Total No. of Questions : 12]

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SEAT No. :

[Total No. of Pages : 2

[5059]-517

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 skemptons 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 disadvanatages 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]**

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