

**B.Tech. CIVIL ENGINEERING (BTCLEVI)**

**Term-End Examination**

**June, 2015**

00316

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

*Time : 3 hours*

*Maximum Marks : 70*

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*Note : Answer any five questions. All questions carry equal marks.*

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1. (a) What are the various economic and social aspects associated with air pollution ? Discuss using any historical episode of air pollution. 7
- (b) Discuss the sources of commonly found air pollutants. Explain in detail the procedure for sampling and analysis of SO<sub>x</sub>. 7
2. (a) State the National Ambient Air Quality Standards for the following urban air pollutants :  $4 \times 1 \frac{1}{2} = 6$ 
  - (i) NO<sub>x</sub>
  - (ii) CO
  - (iii) SO<sub>x</sub>
  - (iv) RSPM

- (b) Write notes on the following : 2×4=8
- (i) Industrial Ventilation
  - (ii) Occupational diseases
3. (a) How will the ambient atmospheric conditions affect a plume ? Explain with the help of sketches. 7
- (b) What are the various legal provisions for control of air pollution ? 7
4. (a) Distinguish between natural and anthropogenic air pollution with the help of relevant examples. 7
- (b) What are the potentially harmful effects on health associated with exposure to various air pollutants ? 7
5. (a) Write a detailed note on various air pollution control strategies employed in industries. 8
- (b) Define the following terms :  $4 \times 1 \frac{1}{2} = 6$
- (i) Photochemical smog
  - (ii) Fly ash
  - (iii) Greenhouse effect
  - (iv)  $PM_{10}$

6. (a) Write notes on the following : 2×3=6
- (i) Ozone Hole
  - (ii) Urban Heat Island
- (b) How is the sampling and analysis of air pollutants carried out ? Which instruments are typically employed for such applications ? 8
7. (a) What is the necessity of public education and social awareness for control of air pollution ? Explain with the help of relevant examples. 7
- (b) Discuss in detail, the application, operation, merits and demerits of electrostatic precipitators. 7
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