



भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान मोहाली

(मानव संसाधन विकास मंत्रालय का एक स्वायत्त संस्थान, भारत सरकार के अधीन)
सेक्टर-81, नॉलेज सिटी, पो.ओ. मनौली, एस.ए.एस. नगर, मोहाली, पंजाब-140306

**INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH
MOHALI**

(Estd. By Ministry of Human Resource Development, Govt. of India)
Sector - 81, Knowledge City, P.O. Manauli, S.A.S. Nagar, Mohali, Punjab -140 306



IDC208: Introduction to Environmental Science

Instructors: Dr. Sunil Patil & Dr. Vinayak Sinha

2nd mid-semester exam

Date: 28.10.2022

Total Marks: 25

1. Explain how the existing industrial animal farming practices affect the environment considering any three specific impacts. (3 marks)
2. (a) How does crop residue burning affect the environment? Explain with at least three examples. (3 marks)
(b) Explain briefly any environmental-friendly way of crop residue management used in your hometown or nearby regions? (1 mark)
3. (a) Explain/illustrate the key components of the rainwater harvesting system along with their functions. (4 marks)
(b) How much rainwater can be collected from a household with a concrete rooftop area of 50 m² in a region with an average rainfall of 450 mm? [Runoff factor/coefficient: 0.8] (1 mark)
4. (a) Describe the five major steps (along with their purposes) applied for drinking water treatment. (5 marks)
(b) What is your opinion on the routine use of advanced water treatment technologies such as reverse osmosis-based membrane filtration in households? (2 marks)
(c) What is the purpose of estimating the water footprints of any products/process/service? (1 mark)
5. (a) How is the biochemical oxygen demand (BOD) different from the chemical oxygen demand (COD)? (2 marks)
(b) What information can you obtain by calculating the BOD/COD ratio of wastewater with BOD and COD values of 200 mg/L and 350 mg/L, respectively? (1 mark)
(c) Why do we need to manage/treat any wastewater effectively? (2 marks)