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Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
(ONLINE)  
SEMESTER I  
SESSION 2020/2021**

COURSE NAME : REQUIREMENTS MODELING  
AND ANALYSIS

COURSE CODE : BIE 30603

PROGRAMME CODE : BIP

EXAMINATION DATE : JANUARY / FEBRUARY 2021

DURATION : 3 HOURS

INSTRUCTION : 1. ANSWER ALL QUESTIONS.  
2. THE STUDENTS SHOULD  
UPLOAD THE ANSWER  
BOOKLET (PDF/ WORD  
FORMAT) WITHIN 30  
MINUTES AFTER  
EXAMINATION PERIOD.

**TERBUKA**

THIS QUESTION PAPER CONSISTS OF FOUR (4) PAGES

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**Q1** Question **Q1(a)**-**Q1(b)** are based on the features of a microwave oven that listed in **FIGURE 1**.

MO1: The microwave oven shall have a display that spans over the entire height of the microwave oven to allow for cooking progress monitoring
MO2: The interior of the microwave oven shall be made of stainless steel
MO3: The microwave oven shall have modern sensor technology to allow for clear and simple touch control operation of the microwave oven
MO4: The microwave oven shall have the multifunction capabilities of microwave, convection and grills
MO5: The microwave oven shall have superior defrosting and browning in microwave mode
MO6: The microwave oven shall be remotely control using mobile and IoT technology
MO7: The microwave oven shall have a child lock facility to protect your children from unnecessary accidents
MO8: The microwave oven shall have automatic sensors that can tell when food is sufficiently cooked by measuring steam in the oven
MO9: The microwave oven shall have rotisserie function
MO10: The microwave oven have specific recipes preset programs and memory function

**FIGURE 1**

- (a) Categorize each feature corresponding to the Kano classification schema. (10 marks)
- (b) AR Appliance Sdn Bhd wants to design a special microwave oven that caters the community with special needs including the elderly and the disabled. Use the features classified in **Q1(a)**, to prioritize **FIVE (5)** best features in the design of the special microwave oven. You may consider **TWO (2)** additional features. Justify your answer. (12 marks)

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Q2 Questions Q2(a)-Q2(d) are based on FIGURE Q2.

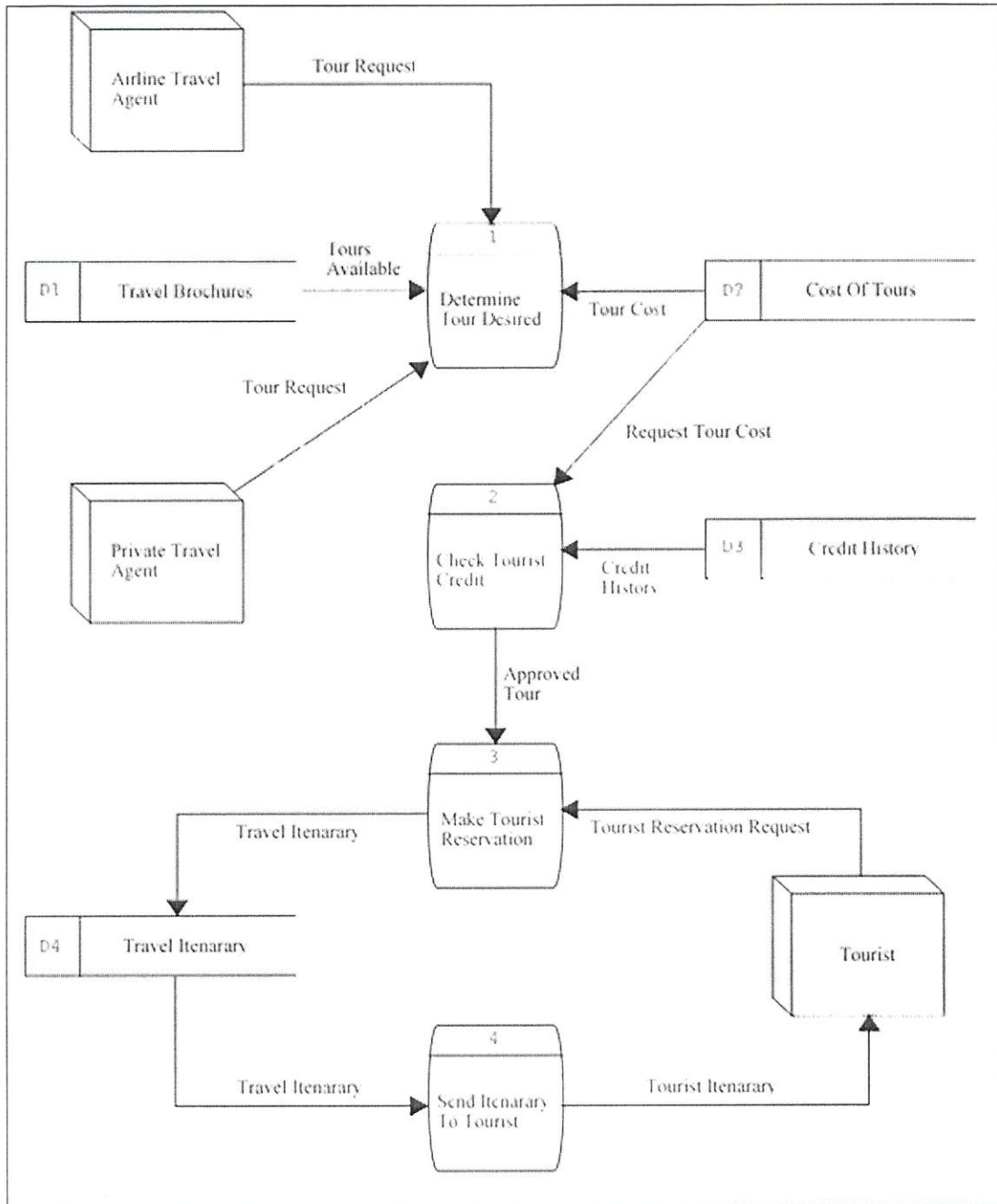


FIGURE Q2 (Kendall & Kendall, 2014)

- (a) Develop a use case diagram (10 marks)
- (b) Develop a requirements traceability matrix, based on the DFD and Q2(a). (10 marks)

- (c) Choose **ONE (1)** use case listed in **Q2(a)**,
- (i) Write a use case specification. The specification must contain the following items (use case id, use case name, actors, brief description, pre-condition, main flow, alternative flow, post condition).  
(10 marks)
  - (ii) Develop a class diagram.  
(10 marks)
- (d) There are three dimensions involve in the validation of requirements artefacts.
- (i) Validate the data flow diagram in **FIGURE 2**, identify at least **TWO (2)** errors in the diagram.  
(4 marks)
  - (ii) Make correction to the errors found in **Q2(d)(i)**.  
(6 marks)
  - (iii) Determine the dimension and validation criteria that have been done in **Q2(d)(i)** and **Q2(d)(ii)**. Justify your answer.  
(8 marks)

**- END OF QUESTIONS -**

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