

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
4. 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.
5. Use of non-programmable scientific calculators is allowed.
6. Assume suitable data wherever necessary and mention it clearly.

	(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: i) Condenser ii) Nuclear Fuel, iii) Penstock.	BTES 205-3	6
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

*** End ***