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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2016/2017**

TERBUKA

COURSE NAME : ENGINEERS AND SOCIETY
COURSE CODE : BEE 10202
PROGRAMME : BEJ/BEV
EXAMINATION DATE : JUNE 2017
DURATION : 2 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

THIS PAPER CONSISTS OF FOUR (4) PAGES

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Q1 (a) With your own words, define what is ethical/moral dilemma? Give **one (1)** example of it.

(4 marks)

(b) Please briefly discuss the step of resolving ethical dilemma.

(10 marks)

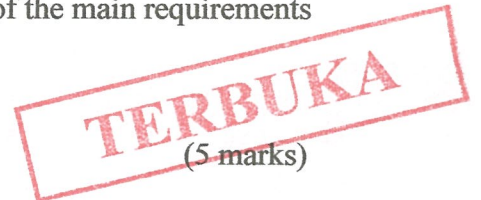
(c) “A chemical engineer working in the environmental division of a computer manufacturing firm learns that her company might be discharging unlawful amounts of lead and arsenic into the city sewer. The city processes the sludge into a fertilizer used by local farmers. To ensure the safety of both the discharge and the fertilizer, the city imposes restrictive laws on the discharge of lead and arsenic. Preliminary investigations convince the engineer that the company should implement stronger pollution controls, but her supervisor tells her that the cost of doing so is prohibitive and that technically the company is in compliance with the law. She is also scheduled to appear before town officials to testify in the matter”

Based on the case study above, please state **three (3)** important criteria that are required to be considered in resolving ethical/moral dilemma based on the code of engineering ethics.

(6 marks)

Q2 (a) Continuing Professional Development (CPD) is one of the main requirements for Professional Engineers.

(i) Briefly explain the main objectives of CPD.



(5 marks)

(ii) List examples of CPD that can be considered for Professional Engineers.

(5 marks)

(b) A new innovative product that can be used for Long Term Evolution application will be launched by OXE Communications Sdn. Bhd. in January 2018. The product is required to be sent to Standards and Industrial Research Institute of Malaysia (SIRIM) for further testing certification.

(i) Explain the functions of Malaysian Standards.

(5 marks)

(ii) Briefly describe the main roles of SIRIM.

(5 marks)

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Q3 Employers are responsible for ensuring all their employees receive certain basic employment rights which are governed by detailed employment legislation.

- (a) Briefly discuss employer responsibilities. (5 marks)
- (b) Explain practical ways that should be taken into account to reduce accidents and injuries in workplace. (5 marks)
- (c) Occupational Safety And Health Act (OHSA) 1994 is an act to make further provisions for securing the safety, health and welfare of persons at work and protecting others against risks to safety or health in connection with the activities of persons at work. Briefly explain the fundamental roles of OHSA 1994. (10 marks)

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Q4 (a) Conflict of interest is defined as situation in which personal and/or financial considerations have the potential to influence or compromise professional judgment in service, research, consultation, instruction, administration, or any other professional activity including engineering body. Discuss and propose the appropriate solutions to overcome these problems. (12 marks)

(b) Whistle blowing is an internal control system which a company adopts to achieve good corporate governance practices. Despite the benefits of whistle-blowing in detecting and preventing fraud, not many are willing to come forward and blow the whistle on their employers' wrongdoing. This is due to the possibility of severe revenge on the whistleblowers by their employers' as a result of disclosure of information, which may result in loss of career, loss of family and social life.

(i) Based on this statement, differentiate between company loyalty and whistle-blowing. (6 marks)

(ii) Under what circumstances can a registered engineer whistle-blowing and disobey company loyalty. (6 marks)

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- Q5** Environmental ethics can be defined as a commitment and responsibility toward the environment, including plants and animals as well as present and future generations of people.
- (a). Based on this statement explain the meaning of “Sustainable Development” and how engineering ethic promotes safe and healthy environment through responsible and environmental friendly engineers.
(10 marks)
- (b). Formulate an idea to educate young generation to appreciate, commit and be responsible toward the environment.
(6 marks)

-END OF QUESTIONS -

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