

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) - EXAMINATION – SUMMER 2018

Subject Code:2161302

Date:28/04/2018

Subject Name:Fundamentals of Air Pollution

Time:10:30 AM to 01:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Define Air Pollution **03**
(b) Give classification of Air pollutants **04**
(c) With the help of a neat sketch explain stack sampling **07**
- Q.2** (a) What do you mean by the term radiosonde measurement? **03**
(b) Draw only a neat sketch of high volume sampler. **04**
(c) Write a short note: Impact of particulates on the human respiratory system **07**
- OR**
- (c) Discuss the effects of sulfur oxides on human health, plants and materials **07**
- Q.3** (a) Define ventilation coefficient **03**
(b) Name the five main characteristics for ambient air sampling systems **04**
(c) Explain in detail atmospheric stability and mixing depth **07**
- OR**
- Q.3** (a) Discuss units of measurement of air pollution **03**
(b) Discuss in brief physical properties of odorous substances **04**
(c) Write a short note: Temperature inversions **07**
- Q.4** (a) Define Noise pollution **03**
(b) What general systems are available for odor control? **04**
(c) Discuss in detail urban heat island **07**
- OR**
- Q.4** (a) What do you mean by the term isokinetic sampling? **03**
(b) Discuss the effect of noise on people **04**
(c) Write a short note: Wind velocity profile **07**
- Q.5** (a) Define the following terms: Osmics, osmorphic, olfaction **03**
(b) Explain the techniques for control of noise. **04**
(c) Discuss in detail: Dispersion models **07**
- OR**
- Q.5** (a) Name the popular dispersion models used for predicting the pollutant concentration **03**
(b) Write a short note: Wind rose diagram **04**
(c) Calculate the effective height for the stack which is 203 m tall and having 1.07 m dia. The velocity and temperature of stack gas is 9.14 m/s and 149 °C. Take wind velocity as 3.56 m/s and air temperature is 13 °C. Barometric pressure is 1000 millibars. **07**
