Roll No……..….. **Total No. of Printed Pages: [01]**
Total No. of Questions: [11]

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.