

Register No: .....

**B.E. DEGREE EXAMINATIONS: APRIL /MAY 2011**

Fourth Semester

**CIVIL ENGINEERING**

U07CE405: Railways, Docks & Harbours and Airports

**Time: Three Hours**

**Maximum Marks:100**

**Answer ALL Questions:-**

**PART A (10 x 1 = 10 Marks)**

1. An upstream development for handling the freight of river boats and barges is  
A) River port    B) Harbour    C) Jetty    D) Estuary
2. Which one is the platforms or landing places for ships to come close enough to the shore for embarkation and disembarkation  
A) Wharves    B) Quay    C) Break water    D) Dock
3. Maximum wear on top of the rail is equal to what percentage of the weight of the rail  
A) 2%    B) 3%    C) 4%    D) 5%
4. The type of curvature adopted for Indian railways is  
A) Cubic parabola    B) Spiral    C) Parabola    D) Elliptical
5. Which one of the following is defined as the longitudinal movement of the track in the direction of movement of locomotives  
A) Creep    B) Fatigue    C) Cant    D) None of the above
6. The maximum gradient to which a track may be laid in a particular section  
A) Ruling gradient    B) Exceptional gradient    C) Limiting gradient    D) None of the above
7. The combined correction for temperature, elevation and gradient should not exceed  
A) 30%    B) 35%    C) 40%    D) 45%
8. The paved path connecting each end of the runway with the apron just in front of the terminal building is  
A) Runway    B) Exit taxiway    C) Taxiway    D) Holding apron
9. Calm period is defined as the time period at which the wind intensity is less than  
A) 6.4KMPH    B) 6.5KMPH    C) 6.6 KMPH    D) 6.7 KMPH
- 10) The minimum distance between two parallel runways is  
A) 1500 m    B) 1800 m    C) 2150 m    D) 2500 m

**PART B (10 x 2 = 20 Marks)**

11. What is meant by Permanent Way?

12. Give any two functions of sleepers.
13. Define Gauge.
14. Write any four components of an airport
15. Define wind rose.
16. What is the use of wind direction indicators?
17. What is meant by Wet docks?
18. Classify types of harbors.
19. What is meant by moorings?
20. Define the term fenders

**PART C (5 x 14 = 70 Marks)**

21. a) What are the types of survey conducted to construct a new railway line? Explain.

**(OR)**

- b) Derive the equation to determine the amount of super elevation for B.G. line.

22. a) Explain the step by step procedure for construction of a railway line.

**(OR)**

- b) Discuss the importance of track drainage. How is this achieved?

23. a) What are the factors considered for selection of site for an airport?

**(OR)**

- b) Explain about the Type I Wind rose diagram and its features.

24. a) Explain with neat sketch various marking on runways.

**(OR)**

- b) List out the various facilities provided in the airport building.

25. a) What are the mooring accessories available? Explain in detail.

**(OR)**

- b) Write the classification and requirements of harbors.

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