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10CV63

Sixth Semester B.E. Degree Examination, Dec.2016/Jan.2017
Transportation Engineering - II

Time: 3 hrs.

Max. Marks:100

Note: *Answer any FIVE full questions, selecting atleast TWO questions from each part.*

PART – A

1 a. Define the term "Permanent way". With neat sketch, mention the requirements of permanent way. **(10 Marks)**
   b. Define the term "Creep in rails". With neat sketch, explain how creep is measured. **(10 Marks)**

2 a. Explain the various types of spikes, with neat sketches. Mention its requirements. **(10 Marks)**
   b. With the help of neat sketches, explain
   i) Reinforced cement concrete sleeper   ii) C.S.T. 9 sleeper. **(10 Marks)**

3 a. Write short notes on :
   i) Momentum gradient   ii) Cant deficiency   iii) Negative cant. **(10 Marks)**
   b. On a 8^0 M-G track the average speed of different trains is 50 kmph and allowable cant deficiency is half that of maximum cant deficiency, determine permissible speed on curve. **(10 Marks)**

4 a. With the help of neat sketch, explain the working principle of "Marshalling Yard". **(10 Marks)**
   b. Calculate all the necessary elements required to set out 1 in 8.5 turnout taking off from a straight B-G track with its curve starting from the toe of switch i.e tangential to the gauge face of the outer main rail and passes through the TNC. Given heel divergence 11.40cm. **(10 Marks)**

PART – B

5 a. Define the term "Runway Orientation". Explain any one method of determination of best orientation of runway, with neat sketch. **(10 Marks)**
   b. Explain the various factors to be considered in selection of suitable site for airport. **(10 Marks)**

6 a. With neat sketches, explain the following : i) Normal landing case   ii) Normal take – off case   iii) Engine failure case. **(10 Marks)**
   b. Design an exit taxiway joining the runway and a parallel main taxiway. The total angle of turn is 30 degrees and turnoff speed is 80 kmph. Assume radius of entrance curve as 731m. Draw a neat sketch and show all elements. **(10 Marks)**

7 a. With neat sketch, explain the method of transferring the centre line into the tunnel. **(10 Marks)**
   b. Write short notes on : i) Pilot tunneling   ii) Drilling pattern in hard rock. **(10 Marks)**

8 a. Define the term "Harbour". Explain the various factors considered in location of site for harbor. **(10 Marks)**
   b. Differentiate between :
   i) Dry docks and wet docks   ii) Ware house and Transit shed. **(10 Marks)**

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