

Reg.No. \_\_\_\_\_



# Karunya UNIVERSITY

(Karunya Institute of Technology & Sciences)  
(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec – 2016**

**Code : 14BT2053**  
**Sub. Name : Industrial Effluent Treatment**

**Semester : 2016-17 ODD**  
**Duration : 3hrs**  
**Max. marks : 100**

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

| Q. No. | Sub Div. | Questions   | Course Outcome | Marks |
|--------|----------|---|----------------|-------|
| 1.     |          | What is mixed culture? Discuss on the mixed cultures in nature<br>(OR)  | CO1            | 20    |
| 2.     |          | Write on the utilization of mixed culture to treat effluent water   | CO4            | 20    |
| 3.     |          | Explain the coagulation process to treat effluents.<br>(OR)   | CO2            | 20    |
| 4.     |          | Explain Adsorption and the process removal of heavy metals  | CO3            | 20    |
| 5.     |          | Write on the Water Act Statutes and explain the process of mixing and devices involved<br>(OR)                | CO4            | 20    |
| 6.     | a.       | What is Flocculation? Write on the devices used for flocculation  | CO4            | 10    |
|        | b.       | Give a detailed on power consumption and impeller tip speed of fluids   | CO5            | 10    |
| 7.     |          | Give an account of screening and screening devices and strategies<br>(OR)                                     | CO5            | 20    |
| 8.     | a.       | Write on Screening and Mechanically cleaned screens   | CO5            | 10    |
|        | b.       | Write a note on the Inorganic Components present in waste water   | CO2            | 10    |
|        |          | <b><u>Compulsory:</u></b>   |                |       |
| 9.     |          | Discuss Mixed Culture and write on the usage of mixed cultures on Biological Waste Water treatment processes. | CO5            | 20    |

ALL THE BEST