

Total No. of Questions : 12]

SEAT No. :

P3062

[5059]-517

[Total No. of Pages : 2

B.E.(Civil)

**ADVANCED FOUNDATION ENGINEERING
(2012 Course)(Elective-III)(Semester-II)(401009B)**

Time :2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Neat diagrams must be drawn wherever necessary*
- 2) *Figures to the right indicate full marks.*
- 3) *Your answers will be valued as a whole.*
- 4) *Assume suitable data if necessary.*

Q1) Explain in brief the I.S code provisions for subsoil exploration of canals. [6]

OR

Q2) Explain any case study of failure of foundation reposted in literature. [6]

Q3) Explain the cyclic load test for design fo piles. Also, comment on seperation of point resistance and skin resistance with the help of cyclic load test. [6]

OR

Q4) Write a short note on ‘Testing and design of piles subjected to tensite loads.[6]

Q5) Draw a neat sketch of under reamed pile foundation and Explain the design steps, when it is subjected to tensile loads [8]

OR

Q6) Draw a neat sketch of sand drains. Also, comment on design criterias of sand drains. [8]

Q7) a) What is raft foundation? Explain the conventional method for design of raft foundation [8]

b) What are the components of total settlement of Isolated footing? Explain how they are estimated. [8]

OR

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- Q8)** a) Explain the I.S code provisions for the design of raft foundations. [8]
b) Explain the skemptions equations for the estimation of net ultimate bearing capacity of shallow foundations. [8]
- Q9)** a) Explain how the depth of well foundation and ultimate bearing capacity is determined using Terzagh's analysis. [9]
b) Draw a typical section of a rockfill dam and state the advantages and disadvantages of rockfill dam. [8]

OR

- Q10)**a) Explain the design guidelines for well foundation for the components [9]
i) well curb
ii) cuttings edge
iii) skin friction
iv) Bottom plug
b) Compare the IS code and FRC provisions for the design of well foundation. [8]
- Q11)**a) Explain the stress distribution in the vicinity of vertical shaft in an elastic equilibrium with respect to [9]
i) vertical stress
ii) horizontal radial stress and
iii) horizontal circumferencial stress
b) Explain how load on negative projecting conduit is estimated. [8]

OR

- Q12)**a) What are the various types of positive projecting conduits. Explain in detail with sketches. [9]
b) Write a short note on imperfect ditch conduit. [8]

