

24288

B.Tech. 5th Semester (Civil Engg.) Examination,
December-2015

TRANSPORTATION ENGG-I

Paper-CE-303-F

Time allowed : 3 hours] [Maximum marks : 100

Note : • Q. No. 1 is compulsory.

- Each question carries equal marks (20 marks)
- Students have to attempt five questions in total at least one question from each section.
- Assume suitable data if missing.

1. Write short notes on the following : 2.5×8=20

- Roman Roads
- Perception Time
- Cant deficiency
- PCU value
- Toughness of aggregate
- Coning of wheel
- Rail joint
- Ballast

24288-P-3-Q-9 (15)

[P.T.O.]

24288

2. (a) What factors are considered in finalizing 20-year (1981-2001) plan ? 10
(b) What is Map study ? Explain. 10
3. (a) Find the stopping sight distance for a design speed of 55 kmph. Assume suitable data. What are sight distance requirements at a gradient of 1 in 30. Assume suitable data. 10
(b) Explain super-elevation. What are the factors on which the design of super-elevation depends ? 10
4. (a) What are the objects of providing transition curve on the horizontal alignment highways ? Explain. 10
(b) Explain the level of service concept while deciding the design capacity of a road. 10
5. (a) Discuss the desirable properties of Aggregates in detail. 10
(b) List different types of cutbacks. When are these used ? 10

Section-A

(2)

24288

24288

6. (a) What do you mean by permanent way ? What are its components ? 10
(b) Explain relaying of track in detail. 10
7. State reason for the following :
(a) Broken stone ballast is best 10
(b) Gravel should be screened before it is used on a railway track.
(c) Ballast must be provided on a railway track. 4×5=20
(d) Ballast is not spread over the sleeper. 4×5=20
- Section-D
8. Write down short notes on : 4×5=20
(a) Ruling Gradient
(b) Junction
(c) Marshalling Yards
(d) Semaphore Signals.
9. (a) State the requirement of tunnels. 10
(b) What factors decide the method to be adopted for tunneling ? 10

Section-C

(3)

24288