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NY—315—2023

FACULTY OF SCIENCE

M.Sc. (Second Year) (Fourth Semester) EXAMINATION

NOVEMBER/DECEMBER, 2023

(New/CBCS Pattern)

PHYSICS

PHY-404(A)

(Energy Physics)

(Wednesday, 13-12-2023)

Time : 2.00 p.m. to 5.00 p.m.

Time—3 Hours

Maximum Marks—75

N.B. :— (i) All questions are compulsory.

(ii) Figures to the right indicate full marks.

1. Describe conventional and non-conventionl energy sources in detail with suitable examples. 15

Or

(a) Discuss in detail solar energy. Explain advantages and disadvantages of solar energy. 8

(b) Explain Biogas and Biomass energy. 7

2. Describe various applications of solar energy. Explain working principle of solar water heater. 15

Or

(a) What is solar cooker ? Explain in detail its construction, working principle and types of solar cookers. 8

(b) Discuss the principle of conversion of solar energy into heat energy. 7

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3. Describe in detail conversion of biomass energy into various energy types. 15

Or

(a) Discuss Biomass conversion technology. 8

(b) Define the biogas. Describe in detail its advantages and disadvantages. 7

4. What is hydrogen energy ? Explain in detail production of hydrogen energy and its storage. 15

Or

(a) Define fuel cell. Discuss construction, working and advantages of fuel cell. 8

(b) Discuss advantages and disadvantages of hydrogen energy. 7

5. Write short notes on (any *three*) :

(a) Fuel cell and its types 5

(b) Biogas generation. 5

(c) Applications of solar energy 5

(d) Fossil fuels. 5

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