

Total No. of Questions : 12]

SEAT No. :

P2124

[Total No. of Pages : 2

[5254]-517

B. E. (Civil)

ADVANCE FOUNDATION ENGINEERING

(2012 Pattern) (Elective - III)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) Neat diagrams must be drawn wherever necessary.
- 2) Your answers will be valued as a whole.
- 3) Assume suitable data, if necessary

**Q1)** Draw a typical cross section of unlined canal and explain I.S. code provisions of its various components. **[6]**

OR

**Q2)** Explain the IS code provisions for subsoil exploration for the construction of an earth dams. **[6]**

**Q3)** Explain the static method for estimation of Load carrying capacity of **[6]**  
a) friction piles and b) Bearing piles

OR

**Q4)** Explain in detail the classification of piles with respect to **[6]**  
a) function and b) materials.

**Q5)** Explain the various stages in the construction of under reamed piles with suitable sketches. **[8]**

OR

**Q6)** Draw a neat sketch of stone columns and explain the functions of various components. Also, comment on design criterias of stone columns. **[8]**

**Q7) a)** Explain the soil line method (elastic approach) for the design of raft foundations. **[8]**

b) Enlist the design of combined footing based on the standard penetration test. **[8]**

P.T.O.

OR

- Q8) a)** Define the term safe bearing pressure. Write the terraghis equations for safe bearing capacity for [8]

- [illegible]

- b) Explain the terms [8]

- Elastic settlement &
- consolidation settlement. Also, Explain how they are estimated.

- Q9) a)** Draw a neat sketch of rockfill coffer dam and explain the functions of various components. **[8]**

- b) Explain the terms Tilts and shifts in well foundation, Also, explain the measures to counteract the tilts in well during sinking. [9]

OR

- Q10)a)** Explain the provisions for design as per IRC and as per IS for the design of well foundation. [8]

- b) Enlist the various forces acting on the well foundation. How they are estimated? [9]

- Q11)a)** Explain the stress distribution around tunnels in case of [8]

- a) Elastic case and                      b) plastic case.

- b) Explain how load on positive projecting conduit in ‘complete ditch condition’ is estimated. [9]

OR

- Q12)a)** Explain the projecting conduits for the cases [8]

- i) Projecting conduits in complete projection.
- ii) Projecting conduits in Incomplete projection.

- b) Write a short note on “Estimation of load on Negative projecting conduits[9]

