

22302

23242

3 Hours / 70 Marks

Seat No.

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- Instructions :**
- (1) All Questions are *compulsory*.
 - (2) Answer each next main Question on a new page.
 - (3) Illustrate your answers with neat sketches wherever necessary.
 - (4) Figures to the right indicate full marks.
 - (5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following :

10

- (a) Give the classification of road according to Nagpur plan.
- (b) Define right of way and formation width.
- (c) State necessity of maintenance of road.
- (d) Define Landslide.
- (e) Define Surface Drainage.
- (f) State various materials used for construction of WBM road.
- (g) Define Design Speed.

2. Attempt any THREE of the following :

12

- (a) State different mode of transportation and explain one of them.
- (b) State different types of camber. Explain any one of them.
- (c) Explain super-elevation with neat sketch.
- (d) Calculate super-elevation for a National Highway with design speed 80 kmph and horizontal curve of radius 150 m. Consider coefficient of friction 0.15.



- 3. Attempt any THREE of the following : 12**
- (a) Draw the typical cross-section of WBM road.
 - (b) Differentiate between flexible pavement and rigid pavement.
 - (c) Explain with neat sketch penetration test carried out on Bitumen.
 - (d) What are joints in cement concrete road ? Explain with neat sketch.
- 4. Attempt any THREE of the following : 12**
- (a) Define traffic island. Draw neat sketch of circular rotary island.
 - (b) Explain in detail method of traffic volume study.
 - (c) State and explain different components of hill road.
 - (d) State requirement of good drainage system.
- 5. Attempt any TWO of the following : 12**
- (a) Explain with neat sketch L-Drain & C-Drain.
 - (b) State and explain different types of hill road curve.
 - (c) Draw the following Road Signs :
 - (i) No-entry
 - (ii) Right turn prohibited
 - (iii) Compulsory left turn
 - (iv) Narrow Bridge
 - (v) Cross Road
 - (vi) Y Intersection
- 6. Attempt any TWO of the following : 12**
- (a) Define sight distance. Explain stopping sight distance and overtaking sight distance.
 - (b) Explain construction procedure of WBM road.
 - (c) What are different causes of road accident ?
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