

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

M.Sc (Physics) (Sem.-3)

SCIENCE OF RENEWABLE SOURCE OF ENERGY

Subject Code : MSPH-539-21

M.Code : 92543

Date of Examination : 02-01-23

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY** consisting of **TEN** questions carrying **TWO** marks each.
2. **SECTION-B** contains **FIVE** questions carrying **FIVE** marks each and students have to attempt any **FOUR** questions.
3. **SECTION-C** contains **THREE** questions carrying **TEN** marks each and students have to attempt any **TWO** questions.

SECTION-A

1. Write briefly :

- a. Differentiate between Renewable and Non-Renewable energy sources.
- b. Define panel.
- c. What are the characteristics of Dye synthesized solar cells?
- d. Define photo catalytic process.
- e. Write the applications of solar cell.
- f. Write the advantages of thin film solar cell.
- g. List some safety factors.
- h. Write application of wave energy.
- i. Write applications of Fuel Cells.
- j. Define biofuel.

SECTION-B

2. What happens to solar radiation when it hits the earth's surface?
3. Explain the principal and working of solar cell.
4. Explain storage materials. Discuss the electronic properties of storage materials.
5. Describe the system design for ocean thermal energy conversion.
6. Discuss the production of solar hydrogen.

SECTION-C

7. What are the different Energy sources? Discuss the reserves of energy sources in the world and in India.
8. Discuss in detail the use of hydrogen as fuel in vehicles and in electric generation.
9. What is wind energy? Explain in detail the classification and applications of wind machines.

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.