B. TECH. (CBCS - 2014 COURSE) SEM – VIII (CIVIL ENGG.) : SUMMER - 2018

SUBJECT : INFRASTRUCTURE ENGINEERING

Day : **Thursday** | **S-2018-4656** | Time : **02.30 PM TO 05.30 PM**

Date : **07/06/2018** | Max. Marks : 60

N. B. :

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat and labeled diagram **WHEREVER** necessary.
4) Assume suitable data, if necessary.

Q. 1 Explain the formulas for design length of roads of various categories according to first 20 year road plan (1943 – 61) or Nagpur road plan. **(10)**

OR

Discuss the factors affecting highway alignment. **(10)**

Q. 2 **a)** What are the different types of horizontal curves? Discuss them briefly. The different methods of providing super elevation. **(05)**

b) Suggest width of formation for various types of roads. **(05)**

OR

a) Discuss the different methods of providing super elevation. **(06)**

b) Describe how the radius of horizontal curve is decided. **(04)**

Q. 3 **a)** Discuss the factors affecting the design of pavements. **(05)**

b) Differentiate between flexible pavement and rigid pavement. **(05)**

OR

a) What are the functions of bituminous material in road construction? **(05)**

b) Discuss aggregate impact test. **(05)**

Q. 4 **a)** Compare railway with different modes of transportation. **(06)**

b) Draw neat sketches of different fixtures and fastenings used in railway track. **(04)**

OR

a) Discuss necessity of uniformity of gauges. **(06)**

b) Describe the factors affecting alignment of railway track. **(04)**

Q. 5 **a)** Explain in buffer stops and scoth block. **(05)**

b) Discuss one advantages of metro. **(05)**

OR

a) Discuss the classification of signaling in railway. **(05)**

b) Draw a cross section of railway track and discuss function of each element. **(05)**

Q. 6 **a)** Describe runway and taxiway with neat sketches. **(05)**

b) Explain aprons and terminal area. **(05)**

OR

a) Discuss the factors affecting the layout of airport. **(05)**

b) Draw a typical layout for international airport. **(05)**

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