

Total No. of Questions :6]

SEAT No. :

**P5054**

[Total No. of Pages : 2

**T.E./Insem.-602**  
**T.E. (Civil) (Semester - I)**  
**INFRASTRUCTURE ENGINEERING &**  
**CONSTRUCTION TECHNIQUES**  
**(2015 Pattern)**

*Time : 1 Hour]*

*[Max. Marks :30*

*Instructions to the candidates:*

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right side indicate full marks.*
- 4) *Assume suitable data if necessary.*

**Q1) a)** What is the scope of Infrastructure Engineering in National and Global development? **[5]**

b) Define and Draw a neat labeled diagram of Permanent Way. **[3]**

c) Differentiate between Metro Rail and Mono Rail. **[2]**

OR

**Q2) a)** What are the advantages and disadvantages of PPP? **[4]**

b) Explain with neat labeled diagram coning of rails and Tilting of Rails. **[6]**

**Q3) a)** Define the following.(Any Four) **[4]**

- i) Cant Deficiency
- ii) Super elevation
- iii) Equilibrium Speed
- iv) Negative Cant
- v) Pusher Gradient

b) What are the ill effects on rail joints and their remedial measures? **[6]**

**P.T.O.**

OR

- Q4)** a) Write short note on Short and Long welded rails. [4]  
b) Define points and crossing. Draw a neat labeled diagram of turnout. [6]

- Q5)** a) Why is there necessity of Mechanization? [4]  
b) Mention the various methods of dewatering system. Explain any one method with suitable sketch. [6]

OR

- Q6)** a) Define the term dredging. Explain any one type of dredging technique. [5]  
b) What are the advantages and disadvantages of Prefabrication? [5]

