

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

TEST - 3 EXAMINATIONS- 2022

B.Tech-III Semester (Civil)

COURSE CODE (CREDITS): 18B1WCE732

MAX. MARKS: 35

COURSE NAME: Environmental Management and Impact Assessment

COURSE INSTRUCTORS: Dr. Rishi Rana Kalia

MAX. TIME: 2 Hours

Note: All questions are compulsory. Marks are indicated against each question in square brackets.

Q1. Explain the Box model approaches for prediction of various environmental impacts on environmental projects? **[3 Marks]** (CO-4)

Q2. (a) Which attributes are considered under financial, physical and economical planning?

[2 Marks] (CO-5)

(b) A treated wastewater is discharged at the rate of 1.5 cubic meters per second into a river of minimum flow of 5 cubic meters per second. The temperature of river flow and wastewater flow may be assumed as 25°C. The BOD removal rate constant K_1 is 0.12/ day (base 10). The BOD_5 at 25°C of the wastewater is 200 mg/l, and that of the river water upstream of the wastewater outfall is 1 mg/l. The efficiency of wastewater treatment is 80%. Evaluate the following: (i) BOD_5 at 25°C if river water receives untreated wastewater, (ii) BOD_5 at 25°C if river water receives treated wastewater, and (iii) Ultimate BOD of the river water after it receives treated wastewater.

[5 Marks] (CO-2)

Q3. Discuss the phenomenon of photochemical smog?

[1.5 Marks] (CO-3)

Q4. Discuss about the socio-economic impacts associated with an airport project?

[2.5 Marks] (CO-5)

Q5. (a) Appropriately explain the assessment of biological impacts? **[3 Marks]** (CO-3 &4)

(b) The NO content of a sample of air measured at 22°C and 1 atm pressure is 14 ppm. Calculate the NO concentration in micrograms per cubic meter and milligrams per cubic meter.

[2 Marks] (CO-2)

Q6. Highlight and discuss cumulative impact assessment?

[2 Marks] (CO-1)

Q7. (a) Determine the volume occupied by 8 mol of gas at 25 °C and 820 mm Hg?

[2 Marks] (CO-3)

(b) Discuss how post auditing of a project can be carried out?

[3 Marks] (CO-5)

- Q8. Outline essential requirements of a good EIA report preparation? **[5 Marks]** (CO-3)
- Q9. Short notes on: DEIA & FEIA. **[2 Marks]** (CO-1)
- Q10. Describe matrix method in detail? **[2 Marks]** (CO-2)

November 2022