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**UNIVERSITI TUN HUSSEIN ONN MALAYSIA  
FINAL EXAMINATION  
SEMESTER II  
SESSION 2018/2019**

COURSE NAME : DECISION SUPPORT SYSTEM  
COURSE CODE : BIT 30303  
PROGRAMME : BIT  
DATE : JUNE/JULY2019  
DURATION : 3 HOURS  
INSTRUCTION : ANSWER ALL QUESTIONS.

THIS QUESTION PAPER CONSISTS OF FOUR (4) PAGES

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- Q1** (a) Describe the different level of Anthony's taxonomy of management. (3 marks)
- (b) Distinguish between structured and unstructured problems of the level. Give **TWO (2)** examples for each problem. (6 marks)
- (c) Explain how the company is able to gain competitive advantage against its competitors by the new DSS. (6 marks)
- Q2** (a) Explain how the decision analysis relate to DSS? (5 marks)
- (b) State **THREE (3)** elements to structure a problem. (3 marks)
- (c) Given scenario in **Figure Q2(c)**, construct the decision tree and decision table for Ahmad. (7 marks)

Ahmad is a writer of science fiction book. A movie company and a TV network both want exclusive rights to one of his most popular works. If he signs with the network, he will receive a single lump sum, but if he signs with the movie company, the amount he will receive depends on the market response to his movie. What should he do?

The information of payouts and probabilities as follows;

- Movie company Payouts
  - Small box office - \$200,000
  - Medium box office - \$1,000,000
  - Large box office - \$3,000,000
- TV Network Payout
  - Flat rate - \$900,000
- Probabilities
  - $P(\text{Small Box Office}) = 0.3$
  - $P(\text{Medium Box Office}) = 0.6$
  - $P(\text{Large Box Office}) = 0.1$

**Figure Q2(c)**

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**Q3** (a) Describe DSS development approach. (8 marks)

(b) Based on the scenario in **Figure Q3(b)**, identify **THREE (3)** elements of a work system to overcome the problem in the company. Support you answer with reason. (7 marks)

Maju Entreprise is leading clothing with over 100 departmental stores in Malaysia. The departmental stores have to reconsider the best way to secure and maintain a competitive advantage. With increasing competition, they are planning on using a sophisticated decision support system. The existing system in the company handles large amounts of data, however, inadequate data access and analysis capabilities prevented managers from exploiting the wealth of information buried in their business transaction.

**Figure Q3(b)**

(c) Based on the case study in **Figure Q3(c)**, design the new decision support system to improve the business in the company. (10 marks)

Pricing was traditionally done manually by modifying the manufacturer's suggested retail price. Hypermarket is empowered to price each of the items it carries in the store in order to better compete locally. When a price war occurred or seasonal sales time arrived, prices were slashed across the board. Price setting is undergoing a radical change. Suggest the best practice to overcome the problem.

**Figure Q3(c)**

**Q4** (a) Describe phases of Simon decision making model. (4 marks)

(b) Apply the decision making strategies for each phase. (6 marks)

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- (c) Based on the case study in **Figure Q4(c)**, answer the following questions.

A company makes two products (X and Y) using two machines (A and B). Each unit of X that is produced requires 50 minutes processing time on machine A and 30 minutes processing time on machine B. Each unit of Y that is produced requires 24 minutes processing time on machine A and 33 minutes processing time on machine B. Available processing time on machine A is 40 hours and on machine B is 35 hours.

At the start of the current week there are 30 units of X and 90 units of Y in stock. The demand for X in the current week is forecast to be 75 units and for Y is forecast to be 95 units.

Company policy is to maximize the combined sum of the units of X and the units of Y in stock at the end of the week.

**Figure Q4(c)**

- (i) Determine the formulae to decide how much each product to be made in the current week. (6 marks)
- (ii) Based on the answer in **Q4(c)(i)**, solve the linear program graphically. (4 marks)

- Q5** (a) Discuss the importance of decision styles. (7 marks)
- (b) Differentiate between single and multiple decision making. (8 marks)
- (c) Distinguish between decision making under certainty, risk, and uncertainty. (10 marks)

- END OF QUESTIONS -