(6 pages) **Reg. No. :**.....

Code No. : 30333 E **Sub. Code : SEPH 6B**

B.Sc. (CBCS) DEGREE EXAMINATION, APRIL 2022.

Sixth Semester

Physics — Major Elective

ENERGY PHYSICS

(For those who joined in July 2017 onwards)

Time : Three hours Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1. Which of the following is a non-reneweable resources?

(a) coal (b) forests

(c) water (d) wildlife

2. Photovoltaic energy is few conversion of sunlight into

(a) Chemical energy (b) Biogas

(c) Electricity (d) geothermal energy

3. Horizontal axis and vertical axis are the types of

(a) Nuclear reactor (b) Wind mills

(c) Biogas reactor (d) Solar cell

4. Fuel cells are _____

(a) Carbon cell (b) Hydrogen battery

(c) Nuclear cell (d) Chromium cell

5. Common energy source in Indian villages is

(a) Electricity (b) Coal

(c) Sun (d) Wood and animal dung

6. Crude oil is _____

(a) Colorless

(b) Odorless

(c) Smelly yellow to black liquid

(d) Odorless Yellow to black liquid

7. Boiling water reactor and pressurized water reactors are _____

(a) Nuclear reactor (b) Solar reactor

(c) Thermal reactor (d) Biogas reactor

8. The following type of energy is started as lateant heat

(a) Thermal energy (b) Chemical energy

(c) Electrical energy (d) Mechanical energy

9. The value of solar constant is

(a) 1347 w/m² (b) 1357 w/m²

(c) 1367 w/m² (d) 1388 w/m²

10. The outermost layer of the earth is

(a) Magma (b) Mantle

(c) Crust (d) None of the above

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 250 words.

11. (a) Explain in details about the Conventional Energy resource?

Or

(b) Write any five differences between renewable and non-renewable sources

12. (a) Briefly explain Flate plate collectors?

Or

(b) Write a short notes on Solar water heater?

13. (a) What are the types of solar cell?

Or

Explain in details about the Hybrid system?

14. (a) Explain the construction and working of biogas

Or

(b) What are the advantage and Disadvantages of Biomass energy?

15. (a) What is the basic principle of wind energy conversion and mention the any 3 application

Or

(b) What are the advantages and limitation of tidal power generation

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b).

Each answer should not exceed 600 words.

16. (a) Explain in details about the conventional and non-conventional energy resources.

Or

(b) Briefly in details about different categories of Energy sources.

17. (a) Explain the Different types of Solar Collectors?

Or

(b) Explain the construction and working of Solar Cooker?

18. (a) What are the advantage and disadvantages of PV Solar Energy Conversion?

Or

(b) What are the application of solar photovoltaic systems?

19. (a) Explain the conversion of Biomass energy into other form of energy?

Or

(b) What are the advantages & disadvantages of biological conversion of solar energy

20. (a) Explain the fuel cells and application of fuel cells.

Or

(b) Define Wave energy. Explain the energy and power from waves.

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