

JK Lakshmipat University Jaipur
INSTITUTE OF ENGINEERING AND TECHNOLOGY

End Term Examination December 2022

BBA, Semester-I , 2022-2023

Roll No.....

Energy and Environment Studies ES1105

Time: 2 hours

Max. Marks: 30

Instructions to students:

1. Do not write anything other than your roll number on question paper.
 2. Mention all the assumptions for your answers clearly.
 3. Marks are indicated against each question.
 4. Answer ALL the questions.
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Q.01 Biomass is one of the major types of non-conventional and renewable energy source. It can be used to generate biogas, which can be used for cooking or another purposes. 1 kg of Cow dung can produce 300 gm biogas. In a village there are 1000 cows. Approximately, one cow produces 5 kg cow dung. If per day gas requirement in a house is 0.5 kg, how many families can fulfill their fuel requirement from the biogas?

5 Marks

(LO 1)

Q.02 Mindless human development has only exacerbated negative impacts on ecologically vulnerable regions of the Western Ghats. In the light of the statement discuss the measures needed to conserve the fragile ecosystem and biodiversity.

5 Marks

(LOs 2,3)

Q: 03 As per the recent Lancet Study, one out of every eight deaths in India is attributable to air pollution. Examine the causes the reasons and costs of rising air pollution in Delhi? Enumerate the measures taken by government in this direction and their efficacy

5 Marks

(LOs 2,3)

Q.04 Draw the three ecological pyramids. i.e., pyramid of number, biomass, and energy in a forest ecosystem. What data is propagated by each pyramid in association with function, structure, and energy in the ecosystem?

*5 Marks
(LO 2)*

Q.05 List two main components of the ecosystem. What are the physical factors that affect the organisms distribution in different habitats?

*5 Marks
(LO 2)*

Q.06 Read the paragraph and answer the questions given below:

The wastewaters such as, domestic, and municipal sewage, wastewaters from food processing industries, canning industries, slaughterhouses, paper and pulp mills, tanneries, etc., have considerable concentration of biodegradable organic compounds either in suspended, colloidal, or dissolved form. These wastes undergo degradation and decomposition by bacterial activity. The dissolved oxygen available in the water body will be consumed for aerobic oxidation of organic matter present in the wastewater. Hence, depletion of the DO will be a serious problem adversely affecting aquatic life, if the DO falls below 4.0 mg/L. This decrease of DO is an index of pollution.

- a) What is Biological Oxygen Demand (BOD) ?
- b) How is BOD related to DO (Dissolved Oxygen) ?
- c) How will you remove pollutants from domestic wastewater? Suggest some treatment methods briefly.

*(1+1+3) Marks
(LO 3)*

all the best!