

Total No. of Questions : 6]

SEAT No. :

**P506**

[Total No. of Pages : 2

**APR - 18/TE/Insem. - 105**

**T.E. (Civil)**

**ENVIRONMENTAL ENGINEERING - I**

**(2015 Course) (Semester - II)**

*Time : 1 Hour]*

*[Max. Marks : 30*

*Instructions to the candidates:*

- 1) *Solve Q1 or Q2, Q3 or Q4, Q5 or Q6.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data, if necessary.*
- 5) *Use of logarithmic tables, slide rule, mollier charts, electronic pocket calculator and steam tables are allowed.*

**Q1) a)** What sound pressure level will result from combining following four SPLs : **[5]**

71 dB, 64 dB, 76 dB and 79 dB.

b) Discuss various sources of municipal solid waste. Also explain sanitary land fill technique for disposal of MSW. **[5]**

OR

**Q2) a)** Explain the effect of atmospheric stability conditions on dispersion of pollutants. **[5]**

b) Enlist various equipments used for control of particulate matter pollution. Also explain with a neat sketch working of Fabric filter. **[5]**

**Q3) a)** Enlist methods of population forecast. Explain Incremental Increase method of population forecasting with formula. **[5]**

b) What are the important requirements of potable water? Also enlist various factors which affect the rate of demand. **[5]**

OR

**Q4) a)** Mention various physical characteristics of water. Discuss in detail laboratory procedure for determination of Alkalinity present in water. **[5]**

**P.T.O.**

- b) Find out water demand of a town in the year 2041 by Incremental Increase method from the following census data : [5]

Year	1961	1971	1981	1991	2001	2011
Population in thousands	65	68	72	79	89	97

Water is supplied at the rate of 135 lpcd.

- Q5)** a) Enlist various units of water treatment plant. Also mention functions of each treatment unit. [5]
- b) What is principle of sedimentation? Enlist various factors affecting sedimentation. [5]

OR

- Q6)** a) What is aeration of water? Mention various objectives of aeration. [5]
- b) Two primary settling basins 26m in diameter with 2.1 m side water depth. Single effluent weirs are located on the peripheries of the tank. For water flow of 26000 m<sup>3</sup>/day, Calculate, [5]
- i) Detention period.
  - ii) Volume.
  - iii) Surface area of tank.
  - iv) Overflow rate.
  - v) Weir loading.

