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**BICEE-012**

**B.Tech. CIVIL ENGINEERING**

**(BTCLEVI)**

**Term-End Examination, 2019**

**BICEE-012 : AIR QUALITY MONITORING AND  
CONTROL**

**Time : 3 Hours]**

**[Maximum Marks : 70**

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**Note :** Attempt **any five** questions in all. All questions carry equal marks. Use of calculator is permitted. Assume appropriate data if required.

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1. (a) Explain the effects of air pollution on building and structures. [7]
- (b) How is economics of a region affected by air pollution ? Explain with the help of suitable examples. [7]
2. Explain the toxicity of air pollutants giving examples of diseases associated with the same for humans and animals. [14]

3. (a) Describe how the extent of air pollution is dependent on meteorological conditions. [7]
- (b) What is the procedure for air quality monitoring? [7]
4. (a) List the parameters for which Indian Ambient Air Quality standards are specified. How do these values differ from USEPA standards? [7]
- (b) Describe the Gaussian Plume Model for diffusion of air pollutants. [7]
5. (a) Explain the design and operation of a cyclone separator. [7]
- (b) Describe the operation of an Electro Static Precipitator (ESP). [7]
6. (a) Elaborate how air pollution can be controlled by process changes. Explain with the help of suitable examples. [7]
- (b) A fabric filter is constructed using bags of 0.3m diameter and 6m length. Flowrate of dirty air is  $10\text{m}^3/\text{s}$  and the filtering velocity is  $2\text{m}/\text{min}$ . Determine the numbers of bags for a continuously cleaned operation. [7]

7. Write short notes on **any two** of the following :[2x7=14]

- (a) Wind Rose Diagram
- (b) Zoning Principles used for new projects
- (c) Occupational diseases with examples.

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