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JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT
TEST II EXAMINATION (MAY- 2019)
B. Tech. (VIII- SEM.)

COURSE CODE: 14M31CE216

MAX. MARKS: 35

COURSE NAME: Hazardous Waste Management

MAX. TIME: 2.0 HRS

COURSE CREDIT: 3

Note: Attempt all Questions. Carrying of mobile phones during exams will be treated as case of unfair means. Assume suitable data if required.

1(a). Explain the concept of rate of reaction of hazardous substances. In this context, explain the importance of zero order, first order and second order reactions (2+3).

1(b). Determine the reaction order and rate for the following data given in the table (5).

Time (min)	0	12	24	36	48	60
Concentration (mg/l)	8.5	6.25	4.68	3.48	2.73	2.13

2. In the context of Hazardous Waste Management, discuss with suitable explanations (a) objectives of HW Management (b) Hazardous Waste Inventory and (c) Design Approach for HW management (2+4+4)
3. In the context of stabilization and solidification of HWM, discuss with suitable explanations and diagrams (a) micro and macro encapsulation (b) advantages and disadvantages of utilization of cement as stabilization agent (c) in-situ vitrification process (2+4+4)
4. In a neat tabular format, explain the advantages and disadvantages of the different biological techniques used for soil remediation (5)