[4958]-1005

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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