

III-S-(MSc-CBCS-Chem)-507
(Env.Chem.)R&B

2019

Time : As in Programme

Full Marks : 50

Answer all questions. The figures in the right-hand margin indicate marks.

1. (a) Discuss the characteristic features of Earth's heat balance. 6
- (b) Write down the different steps of drinking water production. 6
- (c) Explain the toxic effects of Hg and how it is reduced. 5

OR

2. (a) Explain CBOD, NBOD and biological oxygen demand. 6
- (b) What is ammonification? Explain Nitrogen cycle and perturbation by man made activities. 6
- (c) Explain the fate of oil spills in marine environment. 5

(2)

3. (a) Explain the environmental hazard arising from the fertilizers and how it can be minimized. 6
- (b) Discuss about the relative abundance of the atmospheric constituents. 6
- (c) Write down the common photochemical processes in the atmosphere. 5

OR

4. (a) Explain the global warming potentials of greenhouse gases and greenhouse coefficient. 6
- (b) Explain the chemistry of photochemical smog. 6
- (c) Discuss about fate and adverse effects of NO_x and SO_x in the earth atmosphere. 5
5. (a) Explain chemical treatment of industrial effluents containing cyanide and chromate ions. 6
- (b) Write the different steps of paper making process and hazardous effect produced from paper industry. 5
- (c) Discuss about the dose response relationship : LD_{50} value measuring toxicity. 5

OR

(3)

6. (a) Explain the hazards of biochemical and physiological effects from paper and pulp industry. 6
- (b) What is nuclear winter? Discuss its mechanism and effect. 5
- (c) What is Green polymer? Discuss about production of easily biodegradable polymers and hazards effect of polymeric materials. 5
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