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CS/B.TECH(ME/PE/AUE)/SEM-7/HU-701/2011-12 2011

ETHICS IN ENGINEERING PROFESSION

Time Allotted: 3 Hours Full Marks: 70

The figures in the margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

GROUP - A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

 $10 \times 1 = 10$

- i) Which of the following is an instrumental value?
 - a) Prosperity
- b) Hard work
- c) Pleasure
- d) Happiness.
- ii) Which of the following is equivalent to burning of 1 kg. of Uranium?
 - a) 35 Tons of coal
- b) 3500 Tons of coal
- c) 35000 Tons of coal
- d) none of these.

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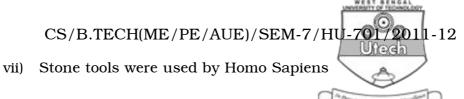


- iii) Which is **not** a greenhouse gas?
 - a) CO_2

b) CFC

c) N₂O

- d) SO_2 .
- iv) To monitor the state level environmental issue and problems Government of India established the
 - a) Green Bench
 - b) Pollution Control Board
 - c) Department of Environment
 - d) Green Police.
- v) \quad Emission ${\rm CO}_2$ gives rise to
 - a) global warming
- b) global cooling
- c) heavy rainfall
- d) deforestation.
- vi) Acid rain is caused by
 - a) Burning of fuel containing sulphur
 - b) Melting of Iron ore
 - c) Desert storm
 - d) Eearthquake.



- a) Million years ago
- b) ten thousand years ago
- c) one billion years ago
- d) one thousand years ago.
- viii) Industrial revolution started in U.K. around
 - a) 1630 AD
- b) 1730 AD
- c) 1780 AD
- d) 1870 AD.
- ix) Technics and Civilisation was written by
 - a) Jacques Ellul
- b) Lewis Mumford
- c) Matin Heidegger
- d) Langdon Winner.
- x) Industrial Revolution started with
 - a) James Watt's Steam Engine
 - b) Spinning Jenny
 - c) Mechanical Clock
 - d) Factory System.

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- xi) Schumachers Appropriate Technology Movement advocates
 - a) steadity increasing production
 - b) scaling down the pursuit of economic growth
 - c) growth oriented labour-intensive technologies
 - d) steady economic growth but decreasing consumption.
- xii) ISO 14000 is
 - a) Environmental Management Standard
 - b) Product Quality Control
 - c) Product Safety Standard
 - d) None of these.
- xiii) Appropriate technology is most commonly discussed in its relationship to
 - Economic development and as an alternative to transfers of capital-intensive technology from industrialized nations to developing countries
 - Economic development and as an alternative to transfers industrial goods from industrialized nations to developing countries
 - c) Technological development and as an alternative to transfers industrial goods from industrialized nations to developing countries.
 - d) None of these.

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(Short Answer Type Questions)

Answer any three of the following.

 $3 \times 5 = 15$

- Explain the meaning of environmental ethics and discuss its relevance to Eco-friendly Technologies.
- 3. What is economic growth? What do you understand by limits to growth?
- 4. Briefly discuss how Professional Ethics can be maintained by an Engineer in an Industry.
- Discuss briefly about the value crisis in contemporary Indian Society.
- 6. What do you mean by Sustainable Development? What kind of strategies should be adopted for sustainable development of a developing economy?

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GROUP - C

(Long Answer Type Questions)

Answer any three of the following.

- $3 \times 15 = 45$
- 7. What do you mean by "sustainable development"? What are the characteristics of a sustainable society? What is the role of appropriate technology in attaining sustainable development? What is eco-friendly technology? Discuss with an appropriate example in India.
- 8. State briefly the need for moving towards various forms of renewable energy. What do you mean by environmental ethics? State the different issues related to environmental ethics. Give examples.
- 9. a) What is appropriate technology? What is your idea about the nuclear threat to the world that emerges from arms race?
 - b) What are the problems of technology transfer in Indian educational institutions? 9 + 6
- 10. Define code of 'Professional Ethics'. Explain some of the universally accepted codes of professional ethics. Discuss how engineering profession is guided by such codes. How do you feel a professional should deal with the conflicts between individual and corporate/business ethics?

2 + 4 + 3 + 6

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- 11. Write notes on any three of the following:
 - i) Social audits.
 - ii) Canons of ethics
 - iii) Human centered technology
 - iv) Industrial safety regulations
 - v) Value system of an engineer
 - vi) Geo-thermal energy.
- 12. Describe the salient features of the philosophy propounded by Lewis Mumford about the nature of technology growth. State his view on British Industrial Revolution.

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