

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT

Comprehensive Examination - 2025

Ph.D (CE)

COURSE CODE (CREDITS): 17P1WCE131

MAX. MARKS: 100

COURSE NAME: Comprehensive Examination

COURSE INSTRUCTORS: Dr. Rishi Rana Kalia

MAX. TIME: 3 Hours

*Note: (a) All questions are compulsory.*

*(b) The candidate is allowed to make Suitable numeric assumptions wherever required for solving problems*

**Sec A**

Q.No	Question	Marks
Q1	What do you understand by the term per capita demand? In a town or a city for what purpose	6 Marks
Q2	Explain the quantity and of different surface sources?	8 Marks
Q3	Explain various preventive measures for water borne diseases?	5 Marks
Q4	Explain turbidity test, conducted with the help of turbidity rod	8 Marks
Q5	What do you understand by sampling of waste water sources? How can domestic waste water can be analyzed?	7 Marks

**Sec B**

Q.No	Question	Marks
Q6	Explain in detail the various classifications of solid waste management?	7 Marks
Q7	Explain in detail with neat and labeled diagram the various landfill operation issues?	10 Marks
Q8	With neat sketches, where appropriate, discuss the "Waste Stream Assessment" mechanism used for effective SWM?	10 Marks
Q9	Critically examine the "Chemical Characteristics" of SWM along with their analysis technique?	6 Marks

**Sec C**

Q.No	Question	Marks
Q10	State basic concept of LCA?	8 Marks

Q11	Describe the key steps involved in defining the goal and scope of an LCA study.	<b>10 Marks</b>
Q12	Elaborate in detail the steps in assessing the environmental impact of LCA?	<b>10 Marks</b>
Q13	With the help of a diagram, describe the four major phases of LCA as per ISO 14040 standard.	<b>2.5 Marks</b>
Q14	Neatly draw and elucidate various product life cycle stages?	<b>2.5 Marks</b>

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