

Total No. of Questions : 10]

**P1296**

SEAT No. :

[Total No. of Pages : 2

**[4858] - 1005**

**T.E. (Civil) (Semester - I)**

**INFRASTRUCTURE ENGINEERING**

**(2012 Pattern) (In 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) Explain in detail challenges faced by construction Industry. [5]  
b) Discuss in brief requirements of good track. [5]

OR

- Q2)** a) Discuss METRO - a new approach in public transport. [5]  
b) Discuss the role of energy and power sector in the economic development of a country. Explain the status of power sector in India. [5]

- Q3)** a) Explain in brief advantages and disadvantages of concrete sleepers. [5]  
b) Explain the selection criteria for cranes. With a neat labeled sketch explain in brief boom placers. [5]

OR

- Q4)** a) What do you understand by welding of rails? State merits and demerits of welding of rails. [5]  
b) Explain dewatering system in construction. [5]

- Q5)** a) Classify the tunnels on the basis of their use. Explain why they are suitable for a particular purpose. [6]  
b) Write short note on Micro Tunneling [6]  
c) With neat labeled sketch, explain the following terms: [4]  
i) Shaft ii) Adit  
iii) Portal iv) Pilot Tunnel

**P.T.O.**

OR

- Q6)** a) What do you understand by the term drilling pattern? Explain the need for drilling pattern. Discuss types of drilling pattern. [6]  
b) With neat labeled sketch describe needle beam method of tunnel construction. [6]  
c) Write short note on Trenchless Tunneling. [4]
- Q7)** a) Explain in brief classification of Harbour based upon location. [6]  
b) Define breakwater. Enlist the types of breakwaters and explain any two types with neat labeled sketch. [6]  
c) Write short note on wet dock. [4]

OR

- Q8)** a) Discuss site selection criteria for Harbour. [6]  
b) With a neat labeled sketch, explain the term jetty. Discuss various factors considered in design of a jetty. [6]  
c) Write short note on Tetrapodes. [4]
- Q9)** a) Construction machinery costs Rs. 8 crores. The salvage value of the same is 10%. Its useful life is 10 years. Estimate the depreciation of the equipment using; [6]  
i) Straight line method  
ii) Double - Decline Balance Method  
Tabulate your results.  
b) Discuss various factors affecting output of a shovel [6]  
c) Write short note on following [6]  
i) Record Keeping of Equipments  
ii) Operating Cost

OR

- Q10)** a) With suitable examples, explain why scraper is considered as versatile earthwork equipment. [6]  
b) What is Depreciation. Explain any one method of Depreciation. [6]  
c) Explain any two terms from the following [6]  
i) Repair cost  
ii) Economic life  
iii) Labour Cost

