

Total No. of Questions :10]

SEAT No. :

P2833

[4958]-1005

[Total No. of Pages :2

T.E. (Civil)

INFRASTRUCTURE ENGINEERING

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

Time : 2½ Hours]

[Max. Marks :70

Instructions to the candidates:

- 1) *Answer Q. 1 or Q. 2, Q. 3 or Q. 4, Q. 5 or Q. 6, Q. 7 or Q. 8, Q. 9 or Q. 10.*
- 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) Discuss in detail provisions made for infrastructure of railway with reference to 12th five year plan. **[5]**

b) What are the functions of rails? Name the various types of rail in use. **[5]**

OR

Q2) a) Explain in detail role of construction sector in economic development of country. **[5]**

b) Write short note on: Requirement of good ballast. **[5]**

Q3) a) What do you mean by PPP. State the advantages and disadvantages of PPP. **[5]**

b) Explain in brief slip form pavers. **[5]**

OR

Q4) a) Discuss various provisions proposed in the 12th five year plan for energy and power sector. **[5]**

b) State the requirements of good track. **[5]**

P.T.O.

- Q5)** a) Enlist the various methods of tunneling in Hard rock. Explain any one method. [6]
 b) Write down advantages and disadvantages of tunnel. [6]
 c) What are the precaution to be taken during construction of tunnel. [4]

OR

- Q6)** a) Classify the tunnel according to their purpose. [6]
 b) Discuss advantages and disadvantages of TBM. [6]
 c) Write short note on: Micro Tunneling. [4]

- Q7)** a) Define harbour. State the requirements of good harbour. [6]
 b) Explain in brief following: [6]
 i) Dry dock ii) fenders iii) Jetties
 c) Explain in detail vertical wall breakwater. [4]

OR

- Q8)** a) Explain in brief merits and demerits of water transportation. [6]
 b) Draw the schematic diagram of harbor layout showing all components. [6]
 c) Differentiate between wharves and quay. [4]

- Q9)** a) Construction machinery costs Rs. 50,000. Its useful life is 6 years. The salvage value at the end of five year is Rs. 5000. Estimate the yearly depreciation of the equipment using; [6]
 i) Straight line method
 ii) Double - declining balance Method
 b) What are the types of scraper? Explain the working of scraper. [6]
 c) Explain with sketch working of drag line. [6]

OR

- Q10)** a) Discuss in detail Power shovels. [6]
 b) State the various preventive maintenance of equipment. [6]
 c) Write short note on: loaders. [6]

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