

B

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Pages: 2

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S6 (R,S) / (WP), S4 (PT) Exam April 2025 (2019 Scheme)

Course Code: CET304

Course Name: ENVIRONMENTAL ENGINEERING

Max. Marks: 100

Duration: 3 Hours

PART A

Answer all questions, each carries 3 marks.

Marks

- | | | |
|----|--|-----|
| 1 | Briefly explain the canal intake structure? | (3) |
| 2 | Draw the layout of a water treatment plant? | (3) |
| 3 | Why screening is required in water treatment processes and briefly explain the types of screens? | (3) |
| 4 | Compare Alum and iron salt as coagulants? | (3) |
| 5 | Briefly explain the four different processes in the mechanism of water filtration | (3) |
| 6 | What are the requirements of a good distribution system | (3) |
| 7 | Which are the various biological unit processes in waste water treatment | (3) |
| 8 | What is sludge volume index and F/M ratio? | (3) |
| 9 | What are the advantages of a septic tank ? | (3) |
| 10 | What is centrifugal sludge thickening method | (3) |

PART B

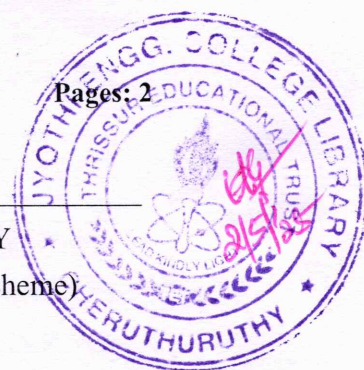
Answer one full question from each module, each carries 14 marks.

Module I

- | | | |
|----|--|-----|
| 11 | a) Discuss the logistic curve method for determining the future population of a locality ? | (7) |
| | b) Explain various method to find the Fire demand? | (7) |

OR

- | | | |
|----|--|------|
| 12 | a) Which are the various types of pump used in water supply scheme. Explain any two in detail? | (10) |
| | b) What are the factors affecting the dry weather flow? | (4) |



Module II

- 13 a) Explain in detail various types of aerators used in water treatment process. (10)
b) What is surface overflow rate in a sedimentation process (4)

OR

- 14 a) Design a Plain sedimentation tank to treat 6MLD of water. Assume a detention period of 6 hours and velocity of flow as 0.2m/minutes. (7)
b) Explain with a neat sketch the working of a Flocculator (7)

Module III

- 15 a) Explain the working of a Rapid gravity Filter with a neat sketch (10)
b) Which are the various operational troubles in Rapid gravity filters? (4)

OR

- 16 a) Explain the various methods of water disinfection? (7)
b) What is equivalent pipe method of pipe network analysis? (7)

Module IV

- 17 a) Explain the conventional activated sludge process ? (7)
b) Explain the various types of flow distribution in a Trickling filter? (7)

OR

- 18 a) Explain various types of aeration in ASP (6)
b) Explain the various parts and working of a Trickling filter? (8)

Module V

- 19 a) Explain the working of oxidation ditches? (7)
b) Explain the working of UASB reactor? (7)

OR

- 20 a) Explain the effluent disposal methods in septic tanks? (7)
b) Explain the various sludge dewatering techniques? (7)
