KUMARAGURU
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Register Number:……..

B.E DEGREE EXAMINATIONS: NOV/ DEC 2014

(Regulation 2009)

Fourth Semester

CIVIL ENGINEERING

CEE110: Railways Docks & Harbours and Airports

Time: Three Hours **Maximum Marks: 100**

Answer all the Questions:-

PART A (10 x 1 = 10 Marks)

1. Choose the formula used to calculate the length 'L' of the transition curve.
   a) L = 0.720 x Ca b) L = 0.700 x Ca
   c) L = 0.720 x Vmax d) L = 0.720 x Ca x Vmax
2. A rail is defined by its
   a) Weight b) Cost
   c) Stiffness d) Load distribution
3. How a pair of tongue rails with necessary connections is called?
   a) Point b) Tongue
   c) Switch d) Turnout
4. What is a station with separate up and down line which is different to certain extent?
   a) Double line station b) Flag station
   c) Crossing station d) Railway Junction
5. Name the technique used to measure the depth of sea.
   a) Sounding b) Ranging
   c) Dredging d) Piling
6. A beam emanating from a prominent object is called
   a) Beacon b) Litron
   c) Floating Buoy d) Pier
7. What is the name of the entry point of a runway for landing?
   a) Stopway b) Threshold
   c) Taxi way d) Shoulder

8. What is the minimum spacing for airports operating jet engine aircrafts?

a) 25 km b) 3 km

c) 160 km d) 6 km

9. As per ICAO, the permissible field length for small aircrafts is

a) < 1200 m b) > 1500 m

c) 1200 to 1500 m d) = 1500 m

10. A defined rectangular area on the ground over which an aircraft may make its initial climb to a specified height is called

a) Take-off distance b) Taxi way

c) Clearway d) Climbway

PART B (10 x 2 = 20 Marks)

11. What are the functions of rails?
12. Define super-elevation.
13. List the types of signals.
14. What is meant by track circuiting?
15. Distinguish between Wharves and Quays.
16. Define and explain the use of jetties.
17. Define wind rose diagram.
18. List the classification of airport zoning.
19. Explain the importance of air traffic control.
20. List the purposes of installing visual aids at the airports.

PART C (5 x 14 = 70 Marks)

21. a) (i) Explain with a neat sketch the permanent way and its components. (7)

(ii) Explain the following: (1) Ballastless track and (2) Super-elevation (7)

(OR)

b) What is the need for horizontal and vertical curves in a railway alignment? Illustrate and explain with neat sketches anyone horizontal and vertiacal curves.

22. a) Explain the various signaling and interlocking in railway operation with neat sketches.

(OR)

b) (i) What does crossing in a railway track mean? What are its essential requirements? (7)

(ii) Illustrate with neat sketches a right hand or left hand turnout and explain its working principles. (7)

23. a) Explain various types of coastal structures with neat sketches and state their location and functions.

(OR)

b) (i) What are the various types of moorings? Indicate their purposes with neat sketches. (7)

(ii) Explain the types of light signals used in lighthouses with neat sketches. (7)

24. a) Explain the components of the layout of any one International airport in India with a neat sketch.

(OR)

b) (i) Discuss the various geometric standards for different classes of runways and taxiways. (7)

(ii) Explain various airport zoning with neat sketches. (7)

25. a) Elaborate various air traffic control aids with neat sketches.

(OR)

b) Discuss in detail the factors affecting the choice of selection of site for an airport.

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