

320554(20)

BE (5th Semester)
Examination, Nov. - Dec., 2017
[New Scheme]

Transportation Engineering-II

Time Allowed : 3 hours

Maximum Marks : 80

Minimum Pass Marks : 28

Note : (i) Part (a) of each question is compulsory. Attempt any two parts from (b), (c) and (d) of each question.

(ii) Draw neat sketches wherever required.

(iii) The figures in the right-hand margin indicate marks.

Unit-I

1. (a) What are the functions of rails? [2]
(b) Draw the diagram of rail cross-section and make the detailed description of each component used in railway cross-section. [7]
(c) What is wear of rails? Explain various causes of wear of rails. [7]
(d) What are the requirements of good sleeper? [7]

Unit-II

2. (a) Define 'point and crossing'. [2]
(b) What should be permissible speed on curve if on an 8° M.G. track, the average speed of different trains is 50 kmph and allowable cant deficiency is half that of maximum cant deficiency? [7]
(c) Draw a neat sketch of left-hand turnout and mention various elements. [7]
(d) What is 'Absolute block system'? Bring out its salient features. [7]

Unit-III

3. (a) Define 'Bridge'. [2]
(b) Give a brief note on classification of bridges. [7]
(c) What are the factors to be considered while selecting the site for a bridge? Explain them. [7]
(d) Write short notes on : [7]
(i) Scour depth
(ii) Afflux
(iii) Free board

Unit-IV

4. (a) What do you understand by 'Tunnel Engineering'? [2]
(b) What are the different methods of tunneling in hard rock? Explain full face method in detail. [7]
(c) Write a note on drainage of tunnels. [7]

- (d) Discuss the sequence of operation in tunneling rocks. [7]

Unit-V

5. (a) Define 'port'. [2]
(b) Differentiate between 'mound type' and 'vertical wall type' break water. [7]
(c) Describe different types of navigational aids required on harbour in detail. [7]
(d) Draw typical layout of an 'artificial harbour' and describe it in detail. [7]