

- Instructions:**
- (1) Draw figures where necessary.
 - (2) Show question number against each answer.
 - (3) Figures in right are marks.
 - (4) Answer any **Three** out of initial **Eight** main questions, Question No. 9 is compulsory.

Section – I

- Q 1. (A) Explain physio-chemical characteristics and energy content of coal. (7)
 (B) Explain in detail mining and its effects on environment and surrounding. (7)
- Q 2. (A) Note down non-renewable sources of energy in detail. (7)
 (B) Note down the ways of recycling and recovery of resources. (7)
- Q 3. (A) What is solar radiation and note down its spectral characteristics. (7)
 (B) Explain in detail energy from biomass and biogas. (7)
- Q 4. (A) Explain in detail the process of gaining energy from windmill. (7)
 (B) Write note on solar collectors, solar heaters and photovoltaic. (7)
- Q 5. (A) Impact of nuclear radiation on environment. (7)
 (B) Explain in detail bioaccumulation with example. (7)
- Q 6. (A) Detailed note on nuclear fission and fusion. (7)
 (B) Note down the ways of radioactive waste disposal. (7)
- Q7. (A) Note down environmental implications of energy exploration. (7)
 (B) Explain energy usage pattern in India in detail. (7)
- Q 8. (A) State down the renewable energy potential in India. (7)
 (B) Explain in detail the impacts of CO₂ emissions in developing country. (7)

Section - II

Q 9. Answer in short (any **Eight**):

(8)

- A. What is tidal energy?
- B. What is nuclear fission?
- C. What is radioactive waste?
- D. Difference between conventional and non-conventional sources.
- E. What is bio-energy?
- F. Impacts due to CO₂ in developing country.
- G. What is fossil fuel?
- H. Note down non-renewable sources of energy.
- I. Effects of nuclear radiation on human health.
- J. What amount of average energy is used in India per day?
- K. Effects of mining and extraction on environment.
- L. What amount of average solar radiation reaches earth everyday?

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