FACULTY OF ENGINEERING & TECHNOLOGY
T E Civil Year Examination –June – 2015
Environmental Engg-I
(Revised)

[Time: Three *Hours*]   **[Max. Marks:80]**

"Please check whether you have got the right question paper."
i)   Attempt <u>any three</u> questions from each section
ii) Assume suitable data, if necessary.
iii) Figures to the right indicate full marks.
iv) Draw neat sketch as wherever necessary.

SECTION-A

Q.1   a) Define air pollution, what are the sources of air pollutants? How you will classify air pollutants?   08
      b) Give the Indian air quality standards for residential, Industrial, and Sensitive areas.   06

Q.2   a) Explain the effects of air pollution on   i) Animals ii) Vegetation   iii) Materials   08
      b) What are the advantages and disadvantages of ESP.   05

Q.3   a) What are the objectives of EIA   …..   05
      b) Determine the effective height of a stack with the following data :   08
          i)   Physical stack height =180 m .
          ii) Inside diameter of stack =0.9m
          iii) Wind Velocity =3m/s
          iv) Air temperature =20℃
          v) Baromtric prcssure =1000 millibars
          vi) Stack gas velocity = 12 m/s
          vii) Stack gas temperature =160℃

Q.4   a) What are the sources of smoke ? Explain the prevention and control measures   07
      b) What are the main features of the Air(P& CP)Act ,1981 of the Government of India ?   06

Q.5   Write notes on <u>any three</u> of the following
          a) Composition of atmosphere   04
          b) Emission standards (Automobiles)   05
          c) Acidrain   04
          d) Dispersion model   05
          e) Varioues layers of atmosphere & their importance   05

SECTION-**B**

Q.6   a) Describe Conventional water treatment Units with their functions .   05
      b) Explain various water demands and factors affecting per capita demand   05
      c) What are intakes ? Where are these used .   04

Q.7   a) Discuss the physical ,chemical and biological charaeteristres of water .   06
      b) Design a plain sedimentation tank to treat 5 MLD of water .Take a detention period of 8 hrs . and   07
          assume a depth of 3.5m

Q.8   a) Explain clarifloculater with neat sketch with respect to its working .   06
      b) Design a set of rapidgravity filters fortreating water required for population of 50,00 the rate of supply   07
          being 180L/d/hr .the filters are rated to work 500 L/h /m^2. Assume suitable data wherver necessary .

Q.9 a) What do you Understand by break point chlorination and also state its advantages .   06
     b) Classify varoues types of filters .Differentiate between the slow sand rapia sand filters gravitytype   07

Q.10   Write short notes [any three]   13
              a) aeration
              b) Water bornc diseases
              c) Ground water recharge
              d) Water quality standard