



GIET UNIVERSITY, GUNUPUR - 765022

B. Tech (Third Semester) Examinations, December - 2023 21BHS20002 / 22BBSES23001 - Environmental Science and Engineering (Civil)

Time: 3 hrs

Maximum: 70 Marks

(The figures in the right hand margin indicate marks)

PART – A**(2 x 5 = 10 Marks)**Q.1. Answer *ALL* questions

- | | CO # | Blooms Level |
|--|------|--------------|
| a. Write short notes on ferric sulphate and lime. | CO1 | L1 |
| b. Explain any 3 factors effecting water demand. | CO1 | L1 |
| c. Write an example of any coagulant and its properties. | CO2 | L1 |
| d. Write any 2 objectives of water treatment plant. | CO3 | L2 |
| e. what is meant by acceptable noise levels. | CO4 | L2 |

PART – B**(15 x 4 = 60 Marks)**Answer *ALL* questions

- | | Marks | CO # | | Blooms Level |
|---|-------|------|--|--------------|
| 2. a. What is meant by pollution? Explain different types of pollution. | 7 | CO1 | | L2 |
| b. Estimate the future population of a tow in 2001 by using geometrical increase method | 8 | CO1 | | L3 |

year	1911	1921	1931	1941	1951	1961
populatio	350000	466000	994000	1560000	16230000	18390000

(OR)

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|--|---|-----|--|----|
| c. Design a circular sedimentation tank which has to supply daily 4.2 million litres water with a detention period of 4.5 hr and depth of 3.3m | 7 | CO1 | | L4 |
| d. Estimate the future population of a tow in 2000 by using decrease rate of growth method | 8 | CO1 | | L3 |

year	1940	1950	1960	1970	1980
population	25000	28000	32500	40000	50000

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|--|----|-----|--|----|
| 3.a. What are miscellaneous water treatment processes? Explain how colour odour and taste will be removed from water | 15 | CO2 | | L2 |
|--|----|-----|--|----|

(OR)

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|---|----|-----|--|----|
| b. Explain how different coagulants reacts with waste water. | 15 | CO2 | | L2 |
| 4.a. What is AQI? Explain different impacts on humans because of poor AQI. | 7 | CO3 | | L2 |
| b. Explain cyclone separators with neat sketch. What are the operating problems we will face while using these. | 8 | CO3 | | L2 |

(OR)

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|---|---|-----|----|
| c. What are the AQI standards of different pollutants? Explain different category o AQI. | 7 | CO3 | L2 |
| d. Explain how sodium aluminate and ferric compounds. | 8 | CO3 | L2 |
| 5.a. What is meant by acceptable noise levels ? what are the acceptable noise levels for different buildings. | 8 | CO4 | L2 |
| b. What is noise pollution? Explain the effects of noise pollution. | 7 | CO4 | L2 |

(OR)

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|--|---|-----|----|
| c. Briefly explain different methods to control noise pollution. | 8 | CO4 | L2 |
| d. Explain different air pollution control equipment and their objectives. | 7 | CO4 | L4 |

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