Total No. of Questions : 8]

SEAT No. :

PB-2224

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B.E. (Civil Engineering)

AIR POLLUTION AND CONTROL

(2019 Pattern) (Semester - VII) (401004A) (Elective - IV)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Figures to the right indicates full marks.***
3) ***Draw neat figures wherever necessary.***
4) ***Assume necessary data.***
5) ***Use of scientific calculators is allowed.***

Q1) a) Discuss basis and statistical considerations of sampling sites. **[6]**

b) Explain the purpose of ambient air and stack gas sampling. **[6]**

c) Compare national ambient air quality standards, 2009 and WHO air quality guidelines 2021. **[6]**

OR

Q2) a) State the objectives of ambient air monitoring. **[6]**

b) Explain with a neat sketch location of sampling ports and traverse points in case stack sampling. **[6]**

c) Discuss the components of air quality standards. **[6]**

Q3) a) Define emission factor and relate its significance in preparation of emission inventory. **[6]**

b) Classify air quality models based on time period, pollutant type and level of sophistication. **[6]**

c) Compare the physical, statistical and deterministic air quality models. **[5]**

OR

P.T.O.

Q4) a) Explain the role of emission inventory in air quality management. **[6]**

b) Enumerate and discuss the basic components and importance of air quality modelling. **[6]**

c) State the basic equation of emission estimation and describe its terminologies. **[5]**

Q5) a) Discuss the measures taken to control the emissions from vehicles. **[6]**

b) State and explain the carbon sequestration. **[6]**

c) State the principle mechanism, advantages and applications of cyclone as a particulate control equipment. **[6]**

OR

Q6) a) Explain the measures to be taken to control gaseous air pollutants. **[6]**

b) Describe the factors responsible for selection of particulate control equipment. **[6]**

c) Describe the control of air pollution at source by process modification, change of raw material and equipment modification. **[6]**

Q7) a) Explain the sources and remedial measures to control odour. **[5]**

b) Explain sick building syndrome and its solution. **[6]**

c) Relate improved ventilation to indoor air quality. **[6]**

OR

Q8) a) Explain the radon removal technique. **[5]**

b) Discuss the causes and mitigation technologies for indoor air pollution. **[6]**

c) List and explain the sources of contaminants in indoor air pollution. **[6]**

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