONS

Part A

(10 x 2 = 20)

1. What is meant by 'Negative Cant'?
2. When would you recommend 'Pusher Gradient' in Railway tracks.
3. List the merits of electric traction?
4. Write a short note on MRTS.
5. List any four factors considered in site selection for an airport.
6. List the components of an airport?
7. What do you understand by the term 'dry dock'?
8. What is the function of breakwaters in a harbour?
9. What are the limitations of having Inland water transport facility?
10. What do you understand by Coastal Regulation Zone?

Part B

(5 x 16 = 80)

11. a. Explain briefly the advantages of Inland water transport.
 b. Explain beach erosion and the commonly employed shore protection works
12. a (i) Explain in detail the functions of ballast of railway tracks.
 (ii) A section of B.G Railway track has a cant of 165mm and 3° curve. Maximum speed on the section is 120 kmph. Determine the length of the transition curve.
 (OR)
12. b (i) Explain briefly the how creep occurs in rails and the methods adopted to prevent it..
 (ii) A curve of 5° is situated on a section of BG. If the maximum permissible speed on the section is 60 kmph, determine the amount of equilibrium cant. If for meeting the demand of slow moving trains 7.6 cm cant deficiency is to be provided, determine the super elevation to be provided.
13. a (i) Illustrate with neat sketches the function and working principle of Marshalling Yard
 (ii) With a neat diagram indicate the position of signals in a railway station and write their functions.

(OR)

- 13.b (i) With neat sketches explain the types of rail crossings.
(ii) Explain the planning of MTRS in metropolitan cities.
- 14.a (i) Explain briefly how runway orientation is finalized considering the wind flow over a period.
(ii) Explain the functions of airport apron area.

(OR)

- 14.b (i) Explain the passenger facilities available in an airport terminal building with a neat sketch
(ii) Explain briefly the corrections for runway length due to various reasons.

- 15.a (i) What are the factors considered in selection of site for locating a harbor.
(ii) Explain the components of a typical port and their functions

(OR)

- 15.b (i) Write briefly about the types of breakwaters constructed in harbours.
(ii) Write short notes on any two of the following:
1. Dry dock
 2. wharf
 3. littoral drift