QUESTION 4 (25 marks)

a. There are 7 equally qualified finalists in the Young Investors competition. The champion is to receive a RM 5000 cash prize, the first runner up receives RM 3000 and the second runner up receives RM 1000. If two of the finalists are from UUM, what is the probability that the RM 5000 and RM 3000 cash prizes are won by them?

(2 marks)

b. The cycle time required to manufacture a complex engine part can vary depending on many factors. Three intervals of time are defined:



ii. Show that the probability a randomly chosen package does not have an expiry date is 0.009.

(2 marks)

iii. Find the probability that a randomly chosen package is stamped by Rani or does not have an expiry date.

(2 marks)

iv. If a customer complains that her package of bread does not show the expiry date, what is the probability it was inspected by Nora?

(2 marks)

d. Among 150 persons interviewed as part of an urban mass transportation study, some live more than three miles from the city centre (A), some regularly drive their own car to work

QUESTION 5 (21 MARKS)

A box contains 45 marbles.28 of the marbles are yellow and the rest are blue. 10 yellow marbles are swirled. 15 of the blue are swirled. One marble is randomly selected.

| a. | Draw a venn diagram for the event above. | | |
|----|--|--|-----------|
| h | Draw a complete tree diagram for the event | | (4 marks) |
| υ. | | | |
| c. | Find th | he probability that the randomly selected marble is: Solid(non- swirled). | |
| | :: | have and it is avoided | (2 marks) |
| | II. Dide and it is swifted. | blue and it is swifted. | (2 marks) |
| | iii. | ii. yellow or it is solid(non- swirled). | (2 marks) |
| 1 | T . 4 | | · · · · |

d. Let you are asked to draw 3 marbles one by one without replacement (*not consider whether it non-swirled or swirled*), and let X is the number of blue marble terested.

i. Construct a probability distribution table for this event. CO
ii. Find the probability that:
ii(a). there are two blue marble are celected.
ii(b). not more than two yellow marbles are selected.
Camarks)
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