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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2014/2015**

COURSE NAME : SUSTAINABLE ENVIRONMENT
AND PACKAGING
COURSE CODE : BNK 30802
PROGRAMME : 3BNK
EXAMINATION DATE : JUNE 2015 / JULY 2015
DURATION : 2 HOURS
INSTRUCTION : ANSWER **FOUR(4)** QUESTIONS
ONLY

THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

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- Q1** (a) Briefly, define recycling (2 marks)
- (b) What is the best option for dealing with waste and discuss the advantages of Reduce, Reuse and Recycle (9 marks)
- (c) Explain the concept of sustainability development (6 marks)
- (d) Describe, how automation process can benefit the packaging sustainability and indicate the advantages of these system (8 marks)
- Q2** (a) Discuss the usage of natural materials can extend beyond border and affect future generations (4 marks)
- (b) Natural resources can divided into two categories. List down and give example for each categories. (8 marks)
- (c) Define,
- (i) Fossil fuel (2 marks)
 - (ii) Coal (2marks)
 - (iii) Petroleum (2 marks)

- (d) With aid of diagram show the process to produces major product from Crude oil.
(7 marks)
- Q3 (a) A Green Policy is your company's statement about the commitment to sustainability and environmental management.
List down **THREE (3)** component of green policy.
(6 marks)
- b) Minerals have distinctive physical properties that geologists use to identify and describe them. Discuss that properties.
(4 marks)
- (c) Explain the recycling process for aluminum can
(7 marks)
- (d) How to harnessing solar energy. State the advantages and disadvantages by using solar energy
(8 marks)
- Q4 (a) Define petrochemical
(3 marks)
- (a) State the classification of petrochemical and give sample product for each Class.
(9 marks)

- (c) Sketch the chemical structure:
- i. polyethylene (2 marks)
 - ii. polyvinyl chloride (2marks)
 - iii. poly propylene (2 marks)
 - iv. polystyrene (2 marks)
- (d) Illustrate stage of plastic recycling process (5 marks)
- Q5 (a) Show, the chart for waste classification system (5 marks)
- (b) Discuss the problems that are often encountered in landfills (7 marks)
- (c) Identify the landfill location in order to obtain a permit (7 marks)
- (d) Briefly, explain three thermochemical conversion technologies (6 marks)

- Q6 (a) Explain, the Life Cycle Assessment (2marks)
- (b) Differentiate Life cycle assessment (LCA), Life cycle inventory (LCI) and Life cycle impact assessment (LCIA) (6 marks)
- (c) Explain, how SimaPro software can benefits LCA (4 marks)
- (d) There are 10 standards interface step on SimaPro. Discuss briefly those step. (2 marks)
- (e) On SLCA Guide, the methodology covered three areas. List down the area. (3 marks)

- END OF QUESTION -