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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2015/2016**

COURSE NAME : ENGINEERS & SOCIETY
COURSE CODE : BFC 32202
PROGRAMME CODE : BFF
EXAMINATION DATE : JUNE/JULY 2016
DURATION : 2 HOURS
INSTRUCTION : ANSWER ALL QUESTIONS

THIS PAPER CONSISTS OF **FOUR (4)** PAGES

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- Q1** (a) Economic constraints and local interests have made it much more difficult for many civil engineering professionals to adhere to the clear ethical principles of formulation and adherence to a set of values or beliefs; a core component of social and technical progress. Demonstrate on how civil engineers can contribute and play their roles in each interaction rules of behavior below:
- i. Etiquette,
 - ii. Law,
 - iii. Morals, and
 - iv. Ethics
- (8 marks)
- (b) Sketch a diagram to show how engineering is used to help a man in lifting a heavy material for construction by using a lever concept.
- (2 marks)
- (c) Analyze how to improve the quality of graduate engineers in Malaysia to compete globally.
- (10 marks)
- (d) Distinguish the roles of Board of Engineers and Institute of Engineers Malaysia in ensuring development of civil engineers in Malaysia.
- (5 marks)
- Q2** (a) The 'code of ethics' consists of principles and regulations in pursuing a professional as engineers. Give **FOUR (4)** main purposes why 'code of ethics' is needed.
- (4 marks)
- (b) The development of the construction sector today is contaminated with many issues that are not healthy. There are several cases have been recognized for instance;
- 1) Incompetent contractor has been appointed as a main contractor.
 - 2) Intervention by interested parties against a decision until the course of abandoned of project.
 - 3) Low quality of project compare to budget provided and
 - 4) A lot of issues which are not comply with the procedure.

- i. Based on the above statement, investigate the effects of these problems if continues without any solution in Malaysian construction industry.
(8 marks)
- ii. Demonstrate on how to solve each problem above if you are appointed as a project manager.
(8 marks)
- iii. Based on your understanding, discuss the related strategies on how to prevent the above problems if you are appointed as the client representative.
(5 marks)

- Q3**
- (a) Landslide that occurred at Bukit Antarabangsa, Hulu Kelang, Selangor in 2008 had given negative impact to civil engineering practice, especially in hilly areas. You need to propose **TWO (2)** suggestions on how to overcome the psychological effects faced by the engineer that served the local Public Work Department or related local authority and also to the public that lived nearby landslide-prone areas.
(6 marks)
 - (b) Engineers play a key role in providing development that can improve the quality of life for society as whole. Describe **FOUR (4)** responsibilities of engineers and give **FOUR (4)** environmental damages that could occur from the development.
(8 marks)
 - (c) Identify and explain the success of **TWO (2)** organizations in the private sector that you know have contributed towards the excellence of research and development activities in Malaysia.
(11 marks)

- Q4**
- (a) In construction works, there are several tasks to be played by a civil engineer, namely cost and production engineer, section engineer and measurement or quantity surveyor. Select and describe any **TWO (2)** of the listed job functions.
(4 marks)
 - (b) We believe that the true success of our engineering profession should be demonstrated through the overall contribution in building the society. In other words, engineers are obligated in contributing to all groups in society in

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such a way that the socio-economic gaps are minimized. Engineers can help in alleviating poverty through a concept called “Social Innovator”. Write down **SIX (6)** examples on how the engineers play their roles as a social innovator in solving the poverty problems in this country.

(6 marks)

- (c) In Malaysia, research funds are available in private and public sectors to encourage engineers to contribute towards quality enhancement and performance of research and development. Identify **SEVEN (7)** contributions that an engineer should be able to give in achieving the above aims.

(7 marks)

- (d) A set of socio-environment guidelines were established to ensure harmony between development and environment in the community. Based on your understanding, outline **FOUR (4)** contents of the guidelines.

(8 marks)

- END OF QUESTIONS -