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M.Sc. (Chemistry) (Semester – 3rd)
SCIENCE OF RENEWABLE ENERGY RESOURCES
Subject Code: MPHY0-F92
Paper ID: [OE2220213]

Time: 03 Hours

Maximum Marks: 60

Instruction for candidates:

1. Section A is compulsory. It carries 16 marks. It consists of 4 questions of 4 marks each.
2. Section B consist of 4 questions of 8 marks each. The student has to attempt any 3 questions out of it.
3. Section C consist of 3 questions of 10 marks each. The student has to attempt any 2 questions.

Section – A **(4 marks each)**

- Q1. Write down the name of conventional energy resources. Explain their current challenges.
- Q2. What are non-conventional energy resources? Write down their merits over conventional.
- Q3. What do you mean by photocatalytic process?
- Q4. What is OTEC? Explain it in very brief.

Section – B **(8 marks each)**

- Q5. Discuss the working principle of Tandem solar cells adequately.
- Q6. Explain about the status of fossil fuel reserves of conventional energy sources globally.
- Q7. Explain working of solid oxide fuel Cell (SOFC) in brief.
- Q8. What do you mean by hydride batteries? How it helps in renewable energy sources.

Section – C **(10 marks each)**

- Q9. Discuss single crystal, polycrystalline and amorphous silicon solar cells in brief.
- Q10. Explain working of windmill for the generation of electricity in details.
- Q11. Illustrate the production and storage of hydrogen in details.