

Total No. of Questions : 6]

SEAT No. :

P5

[Total No. of Pages : 2

APR - 18/TE/Insem. - 5

T.E. (Civil)

ENVIRONMENTAL ENGINEERING - I

(2012 Course) (Semester - II) (301011)

Time : 1 Hour]

[Max. Marks : 30

Instructions to the candidates:

- 1) Attempt Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6.
- 2) Figures to the right indicates full marks.
- 3) Draw neat figures wherever necessary.
- 4) Assume suitable data if necessary.
- 5) Use of logarithmic tables, slide rule, Mollier charts, electronics pocket calculator and steam tables are allowed.

Q1) a) Define [5]

- i) Sound Pressure
 - ii) Sound Intensity
 - iii) Sound Pressure level
 - iv) Loudness
 - v) Equivalent noise level
- b) Explain working principle, advantages and disadvantages of adsorption for gaseous pollutant control. [5]

OR

Q2) a) In a workshop there are six machines. The sound pressure level (SPL) of each machine is given below. [5]

Machine No.	1	2	3	4	5	6
SPL in dB	90	88	85	88	70	65

Find the total SPL in dB when all the machines are in operation simultaneously.

- b) Write working principle of cyclone to collect the particulate matter. Draw its schematic sketch and write its applications. [5]

P.T.O.

- Q3)** a) Enlist the data to be required for any town/city water supply project. [5]
b) A city has got the following census data [5]

Year	1960	1970	1980	1990	2000	2010
Population	22700	28400	32500	37000	41000	44500

Estimate the population in the year 2040 by geometrical increase method.

OR

- Q4)** a) Describe the different phases involved in any town/city water supply project. [5]
b) Find out the fire demand for the city having population of 2200000 using Freeman's formula and National Board of Fire underwriters Formula. [5]

- Q5)** a) Write the acceptable limit and permissible limit as per BIS(10500:2012) for drinking water for the parameters [5]

- i) Alkalinity
- ii) Hardness
- iii) Chloride
- iv) Turbidity
- v) Calcium

- b) What is Stokes law? Explain its applicability for the type of solids and write its limitations. [5]

OR

- Q6)** a) Design a rectangular settling tank to treat 5 MLD of water. The detention time is 3 hours and flow through velocity of 8 cm/min. If the depth of the tank is 3m, find the overflow rate and dimensions of the tank. [6]
b) What are the objectives of aeration and draw plan and section of cascade aerator. [4]

