

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
MID SEMESTER EXAMINATION-2015
B. Tech. IV Semester (All branches)

COURSE CODE:10B11GE411
COURSE NAME: Environmental Studies
COURSE CREDITS: 03

MAX. MARKS: 30

MAX. TIME: 2 HRS

Note: All questions are compulsory.

Section A (1 x 6=6marks)

Q1

- (a) Do we have any advantage of solar passive buildings?
- (b) What level of BOD is expected in clean rivers and give significance of COD/BOD.
- (c) Is there any utility of 'green house effect'?
- (d) Distinguish between background extinction and mass extinction.
- (e) Mention the process stages of biogas production.
- (f) Cite two ways to reduce air pollution caused by automobiles.

Section B (3 x 3=9marks)

Q2: 50 ml of river water was collected flowing near an industry. 5 ml of this water was diluted to 1 liter, aerated and seeded. The dissolved oxygen (DO) content was 8.2 mg/L initially. After 3 days, the DO content had dropped to 4.5 mg/L. What is the BOD and highlight the limitations of this analysis.

Q3: Compute theoretical oxygen demand of water that contains 175 mg/L of benzene and 50 mg/L of toluene.

Q4: Deduce the greener route for the formation of any industrial product and how it differs from its synthesis by traditional route.

Section C (15marks)

Q5: a) Illustrate and explain the functioning of Sewage Treatment Plant (STP) of JUIT, Wajnaghata. (3)

b) Explain giving reasons, the plausible explanation for the escape of methyl isocyanate gas from Union carbide plant of Bhopal in 1984. (2)

Q6: a) If managed safely by recycling, elucidate the opportunities with electronic waste. (3)

b) Justify that Ozone is a life savior in stratosphere but a pollutant in troposphere. (2)

Q7: a) How do solar panels convert sunlight into electricity? Illustrate and explain the process. (3)

b) How is carbon capturing and storage affect climate change? (2)