

Total No. of Questions :12]

SEAT No. :

[Total No. of Pages :3

P1685

[5058] - 305

T.E. (Civil)

INFRASTRUCTURE ENGINEERING

(2012 Course) (End Semester) (Semester - I) (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 side indicate full marks.*
- 4) *Assume suitable data if necessary.*

Q1) Compare railway transportation with Road transportation and mention characteristics of railway transportation. **[6]**

OR

Q2) Discuss the provision made for airports & ports with reference of 12th five year plan. **[6]**

Q3) Describe the functions and requirements of rail in a railway track **[8]**

OR

Q4) a) Define the following. **[4]**

- i) Turnout
- ii) Tongue rail
- iii) Stock rail
- iv) Switch

b) What is creep? What are its effects? **[4]**

Q5) Explain in brief the Vacuum Dewatering System. **[6]**

OR

P.T.O.

Q6) What is slip form shuttering? State the distinct advantages of this method over the conventional method. [6]

Q7) a) State the circumstances under which Tunneling operation is desirable. [6]

b) Write short note on : Earth Pressure Balance Method. [6]

c) State the general sequence of operation for driving tunnels through hard rock. [4]

OR

Q8) a) Explain in detail NATM construction technique. [6]

b) Discuss in detail classification of tunnels based on shape. [6]

c) Write short Note on : Pilot Tunnel. [4]

Q9) a) Define a port and bring out the difference between a port and harbour. [6]

b) Define Harbour. Explain in brief classification of harbour based upon utility. [6]

c) Define breakwater. What is the necessity of it. [4]

OR

Q10) a) Discuss in detail various methods of construction of breakwater. [6]

b) Write short note on : Marin Railway. [6]

c) Differentiate between natural and artificial harbor. [4]

Q11) a) Differentiate between labor & equipment oriented works. [6]

b) What are the factors affecting for the selection of machinery for any earth work. [6]

c) Write short note on : Preventative maintenance of equipment. [6]

OR

Q12)a) What are the factors to be considered for calculation of output estimation of equipment. **[6]**

b) Write short note on: **[12]**

i) Economic life of equipment

ii) Backhoe

iii) Dumpers

