KUMARAGURU
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Register Number: ………………..

B.E DEGREE EXAMINATIONS: MAY 2015

(Regulation 2009)

Fourth Semester

CIVIL ENGINEERING

CEE110: Railways Docks & Harbors And Airports

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

Answer all the Questions

PART A (10 x 1 = 10 Marks)

1. The survey which is a detailed study to forecast future traffic is

   a) Traffic survey   b) Land survey

   c) Marine survey   d) Topographic survey

2. The instrument measures co-ordinates of any point anywhere on the globe is

   a) EDM   b) GPS

   c) GIS   d) TS

3. The signals used to regulate shunting of vehicles in station yards

   a) Shunt signal   b) Trap indicator

   c) Colour light signals   d) Repeater signal

4. The hump provided on the loop to stop any over shooting train

   a) Fouling hump   b) Buffer hump

   c) Sand hump   d) Concrete hump

5. The technique which is used to measure the depth of sea.

   a) Sounding   b) Shoals

   c) Tidal currents   d) Breakwater

6. The graving dock is also known as

   a) Dry dock   b) Wet dock

   c) Floating dock   d) Vessel

7. International airport authority of india was set up in

   a) April 1975   b) April 1972

   c) April 1985   d) April 1992

8. What is the maximum longitudinal gradient of runway as per ICAO recommendations?

a) 3%   b) 3.5%

c) 2.50%   d) 1.5%

9. A paved area for parking of aircrafts is located close to

a) Gate position   b) Hangars

c) Terminal building   d) Apron

10. Perspective view of a runway as seen from a height of

a) 25m   b) 50m

c) 60m   d) 70m

PART B (10 x 2 = 20 Marks)

11. Enumerate various stages of engineering surveys in a railway alignment.

12. Define the term rail creep. Mention its ill effect.

13. What are the two types of switches adopted in points & crossings?

14. State the uses of wind rose diagram.

15. Classify docks with an example.

16. What is littoral drift?

17. Mention categories of airports as per ICAo.

18. Why is the width of a taxiway much less than that of a runway?

19. What is the necessity of airport lighting?

20. Enumerate modern methods of air traffic control.

PART C (5 x 14 = 70 Marks)

21. a)   Draw a neat sketch of a permanent way and explain about its components and functions.

(OR)

b) (i)   Explain the elements of the geometric design of railway tracks.   (7)

(ii) A branch line of 8° curve diverges in opposite direction from a B.G main line   (7) with 5° curve. The speed on the branch line 45km/hr. calculates the super elevation and permissible speed on main line.

22. a) (i)   Draw a neat sketch of a left hand turnout and mention its parts.   (7)

(ii) Write about the different class of signals.   (7)

(OR)

b)   Briefly explain the different systems adopted in Indian railways to control the movement of train.

23. a)   Explain the factors to be considered while planning and designing a harbor.

(OR)

     b)   Explain wave effects on costal structures with reference to a case study.

24. a) (i)   Explain various surveys conducted and data collected for an airport site selection   (7)

         (ii)   Explain the procedure for orienting runways   (7)

(OR)

     b)   Design an exit taxiway joining a runway and a parallel main taxiway. The angle of turn is 25˚ and the turns off speed is 75kmph.Draw a neat sketch and show all the design elements.

25. a) (i)   Explain with neat sketches, the various markings on runways.   (7)

         (ii)   Explain the necessity of airport lighting   (7)

(OR)

     b) (i)   Explain the network of air traffic control.   (7)

         (ii)   Discuss the Enroute aids available for a flight movement from one airport to another.   (7)

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