

Printed Pages : 3



ECH011

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 151651

Roll No.

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B.Tech

(SEM. VI) THEORY EXAMINATION 2014-15
ENERGY RESOURCES & UTILIZATION

Time : 3 Hours]

[Total Marks : 100

Note: Attempt **All** questions. Assume suitable data, if required.
All question carry equal marks.

- 1 Attempt any **FOUR** parts of the following: - **5x4**
- (a) Describe the various conventional and non-conventional sources of energy.
 - (b) Describe the working of a solar plate collector.
 - (c) Discuss various remedial measures to energy crisis.
 - (d) Explain the method of biomass conversion to alcohol.
 - (e) Discuss the importance of energy sources and economy in Indian context.
 - (f) Discuss third law of thermodynamics.

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1

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- 2 Attempt any **TWO** parts of the following: - **10x2**
- (a) Discuss the different coal conversion technologies to convert it to various gaseous and liquid fuels.
 - (b) Discuss the production of biogas with complete description of the Biogas plant and its mechanism with the help of suitable sketch.
 - (c) Explain the formation and availability of different types of coal in different parts of the country.
- 3 Attempt any **TWO** parts of the following: - **10x2**
- (a) Give composition of petroleum crude, explain what products can be derived from oil refinery.
 - (b) Write down the composition of CNG. How does it differ from LNG? Explain with the help of suitable example.
 - (c) What do you mean by coal carbonisation? What products may be derived from coal carbonization process?
- 4 Attempt any **TWO** parts of the following: - **10x2**
- (a) What is the future of atomic energy in India? How do we produce electricity using atomic energy?
 - (b) Discuss the methodology for the production of Biodiesel with the help of suitable reactions and operating conditions.
 - (c) Where do we have sources of geothermal energy in India? How power can be produced using geothermal sources?

- 5 Write short notes on any **FOUR** of the following: - **5x4**
- (a) LPG
 - (b) OTEC
 - (c) Alkaline fuel cell
 - (d) Cogeneration
 - (e) Wind Energy
 - (f) Tidal energy
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