

B.E. DEGREE EXAMINATIONS: NOVEMBER 2009

Fourth Semester

CIVIL ENGINEERING

U07CE405: Railways, Docks & Harbours and Airports

Time: Three Hours**Maximum Marks: 100****Answer ALL the Questions:-****PART A (10 x 1 = 10 Marks)**

1. When the ends of adjoining rails move slightly out of position is known as
 - a) Kink
 - b) Creep
 - c) Coning
 - d) Buckling
2. What is the recommended value for grade compensation for a curve on M.G.?
 - a) 0.04% per degree of curve
 - b) 0.03% per degree of curve
 - c) 0.02% per degree of curve
 - d) 0.05% per degree of curve
3. The device which ensures that point is correctly set is known as
 - a) Crossing
 - b) Check rail
 - c) Point lock
 - d) Wing rail
4. The stations where a branch line joins with the main line is known as
 - a) Junction
 - b) Terminal station
 - c) Block station
 - d) Way-side station
5. The structure constructed to protect marine structures from impact of ship is called
 - a) Wharf
 - b) Pier
 - c) Fender
 - d) Break water
6. Wet docks are used for
 - a) Protection of marine structures
 - b) Absorb impact force
 - c) Repair facilities
 - d) Loading and unloading of cargo
7. Wind rose is used for determining
 - a) Length of runway
 - b) Orientation of runway
 - c) Width of runway
 - d) Geometric standards of runway.
8. Any object located within a distance of 4.5 km from ARP is considered as an obstruction if its height exceeds ---- m above the ground or the established airport elevation whichever is more
 - a) 51
 - b) 45
 - c) 48
 - d) 54
9. Colour given for runway edge light is
 - a) Red
 - b) White
 - c) Yellow
 - d) Green
10. Taxiway centre line is marked by
 - a) Alternate white strips
 - b) Continuous white strip
 - c) Continuous yellow strip
 - d) Alternate yellow strips

PART B (10 x 2 = 20 Marks)

11. What is meant by permanent way?
12. What is meant by coning of wheels?
13. What is meant by level crossing?
14. Define interlocking.
15. Define pier.
16. Differentiate between port and harbour.
17. State the advantages of air transport.
18. Define wind rose.
19. Define hangar.
20. State the use of apron.

PART C (5 x 14 = 70 Marks)

21. (a) Describe in detail the different types of surveys to be carried out for taking up a new project.

(OR)

- (b) If an 8 degree curve track diverges from a main curve of 5 degree in an opposite direction in the layout of a B.G. yard, calculate the super elevation and the speed on the branch line, if the maximum speed permitted on the main line is 45 kmph.

22. (a) Draw a neat sketch of left hand turnout and explain the working principle of turn out.

(OR)

- (b) (i) Explain briefly different types of yards (7)
(ii) Draw a neat sketch of terminal station (7)

23. (a) (i) State the factors that govern the choice of site for a harbour. (6)
(ii) With a neat sketch explain dry dock. (8)

(OR)

- (b) With neat sketches explain various types of break waters.

24. (a) Explain the various factors that affect the site selection of an airport.

(OR)

- (b) What is meant by basic runway length? Explain the corrections to be applied to basic runway length to get its actual length.

25. (a) With a neat sketch explain the runway lighting.

(OR)

- (b) (i) Enumerate the facilities to be at the airport terminal. (7)
(ii) Write a short note on wind direction indicator. (7)
