

Please check that this question paper contains 09 questions and 02 printed pages within first ten minutes.

[Total No. of Questions: 09]

[Total No. of Pages: 02]

Uni. Roll No. ....

Program: B.Tech. (Batch 2018 onward)

Semester: III

Name of Subject: Education, Technology and Society

Subject Code: HSMEE-101

Paper ID: 16063

Scientific calculator is NotAllowed

**Detail of allowed codes/charts/tables etc. NIL.**

**Time Allowed: 03 Hours**

**Max. Marks: 60**

**NOTE:**

1. Parts A and B are compulsory
2. Part-C has Two Questions Q8 and Q9. Both are compulsory, but with internal choice
3. Any missing data may be assumed appropriately

**Part – A**

**[Marks: 02 each]**

**Q1.**

- a) List out four approaches to learning.
- b) Illustrate function of MPPT.
- c) Analyze solar constant expression.
- d) Summarize energy auditing concept.
- e) Differentiate between renewable and non renewable energy resources.
- f) Summarize the role of education in technology and advancement.

**Part – B**

**[Marks: 04 each]**

- Q2.** List the measures of reducing the pollutants caused by power generation.
- Q3.** Describe hybrid energy systems and hybrid vehicles.
- Q4.** Express the importance of Gurukul system. Does Indian education system need Gurukul? Justify.
- Q5.** Evaluate the importance of ICT in Electrical Engineering.
- Q6.** Summarize the planning structure of Indian Electricity Grid Code.
- Q7.** Recommend methods to enhance efficiency of PV cells.

**Part – C**

**[Marks: 12 each]**

**Q8.** Illustrate the application of renewable energy resources for sustainable development.

OR

Explain in detail any three power theft control methods with the help of suitable diagrams.

**Q9.** Explain guidelines of Central Electricity Authority and Punjab State Grid Code. Compare their responsibilities.

OR

Explain in detail the concept of microgrid, different kinds of microgrids. What role do microgrids play during power outage?

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