

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular and Supplementary Summer Examination – 2024

Course: B. Tech. Branch: Common to All branches Semester: II

Subject Code & Name: BTES205E - Energy and Environment Engineering

Max Marks: 60

Date: 24/06/2024

Duration: 3 Hr.

**Instructions to the Students:**

1. All the questions are compulsory.
2. The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.
3. Use of non-programmable scientific calculators is allowed.
4. Assume suitable data wherever necessary and mention it clearly.

	(Level/CO)	Marks
<b>Q.1 Solve Any Two of the following.</b>		12
A) Short Notes:- i) Conventional Energy Sources ii) Steam Power Generation	CO1	6
B) Explain in detail Gas Turbine Power Plant with neat Diagram.	CO2	6
C) Difference between :- Thermo electric and Thermionic generators.	CO3	6
<b>Q.2 Solve Any Two of the following.</b>		12
A) Short Notes:- i) Biogas ii) Biomass	CO3	6
B) Explain the Fuel Cell with neat diagram.	CO2	6
C) Explain in detail Magneto Hydro Dynamics (MHD) with neat diagram.	CO1	6
<b>Q.3 Solve Any Two of the following.</b>		12
A) Short Notes:- i) Maximum energy efficiency ii) Maximum cost effectiveness.	CO1	6
B) Write the Methods and techniques of energy conservation in ventilation and air conditioners, compressors, pumps, fans and blowers.	CO2	6
C) Write the Energy conservation in electric furnaces, ovens and boilers. lighting techniques.	CO3	6
<b>Q.4 Solve Any Two of the following.</b>		12
A) Write in detail about Air pollution Sources and Effects.	CO3	6
B) Write in detail the control measures in Air pollution.	CO4	6
C) Short Notes:- i) Particulate Emission ii) Air quality standards	CO5	6

**Q. 5 Solve Any Two of the following.**

- |   |            |          |
|---|------------|----------|
| <b>A) Write the Water Pollution Effects and Control Measures.</b> | <b>CO3</b> | <b>6</b> |
| <b>B) Write the Noise pollution effects and control measures.</b> | <b>CO4</b> | <b>6</b> |
| <b>C) Short Notes :- i) Thermal Pollution ii) Soil Pollution</b>  | <b>CO5</b> | <b>6</b> |

**\*\*\* End \*\*\***

DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular End Semester Examination – Summer 2022

Course: B. Tech.

Branch : First Year

Semester : II

Subject Code & Name: BTES205E Energy and Environment Engineering

Max Marks: 60

Date:29/08/2022

Duration: 3.45 Hr.

**Instructions to the Students:**

1. All the questions are compulsory.
2. Each question carries 12 marks.
3. Illustrate your answers with neat sketches, diagram etc., wherever necessary
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(Level/CO) Marks

**Q.1 Solve Any Two of the following.**

- A) Write the sequence of energy transformations taking place in the following: Nuclear power plant, Gas turbine and Hydro Power plant BTES205-1/2 6
- B) Explain the function of following components used in power plant: BTES 205-3 6  
i) Condenser ii) Nuclear Fuel. iii) Penstock.
- C) What is a nuclear chain reaction? Explain the importance of moderator and control rods in a nuclear reactor with respect to chain reaction? BTES 205-1/3 6

**Q.2 Solve Any Two of the following.**

- A) What is the source of tidal energy? What are the potential sites of tidal energy in India? BTES 205-2/3 6
- B) What is Bio-mass? Write the percentage composition of Bio-gas. What are the environmental and health benefits of Bio-gas utilization? BTES 205-2 6
- C) How the Wind mills are classified? Sketch the diagram of a HAWT, and explain the function of its main components. BTES 205-2 6

**Q.3 Solve the following.**

- A) What do you understand by maximum energy efficiency in context with energy conservation principle? Discuss with a suitable example. BTES 205-1 6
- B) How do you conserve the energy in pharmaceutical industry? Write the suitable measures. BTES 205-1 6

**Q.4 Solve Any Two of the following.**

- A) What are the fixed major sources of outdoor pollution? What effects does air pollution have on Health of animals and plants and materials. BTES 205-1 6
- B) Differentiate between BTES 205-4 6

- i) Dust and smoke.
- ii) Pollutants and Toxicant.
- iii) Smoke and Smog.

C) Explain the types of water pollutants in brief. How do vehicles responsible for water pollution? BTES 205-4

6

**Q. 5 Solve Any Four of the following.**

- A) What are the effects of noise pollution on children's health? BTES 205-4 3
- B) What is marble cancer? How is Taj Mahal turning yellow? BTES 205-4 3
- C) Write in brief about the sources of thermal pollution and its effects. BTES 205-4 3
- D) How oil spills and sediments degrade the water quality? Explain. BTES 205-4 3
- E) Write briefly about the major sources of noise pollution. BTES 205-4 3
- F) What is radioactive pollution? What are its effects? BTES 205-4 3

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**Q. 5 Solve Any Four of the following.**

- A) What are the effects of noise pollution on children's health? BTES 205-4 **3**
- B) What is marble cancer? How is Taj Mahal turning yellow? BTES 205-4 **3**
- C) Write in brief about the sources of thermal pollution and its effects. BTES 205-4 **3**
- D) How oil spills and sediments degrade the water quality? Explain. BTES 205-4 **3**
- E) Write briefly about the major sources of noise pollution. BTES 205-4 **3**
- F) What is radioactive pollution? What are its effects? BTES 205-4 **3**

**\*\*\* End \*\*\***