

FUEL TECHNOLOGY AND ENVIRONMENT MANAGEMENT

Paper no.- HSRM – 304

ES -3

Credits -3 +1=4

Sem. – 3 (M.Sc. R.M.)

Marks – 100 +50= 150

OBJECTIVES

- ❖ To understand the potential and limitations of different energy sources and the environmental impacts of their use.
- ❖ To understand the need and the ways of energy conservation.
- ❖ To study the innovations in fuel technology and energy management.
- ❖ To be aware of the holistic economical approaches to environment.
- ❖ To be aware of the environmental problems.

UNIT : 1

- Sources of energy and their classification.
- Non – renewable Vs renewable alternatives.
- Conventional Vs non conventional, commercial Vs non commercial.
- Energy consumption pattern – national statistics.
- Calorific values of fuel and their determination.
- Introduction of nuclear power and hydro electric power .

UNIT : 2

- Introduction of solar energy – used system for water heating, cooking, refrigeration and power generation etc.
- Thermal and biochemical conversion processes available for obtaining gaseous and liquid fuels from bio – mass.
- Bio – gas plants and advanced gasohol.

UNIT : 3

- fundamentals of environment.
- Environment definition. Scope of environment studies.
- Life and the environment. Physico–chemical factors in the environment, changes in the environment – anthropogenic and non – anthropogenic.
- Environmental hazards and risks.
- Natural resources – conservation and sustainable development.

UNIT : 4

- Introduction of Eco – system.
- Impact of population growth on economic development and environment.
- Population and Environment with references to Air, Water, Soil, Noise .

PRACTICLES

- 1) To measure calorific value of available fuel.
- 2) To display different domestic fuel equipments.
- 3) To study about solar energy.
- 4) To prepare programs on energy awareness.
- 5) To visit nature park and centre of bio – diversity.
- 6) To prepare programs on environment awareness.

REFERENCES

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- 2) Chaman Kashkari : Energy Resources Demand and conservation – Tata Megrow Hill.
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- 4) Duukerley, J. (1990) : Potters of Energy use in Developing countries.
- 5) Jain, H.C (1986) : Non – conventional sources of Energy, Sterling Publication, New Delhi.
- 6) Parich, J.K.(1980) : Energy, Systems and Development, OUP, New Delhi.

- 7) Dayal, M. (1989) : Renewable Energy, Environment and Development, Kenark Publishers.
- 8) Gusain, P.P.S. (1990) : Renewable Energy in India, Vikas Publishing House , New Delhi.
- 9) Agarwal, M.P. (1985) : Solar Energy. S. Chand & Co., New Delhi..