

314312

12526

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) Use of Non-programmable Electronic Pocket Calculator is permissible.
(6) 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) Enlist any four zones of Indian railways.
 - b) Define creep of rails.
 - c) Define alignment of rail.
 - d) State the necessity of grade compensation.
 - e) Classify the bridges according to span.
 - f) State the classification of tunnel according to purpose.
 - g) State the purpose of tunnel lining.

P.T.O.

- 2. Attempt any THREE of the following :** **12**
- a) Enlist components of railway track.
 - b) Explain with sketch coning of wheels.
 - c) State functions of Abutment and piers of bridge.
 - d) State and explain classification of tunnels according to conveyance.
- 3. Attempt any THREE of the following :** **12**
- a) Explain with neat sketch full face method of tunneling.
 - b) State the purpose of tunnel ventilation.
 - c) State the purpose of shafts in tunnels.
 - d) Differentiate between low level and high level causeway.
- 4. Attempt any THREE of the following :** **12**
- a) Define :
 - i) Economics span
 - ii) Afflux
 - b) Explain pre and post monsoon inspection of bridge.
 - c) Draw standard cross-section of tunnel for highways.
 - d) Explain the necessity of maintenance of track.
 - e) Explain with neat sketch Needle beam method of tunneling.
- 5. Attempt any TWO of the following :** **12**
- a) Define 'rail' State types of rail. Enlist factors affecting selection of a gauge.
 - b) Draw a neat labelled cross section of single line broad gauge in cutting.
 - c) Define causeways. State types of causeways. State functions of ballast.

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Marks

6. Attempt any TWO of the following :

12

- a) Define the term :
 - i) Grade compensation
 - ii) Super elevation
 - iii) Cant deficiency
 - b)
 - i) State six factors affecting site selection for railway station.
 - ii) Draw a neat labelled sketch of marshalling yards.
 - c) State any four duties of –
 - i) Permanent Way Inspector
 - ii) Gang mate
 - iii) V-ey man
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