CONFIDENTIAL

KOLEJ POLY-TECH MARA

FINAL EXAMINATION

COURSE	**:**	**INTRODUCTION TO BUSINESS MATHEMATICS AND STATISTICS**
COURSE CODE	**:**	**TBM1093**
DURATION	**:**	**2 HOURS**

INSTRUCTIONS TO CANDIDATES :

1. This question paper consists of **NINE (9)** questions.

2. Please check to make sure that this examination pack consists of :
   i. The Question Paper

3. The answer must be in handwriting. Please write your answer using a ball-point pen on a foolscap paper. The answer need to be submitted to your respective lecturer either using:
   i. CamScanner Apps. Scan and email the answer **OR,**

   ii. Upload the PDF file to **OLES** or **Google Classroom**.

4. Plagiarism, copying and cheating will not be tolerated where no marks will be given and disciplinary actions can be taken.

MYKAD NO : _____

ID. NO. : _____

LECTURER : _____

SECTION : _____

DO NOT OPEN THIS QUESTION PAPER UNTIL YOU ARE TOLD TO DO SO

The question paper consists of 3 printed pages

FEB2021/A/TBM1093
Short Answer

1. **(10 points)**

On 2nd January 2021, Ali bought the following items in Table 1 from ABC Gadget Company for his office. The Company gives Ali a series of trade discounts of 10% and 8%. The company also offer a cash discount terms: 4/10, 2/16, n/20 to Ali.

Items	Price per Item
1 x Laptop	RM1,670
1 x Printer	RM435
1 x Earphone	RM90
1 x Scanner	RM350
1 x Microphone	RM100

Table 1

a. Calculate the single discount equivalent to the trade discount given. (3 points)

b. Find the last date to settle the payment. (2 points)

c. Find the total amount paid, if Ali settle the payment on 10th January 2021. (5 points)

2. **(10 points)**

A retailer buy an antique table dresser at RM1,200. The retailer wishes to sell it with a net profit of 25% based on the cost price and expected the operating expenses will be 10% based on cost price.

a. Find the selling price for the antique table dresser. (3 points)

b. Find the breakeven price for the antique table dresser. (1 point)

c. Find the markup price for the antique table dresser. (2 points)

d. Find the maximum markdown price for the antique table dresser. (2 points)

e. Find the profit or loss if the retail price for the antique table dresser is RM1,400. (2 points)

3. **(5 points)**

Ah Cheng borrowed RM5,000 from a licensed money lenders that charged 8% simple interest per annum. He agreed to settle the loan 18 months later. Find

a. the amount of interest charge on Ah Cheng. (3 points)

b. the amount that Ah Cheng need to pay in order to settle the loan. (2 points)

4. **(5 points)**
Anton puts RM15,000 into a fund that guarantee a simple interest rate 6% per annum. If Anton start this fund on 3^{rd} March 2020 and withdraw the investment on 6^{th} July 2020. By using Banker's Rule, find

a. the term of the investment (in days). (2 points)

b. the simple amount he received . (3 points)

5. **(4 points)**
A saving account which was opened 10 years ago is now worth RM5,969.37. If the account offered 7% compounded semi-annually. Find the original investment, RM P.

6. **(3 points)**
Tobby saved RM15,000 in a saving account for 12 years. The interest rate offered is 10% compounded quartely. Calculate the accumulated amount at the end of 12 years.

7. **(3 points)**
Rani wishes to borrow some money from a bank to expend her business. Rani received two different quotes from Bank ABC and Bank XYZ.

Bank ABC: 5.82% compounded monthly
Bank XYZ: 5.83% compounded quarterly

Which bank should Rani choose?

8. **(5 points)**
Rahim paid RM X every months for 5 years for a loan he obtained that charged 4% compounded monthly. If the amount of loan he borrow is RM20,000, find the monthly payment RM X.

9. **(5 points)**
Find the accumulated amount for annuity of RM500 at every six months for 10 years if the interest charged at 7% compounded semi-annually.

APPENDIX 1

LIST OF FORMULA

1. $TD = L \times r$

2. NP = L – TD

3. $NP = L(1-r)$

4. $NP = L(1-r_1)(1-r_2)(1-r_3)$

5. $r = 1-(1-r_1)(1-r_2)(1-r_3)$

6. R = C + M

7. R = C + NP + OE

8. BP = C + OE

9. M = NP + OE

10. MD = OP – NP , $\%MD = \dfrac{OP-NP}{OP} \times 100\%$

11. Max MD = R – BP , $\%MaxMD = \dfrac{MaxMD}{R} \times 100\%$

12. $I = \Pr t,\ S = P + I$

13. $S = P(1+i)^n$

14. $r = \left(1+\dfrac{k}{m}\right)^m - 1$

15. $S = R\left[\dfrac{(1+i)^n - 1}{i}\right]$

16. $A = R\left[\dfrac{1-(1+i)^{-n}}{i}\right]$