

Register No:

Name:

SAINTGITS COLLEGE OF ENGINEERING (AUTONOMOUS)

(AFFILIATED TO APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY, THIRUVANANTHAPURAM)

EIGHTH SEMESTER B.TECH. DEGREE EXAMINATION(R), MAY 2024**Civil Engineering****(2020 SCHEME)****Course Code : 20CET462****Course Name : Air Quality management****Max. Marks : 100****Duration:3 Hours****PART A***(Answer all questions. Each question carries 3 marks)*

1. Differentiate biotic and abiotic components of the environment.
2. List the criteria air pollutants.
3. Explain how air pollutants affect human health.
4. Enlist any six indoor air pollutants.
5. Explain Pasquill's stability curves.
6. Illustrate atmospheric inversion.
7. Discuss on National Ambient Air Quality Standards.
8. Enlist the challenges in ambient air sampling.
9. Differentiate thermal incineration and catalytic oxidation.
10. Describe the applications of fabric filters.

PART B*(Answer one full question from each module, each question carries 14 marks)***MODULE I**

11. Explain the following air pollution episodes: 14
a. Meuse valley
b. London episode
c. Bhopal gas tragedy

OR

12. a. Elaborate the sources and effects of any four particulate air pollutants. 7
b. Explain the formation of photochemical smog and its effects. 7

MODULE II

13. a. Briefly explain the effect of air pollution on materials. 7
b. Enlist the causes and effects of green house effect. 7

OR

14. Explain the effect of air pollution on vegetation. 14

MODULE III

15. Define the term plume in air pollution. Enlist and explain the different types of plume behaviour with neat sketches. 14

OR

16. a. Differentiate lapse rate and inversion. 14
b. Explain the different types of lapse rate in air pollution studies.

MODULE IV

17. Explain in detail the various sampling techniques used for collecting gaseous air pollutants. 14

OR

18. Explain the following in particulate pollutant sampling: 14
a. Electrostatic precipitation
b. Thermal precipitation
c. Highvol sampler

MODULE V

19. Describe various equipment used for the control of emission of particulate pollutants. 14

OR

20. a. Explain the purpose of controlling air pollutants. 14
b. Describe the various source correction methods used for controlling air pollutants.
