

U.G. 5th Semester Examination - 2021**ENVIRONMENTAL SCIENCE****[HONOURS]****Discipline Specific Elective (DSE)****Course Code : ENVS(H)DSE-P-01A/PR****[PRACTICAL]****(Energy and Environment)**

Full Marks : 20

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answer in their own words as far as practicable.*Answer **any two** of the following : $10 \times 2 = 20$

1. Compare the advantages and disadvantages of the following (any **four**): $2 \frac{1}{2} \times 4 = 10$

- Solar energy
- Hydropower energy
- Wind energy
- Geothermal energy
- Nuclear energy
- Biomass energy

2. Define energy efficiency? From the given data, calculate the energy efficiency of the following typical household appliances. $1 + (1 \frac{1}{2} \times 6) = 10$

Electrical appliances	Total energy consumed	Waste energy
Electric motor	$9.4 \times 10^6 \text{ J}$	$9.4 \times 10^5 \text{ J}$
Electric Iron	$5.4 \times 10^6 \text{ J}$	$2.7 \times 10^5 \text{ J}$
Microwave	$9.0 \times 10^6 \text{ J}$	$4.5 \times 10^6 \text{ J}$
Refrigerator	$7.2 \times 10^5 \text{ J}$	$9.1 \times 10^4 \text{ J}$
Laptop Computer	$4.3 \times 10^5 \text{ J}$	$8.6 \times 10^4 \text{ J}$
LED Bulb	$3.6 \times 10^4 \text{ J}$	$3.6 \times 10^3 \text{ J}$

3. Prepare standard worksheets of energy conservation for a school and hospital. Mention any four energy efficiency appliances at home. $8 + 2 = 10$
4. Write down the renewable and non-renewable energy units. State the detail procedure of energy audit. $4 + 6 = 10$

[Turn over]