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Total No. of Pages : 02

Total No. of Questions : 09

B.Voc. (Solar System Technology) (Sem.-3)
SOLAR CELL AND PHOTOVOLTAIC TECHNOLOGIES

Subject Code : SST-303

M.Code : 93235

Date of Examination : 25-01-23

Time : 3 Hrs.

Max. Marks : 30

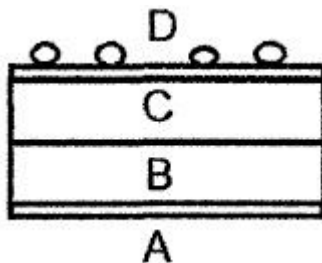
INSTRUCTIONS TO CANDIDATES :

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

SECTION-A

1. Write briefly :

- a) What are Solar Power Cells?
- b) What are the applications of solar cells?
- c) A photocell has a short circuit current of 25 mA, an open circuit voltage of 0.6 V and a maximum power output of 12 mW. What is its fill factor?
- d) Which of the following region is coated with a metal?



- e) What reflects incoming solar radiation?
- f) Where is solar radiation highest on Earth?

- g) Why is only black colour used in solar cookers?
- h) Why is a solar cooker essential?
- i) What is a solar collector?
- j) What are the components of a flat plate collector?

SECTION-B

- 2. What are Solar Power Cells? Also discuss its various types in detail.
- 3. A single solar cell ($10\text{ cm} \times 10\text{ cm}$) produces a voltage of 0.5 V and a current up to 2.5 A. If the solar insolation is 800 W/m^2 , then what will be the efficiency of the solar cell?
- 4. What do you understand by solar incidence angle on a tilted surface? Explain with the help of suitable diagram.
- 5. What is solar heating system? Differentiate active and passive solar heating system.
- 6. Discuss non-convecting and convecting type of solar pond with the help of suitable diagram.

SECTION-C

- 7. What are concentrating collectors? Differentiate concentrating collectors and flat plate collectors.
- 8. What is Green House Effect? Classify Greenhouse according to its basic shape with the help of suitable diagram.
- 9. What is an evacuated tubular solar thermal collector? Explain evacuated tube collector for solar hot water system with the help of suitable diagram.

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.