Total No. of Questions : 4]

SEAT No. :

PE-182

[Total No. of Pages : 2

[6580]-539
B.E. (Civil) (Insem.)
AIR POLLUTION AND CONTROL
(2019 Pattern) (Semester - VII) (401004A) (Elective - IV)

Time : 1 Hour] *[Max. Marks : 30*

Instructions to the candidates:

1) ***Answer Q1 or 2, Q3 or 4.***
2) ***Figures to the right indicate full marks.***
3) ***Draw neat figures wherever necessary.***
4) ***Assume necessary data, if required.***
5) ***Use of scientific calculators is allowed.***

Q1) a) Explain with sketch various zones of atmosphere? Explain why unprotected astronaut blood boil in mesosphere? **[5]**

b) What is a carbon Footprint? Write emission factor (Conversion factor) for i) Annual Electricity consumption. ii) Annual Transportation use iii) Annual LPGgas consumption. **[5]**

c) Define air quality index how it is calculated. **[5]**

OR

Q2) a) Explain the various Initiatives undertaken by Government for mitigation of Ambient air quality? **[5]**

b) Explain the important provision made in the environmental protection act 1986. **[5]**

c) Briefly elaborate the Bhopal Gas Tragedy 1984 considering following points i) Reason of accident ii) Effect on human being iii) Remedial measures taken **[5]**

Q3) a) Explain the plume rise with sketch, and write 3 empirical formulae to estimate the plume rise **[5]**

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b) Determine the effective height of a stack, with the following given data: **[5]**

1. Physical stack is 180 m tall with 0.95m inside diameter.
2. Wind velocity is 2.75m/s
3. Air temperature is 20°C
4. Barometric pressure is l000m bars
5. Stack gas velocity is 11.12m/s
6. Stack gas temperature is 160°C.

c) Explain the primary and secondary Meteorological parameters? **[5]**

OR

Q4) a) Explain the Types of Radiation with Sketch? **[5]**

b) Explain Gaussian diffusion model for finding ground level concentration. **[5]**

c) A thermal power plant daily burns 100 tonnes of coal with 5.5% Sulphur content. Calculate minimum stack height required. The particulate concentration in flue gases is 8000 mg/m^3 and the gas flow rate is 20m^3/sec. **[5]**

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