



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION SEMESTER I SESSION 2010/2011

COURSE : ENGINEERS AND SOCIETY
COURSE CODE : BEE 10202
PROGRAMME : 1 BEE
EXAMINATION DATE : NOVEMBER/DECEMBER 2010
DURATION : 2 HOURS
INSTRUCTION : ANSWER **FOUR (4)** QUESTIONS ONLY

THIS PAPER CONSISTS OF FIVE (5) PAGES

- Q1** (a) Briefly explain the Gaia theory (Gaia – the Greek earth goddess, the mother of the Titans) which proposed by James Lovelock in the journal of Atmospheric Environment during the mid-1970s.
(2 marks)
- (b) Today's, sustainability is not considered in most of the activities. These activities are grouped into four main categories. List all the categories.
(8 marks)
- (c) Whether we like it or not, engineers have become a kind of “scapegoat” in an environmental issue. Engineers are likely the ones who build and run the engines of development which is destroying an environment. Engineers play a major role in balancing development and conservation where environment is emphasized in the IEEE Code of Ethics of most engineering societies. Derive the IEEE Code of Ethics.
(5 marks)
- (d) Explain and give some examples of major issues on the environment such as air pollution, chemical pollution, climate change, flora and fauna, and population.
(10 marks)
- Q2** (a) What are the roles and activities organized by UNEP which involved global matters of the environment?
(7 marks)
- (b) The Earth Summit is the United Nations Conference on Environment and Development (UNCED) was held at Rio de Janeiro, Brazil, from 3-14 June 1992. UNCED brought together policy makers, diplomats, scientists, media

personnel and NGO representatives from 179 countries in a massive effort to reconcile the impact of human socio-economic activities on the environment and vice versa. The objective of UNCED is to reconcile the globally development needs with environment protection. The main achievement of UNCED was Agenda 21 and four key results. Explain the Agenda 21 and list four (4) key results.

(10 marks)

- (c) List eight (8) International Conventions/Agreements under the responsibility of the Conservation and Environmental Management Division, Ministry of Science, Technology and the Environment Malaysia.

(8 marks)

- Q3** (a) Define the term “Profession” and state its difference with “Occupation”.

(5 marks)

- (b) Explain why engineering is considered as profession.

(5 marks)

- (c) List five (5) characteristics of Professional Engineers.

(5 marks)

- (d) The Board of Engineers Malaysia (BEM) is a statutory body constituted under the Registration of Engineers Act 1967. It was formed on 23 August 1972. BEM falls within the domain of responsibility of the Minister of Works. The appointment of the Board Members and the Register is made by the Minister. In essence, the Board is established for regulating the professional conduct and practice of

registered engineers in order to safeguard the public safety and interest. Describe the function of BEM in maintaining the registered engineers.

(5 marks)

- (e) The Institution of Engineers, Malaysia (IEM) is a professional learned society serving more than 15,000 members in Malaysia, overseas and the communities in which they work. It was formed in 1959 and was admitted a member of the Commonwealth Engineers Council in 1962. The Institution is a qualifying body for professional engineers in Malaysia. Briefly describe the objectives of IEM.

(5 marks)

Q4 (a) List four (4) ethical theories.

(4 marks)

- (b) Identify the advantage and disadvantage of Relativism Theory.

(8 marks)

- (c) Identify the advantage and disadvantage of Utilitarianism Theory.

(8 marks)

- (d) Identify two (2) problems which associated in Duty and Rights Ethics.

(5 marks)

Q5 (a) What is definition of engineer and what are their roles in society?

(5 marks)

- (b) Define the term “Engineering” and state its difference with “Engineer”.
(5 marks)
- (c) Define the term “Ethics” and state its difference with “Morals”
(5 marks)
- (d) Define the term “Engineering Ethics’ and state its difference with “General Ethics”
(5 marks)
- (e) Define the term “Code of Ethics” and list three (3) engineering code ethics.
(5 marks)

- Q6**
- (a) Describe briefly the importance of Code of Ethics.
(10 marks)
 - (b) List major Engineering Achievements in Malaysia since 1991 until 2001.
(10 marks)
 - (c) Malaysia as a Developing Country. Explain the advantage that Malaysia as a Developing Country.
(5 marks)