

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION)

CLASS: BTECH/BARCH  
BRANCH: PROD/MECH/CHEM.ENGG/CEP&P/BT/CIVIL/ARCH

SEMESTER : III  
SESSION : MO/19

SUBJECT: CE101 ENVIRONMENTAL SCIENCES

TIME: 3 HOURS

FULL MARKS: 50

**INSTRUCTIONS:**

1. The question paper contains 5 questions each of 10 marks and total 50 marks.
  2. Attempt all questions.
  3. The missing data, if any, may be assumed suitably.
  4. Before attempting the question paper, be sure that you have got the correct question paper.
  5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Define and classify Ecological pyramid. Construct the different types of ecological pyramid of a pond ecosystem [5]
- Q.1(b) Distinguish with suitable example between the fate of a biodegradable and a non-biodegradable environmental pollutant, once it enters into soil [5]
- Q.2(a) Sketch and explain the structure of the atmosphere with the importance of each layer. [5]
- Q.2(b) Discuss the principle and functioning of an Electrostatic precipitator for air pollution control [5]
- Q.3(a) Compare one waste water treatment system of attached growth and suspended growth mode each. [5]
- Q.3(b) The aeration tank influent BOD is 215 mg/L, and the aeration tank influent flow rate is 1.8 MGD. Determine the F/M ratio if the MLVSS is 2500 mg/L and the aeration tank volume is 2.4 MG? [5]
- Q.4(a) Identify the importance of soil water and the factors controlling the moisture content of soil [5]
- Q.4(b) Summarize the components of Municipal solid waste and factors influencing their magnitude of generation [5]
- Q.5(a) Elaborate the effects of noise pollution on human health [5]
- Q.5(b) What are the sources of nuclear/radioactive pollution? [5]

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