

Total No. of Questions :12]

SEAT No. :

P2537

[Total No. of Pages :3

[5153] - 502

T.E. (Civil)

INFRASTRUCTURE ENGINEERING

(2012 Pattern) (Semester - I) (End - Semester) (301002)

Time : 2½ Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8, Q9 or Q10, Q11 or Q12.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data if necessary.*

Q1) Discuss in detail provisions made for infrastructure of airports with reference to 12th five year plan. **[6]**

OR

Q2) What is PPP. Explain with suitable examples advantages & disadvantages of PPP projects. **[6]**

Q3) a) What is permanent way? State the parts of permanent way. **[4]**

b) Draw a neat sketch of a right hand turnout and show clearly the various parts. **[4]**

OR

Q4) a) Explain the necessity of sleepers in railway track. What are the requirements of good sleepers. **[4]**

b) Write short note on: minimum depth of ballast cushion. **[4]**

P.T.O.

Q5) Discuss in detail various types of hoist used in construction. [6]

OR

Q6) Discuss in brief any one type of slip form technique used in construction of high rise buildings. [6]

Q7) a) Discuss the advantages & disadvantages of tunnel over open cut. [6]

b) Discuss the factor affecting methods of tunneling. [6]

c) Write short note on: Trenchless Tunneling. [4]

OR

Q8) a) Write short note on following: [6]

i) Pilot Tunnel

ii) Twin Tunnel

b) Explain in detail New Austrian Tunneling Method. [6]

c) Define mucking. State methods of mucking. [4]

Q9) a) Explain in brief classification of harbor based upon location. [6]

b) Define the term breakwater. Explain any one in detail. [6]

c) Write short note on: Tetrapode. [4]

OR

Q10)a) Distinguish between natural and artificial harbours. [6]

b) Mention the factors which govern the choice of site for a harbour. [6]

c) Write short note on: Jetties. [4]

Q11)a) A construction company on a work site cost Rs.4,00,000 and has expected life of 5 years and salvage value of Rs.50,000 at the end of useful life. Calculate yearly depreciation of the machine using [6]

i) Straight line method

ii) Sum of year method.

b) Discuss in detail factors affecting output of shovel. [6]

c) Write short note on: Dumper. [6]

OR

Q12)a) Explain with labeled sketch “Dragline”. Discuss the application of it on construction site. [6]

b) Write short note on: Backhoe. [6]

c) What do you mean by preventive maintenance of equipment? Discuss purpose and advantages of it. [6]

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