UNIVERSITY COLLEGE TATI

UNIVERSITY COLLEGE TATI (UC TATI)

FINAL EXAMINATION QUESTION BOOKLET	
COURSE CODE	: DTG 1203 b / /
COURSE	: BUSINESS MATHEMATICS
SEMESTER/SESSION	: 2 - 2024/2025
DURATION	: 3 HOURS

Instructions:

1. This booklet contains 5 questions. Answer **ALL** questions.
2. All answers should be written in answer booklet.
3. Write legibly and draw sketches wherever required.
4. If in doubt, raise your hand and ask the invigilator.

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO

THIS BOOKLET CONTAINS 7 PRINTED PAGES INCLUDING COVER PAGE

QUESTION 1

a) Express the following as percentages:
   i) 9.2
   ii) 0.092
   iii) 1.3
   iv) $\frac{7}{5}$
   v) $\frac{5}{8}$
   vi) $1\frac{3}{7}$
   vii) $5\frac{2}{5}$
   viii) 0.20 (4marks)

b) A box contains 12 white, 10 red, 18 blue and 8 yellow balls. Show reduced ratio of the following:
   i) White balls to blue balls
   ii) Red balls to the total number of balls
   iii) Blue balls to the balls that are not blue
   iv) Yellow balls to white balls
   (4 marks)

c) In a school with a total of 480 students, the ratio of boys to girls is 8:7. How many girls attend the school? (2 marks)

d) After sales tax, a book costs RM25.20. If sales tax is 5%, calculate the book cost before taxes. (4 marks)

e) A man decided to divide an amount of RM104,500 to his sons, Adam, Amin and Ali with ratio 3 : 4 : 5 respectively. Calculate the amount receive by each of his son. (6 marks)

QUESTION 2

a) Find the trade discount or net price as indicated. Round up to the nearest cent.

List Price (RM)	Discount Rate	Trade Discount (RM)	Net Price (RM)
RM500	10%	(i)	(ii)
RM100	12%	(iii)	(iv)
RM3500	15%	(v)	(vi)
RM1,263	12%	(ix)	(x)
RM1550	3%	(xi)	(xii)

10 marks)

b) A BBQ grill is listed for RM520.75 less 10%, 5%, 2%.
   i) Find the net price.
   ii) Find the total amount of discount allowed.
   iii) Find the exact single rate of discount allowed. (6 marks)

c) Nurin Home Decor Sdn Bhd sells scented diffuser for RM85.85 less 25%. Compute additional discount percent must the store offer to meet a competitor's price of RM50.65 (4 marks)

QUESTION 3

a) Letchumi receive an invoice of RM520 dated April 1 with term 2/10, net 30. Compute:
   i. Cash discount received if the bill is paid on or before April 11. (2 marks)
   ii. The amount should be paid after cash discount (2 marks)

b) A printer list price is RM2,500 with terms of 3/10, n/30. IT Solution Enterprise decided to make a partial payment of RM1,000 within 10 days. Compute the amount outstanding if IT Solution pays within 10 days. (8 marks)

c) A bill of RM720 dated August 1, with terms 3/10, 2/20, 1/30, n/60. Compute the amount should be paid if:
   i. If the bill is paid on or before August 11. (2 marks)
   ii. If the bill is paid between August 12 and 21 (2 marks)
   iii. If the bill is paid between August 22 and 31 (2 marks)
   iv. If the bill is paid between September 1 and 30. (2 marks)

QUESTION 4

a) Compute the percent of **markup based on cost** for mini microwave that costs RM300 and sells at RM599. (2 marks)

b) Abdullah buys a pen at RM50 and markup 20% **of the selling price**.
   i) Compute the selling price (2 marks)
   ii) Compute the markup (2 marks)

c) A compact powder sells at RM39 each. The markup rate is 60% **of the cost**. Compute the cost and the markup of the compact powder. (4 marks)

d) The shop marks up a sewing kit set for RM3.50 over cost. This will be a 50% **markup based on cost**. Compute the cost, selling price and rate of the selling price of the sewing kit set. (6 marks)

e) A blouse costs RM127.59 and the shop mark it up 23% **of the selling price**. Compute the selling price and markup for the blouse. (4 marks)

QUESTION 5

a) A refrigerator costs RM12,500 and sells at RM18,900. Compute the following:

i) Markup based on cost (3 marks)

ii) Markup based on selling price (3 marks)

b) A café latte was offered for sale at RM5.88 at Coffee Station. At Starduck Coffee, the regular selling price of a similar café latte was RM7.82. Compute rate of markdown would Starduck Coffee have to offer to sell the café latte at the same price as Coffee Station. (4 marks)

c) Jasa Budi Store buys grapes for RM0.27 per kilogram. On average 4% of the grapes must be discarded. Compute the selling price per kilogram needed to obtain a 160% markup on cost for 2000 kilogram. (6 marks)

d) Calculate the following:

Original Price	Markdown Percentage	Amount of Markdown	Reduced Priced
RM2.50	(i)	RM0.50	(ii)
RM58.00	(iii)	RM8.70	(iv)

(4 marks)

---------- End of question ----------

FORMULA:

Trade discount = list price – net price
Or
Net price = list price – trade discount
Net price, NP = L (1 – r)
where,
L = list price
r = trade discount

For chain discounts r1, r2, r3,
net price, NP = L (1 – r1)(1 – r2)(1 – r3)

Single discount equivalent, r, for a chain discount of r1, r2, and r3 is
r = 1 – (1 – r1)(1 – r2)(1 – r3)

Borrowing to take advantage of the cash discount:
Amount saved = cash discount – interest
Interest = (Invoice amount – cash discount) × r × credit period

Partial payment of invoice:
Amount paid = credit given × (1 – discount rate)
Amount outstanding = Invoice amount – credit given

(a) Mark-up per cent based on selling price
%Mr = (M/R) × 100%.
(b) Mark-up per cent based on cost price
%Mc = (M/C) × 100%

Mark-up per cent based on retail can be converted to mark-up per cent based on cost and vice versa as follows.

Mark-up per cent based on selling price
R = C + M
1 + %Mc = 100% + %Mc
Mark-up per cent based on retail price =
%M r = %Mc /(1 + %Mc)

Mark-up per cent based on cost price

$R = C + M$

$100\% = (1 - \%Mr) + \%Mr$

Mark-up per cent based on cost price

$\%Mc = \%Mr/(1 - \%Mr)$