



CS/BCA/Even/Sem-4th/HU-401/2015

- (iv) The abnormal growth and activities of a cell may cause  
(A) cholera (B) malaria  
(C) typhoid (D) cancer
- (v) Total organic matter presents in an ecosystem is called  
(A) Biome (B) Litter  
(C) Biomass (D) None of these
- (vi) Reaction(s) which cause(s) acid rain is/are  
(A)  $\text{SO}_2 + \text{H}_2\text{O} = \text{H}_2\text{SO}_4$  (B)  $2\text{NO}_2 + \text{O}_2 = 2\text{NO}_2$   
(C) Both of these (D) None of these
- (vii) Lakes rich in nutrient status is called  
(A) Oligotrophic lake (B) Mesotrophic lake  
(C) Eutrophic lake (D) None of these
- (viii) The species likely to move into the endangered category if in near future the causal factors continue to operate are termed as  
(A) rare species (B) threatened species  
(C) extinct species (D) vulnerable species
- (ix) Age range for Dependency Ratio is  
(A) 15-65 years (B) 18-60 years  
(C) < 15 years and > 65 years (D) none of these
- (x) "Thermocline" in a lake is the zone of  
(A) constant temperature (B) rapid temperature change  
(C) highest temperature (D) lowest temperature
- (xi) Lapse rate refers to the rate at which  
(A) population increases in area with increase in temperature  
(B) temperature decreases with the increase in elevation  
(C) temperature decreases with the decrease in elevation  
(D) none of these

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(xii) Audio range is between

- (A) 20 Hz and 20000 Hz                      (B) 20 Hz and 2000 Hz  
(C) 200 Hz and 20000 Hz                    (D) none of these

**GROUP B**  
**(Short Answer Type Questions)**

Answer any *three* questions. 3×5 = 15

2. Define food chain. State the principle type of food chain with an example of each. 2+3
3. Describe the nitrogen cycle with a diagram. 3+2
4. What are the impacts of population growth on resources? 5
5. What is SMOG and what is photochemical SMOG? Describe the probable mechanism for SMOG forming reactions. 2+3
6. What are the water quality parameters? Write down the differences between BOD and COD. 1+4

**GROUP C**  
**(Long Answer Type Questions)**

Answer any *three* questions. 3×15 = 45

7. (a) Write a short note on hydrologic cycle to show that the supply of fresh water is maintained in land. 3
- (b) Write the source and biochemical effects of any two hazardous chemicals present in water. 2+2
- (c) Define Aquifer. Explain how automatic flow of water is possible in Artesian well. 1+3
- (d) Derive an expression for BOD of waste water sample with seeded dilution water. 4

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8. (a) How is sustainable eco-system important for the welfare of mankind? 4  
(b) How does the climatic conditions effect the environmental sustainability? 5  
(c) Write a short note on depletion of the ozone layer. Also give the effects from the depletion of the ozone. 6
9. What is activated sludge? Describe the activated sludge treatment process of sewage with a neat flow diagram. 3+(8+4)
10. How would you classify noise under different categories? What are the permissible levels of noise in residential areas, business areas and sensitive areas? Suggest some measures of noise pollution control. 6+3+6
11. Write short notes on any *three* of the following: 3×5
- (a) Incineration
  - (b) Cause, effect and solution of Arsenic pollution in West Bengal
  - (c) Composting
  - (d) Catalytic converter to control air pollution
  - (e) Source, harmful effect and control of particulate matter present in atmosphere.