



UNIVERSITI KUALA LUMPUR
BUSINESS SCHOOL

FINAL EXAMINATION
MARCH 2026 SEMESTER

COURSE CODE : EHB20303
COURSE TITLE : APPLIED PROGRAMMING FOR FINANCIAL TECHNOLOGIES
PROGRAMME NAME : BACHELOR IN FINANCIAL TECHNOLOGY WITH HONOURS
DATE : 26 JUNE 2026
TIME : 3:00PM - 6:00PM
DURATION : 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. Please read the Instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. This question paper consist of ONE sections.
4. Section A consist of five questions. Answer FOUR (4) questions only.
5. Please write your answer on the answer booklet provided.
6. Please answer all questions in English only.
7. Refer to the attached Formula/ Appendices. ☐ Tick if applicable

THERE ARE 7 PAGES OF QUESTIONS INCLUDING THIS PAGE

SECTION A (Total: 100 marks)

Answer FOUR (4) questions.

Please use the answer booklet provided.

Question 1

Please answer below questions:

- (a) i. Write a Python function named *grade_quality* that takes a product's quality score in the range of (0-100) as a parameter and prints the corresponding quality rating using the following conditions:
- marks 90 and above : *"Excellent"*
 - marks 80-89 : *"Good"*
 - marks 60-79 : *"Average"*
 - marks Below 60 : *"Poor"*

(10 marks)

- ii. Write the call function for the 85 marks and write the output

(5 marks)

- (b) Write a Python function named *introduce* that takes two parameters: *name*, *age*, *invest_amt*. The function should print a message in this format:

"Hi, my name is Ali and I am 25 years old. My investment is RM10000"

Then, call the function using *introduce("Ali", 25, 10000)*.

(10 marks)

Question 2

Answer ALL the questions below:

- (a) A newly established fintech startup in Malaysia is developing a digital savings platform aimed at encouraging young professionals to invest their money through a simple and user-friendly system. The platform offers a simple interest savings plan, where users can deposit an initial amount and earn returns over a specified period based on a fixed annual interest rate. As a junior developer in the company, you are required to build a Python function that calculates the simple interest earned by customers using three inputs: principal amount, interest rate, and time (in years).

For instance, if a customer invests RM5,000 at an annual interest rate of 4% for 3 years, the system should be able to compute both the interest earned and the total amount after investment. Your solution must clearly show the calculation process and output the results in a readable format.

- i. Write the Python function *calculate_simple_interest(principal, rate, time)*
(5 marks)
- ii. Calculate the interest based on the given values.
(4 marks)
- iii. Display the interest and total amount after investment.
(3 marks)
- iv. Briefly explain how this model can be applied in fintech platforms.
(3 marks)

- (b) A fintech app tracks a user's monthly savings with increasing contribution. The user saves RM100 in the first month, and the amount increases by RM50 every month for 6 months.

- i. Write a Python program using a *loop* to calculate and display the savings for each month.
(6 marks)
- ii. Preview the output and calculate the total savings after 6 months.
(4 marks)

Question 3

Answer ALL the questions below:

- (a) GX Bank is introducing a personal loan feature to help customers manage their financial needs more effectively. The system allows users to simulate their loan repayment before making any borrowing decisions by calculating a fixed monthly instalment based on the loan amount, annual interest rate, and repayment period. As part of the development team, you are required to design a Python function that computes the monthly loan repayment using the standard loan amortisation formula.

For example, a customer applies for a loan of RM20,000 at an annual interest rate of 6% over a period of 5 years, and the system should calculate the monthly repayment amount accordingly. Your program must ensure accurate computation and display the output in a clear and structured format.

- i. Write the Python function *monthly_payment(loan_amount, annual_rate, years)*.
(7 marks)
- ii. Calculate the monthly repayment using the given values.
(4 marks)
- iii. Display the result clearly.
(2 marks)
- iv. State one advantage of using this model in fintech applications.
(2 marks)

- (b) A fintech platform evaluates whether users are eligible for a loan. The system repeatedly asks for a user's monthly income until a valid input (greater than RM0) is entered. A user is eligible if $\text{income} \geq \text{RM3,000}$.

- i. Write a Python program using a *while* loop to validate user input.
(5 marks)
- ii. Use conditional statements to determine and display whether the user is eligible for a loan.
(5 marks)

Question 4

Answer ALL the questions below:

- (a) Write down ONE (1) example for each of four V's of Big Data. (4 marks)
- (b) Explain THREE (3) benefits of Big Data Analytics. Give an example. (6 marks)
- (c) Stripe (M) wants to improve financial performance by analysing transaction streams and identifying high-value customers.
- Write a Python program that:
 - Takes a list of transactions: [100, 250, 300, 150, 400, 180]
 - Filters transactions above RM200
 - Calculates total high-value revenue(7 marks)
 - Write a code to display the result clearly (4 marks)
 - Explain how combining Big Data and algorithms improves financial performance. (4 marks)

Question 5

Answer ALL the questions below:

- (a) Based on the given Python code below,

word = "Python a large heavy-bodied non-venomous snake occurring throughout the Old World tropics, killing prey by constriction and asphyxiation."

Write down the correct Python scripts to produce the following output.

- i. Count how many times 'a' is in the string. (1 marks)
- ii. Find the location of 'x' in the string (1 marks)
- iii. Split the word using ',' as a delimiter (1 marks)
- iv. Replace the string 'Python' to 'Anaconda' (1 marks)
- v. Change the whole word to lowercase (1 marks)
- vi. Change the whole word to uppercase (1 marks)
- vii. Capitalize first letter of each word (1 marks)
- viii. Print the length of the string (1 marks)
- ix. Find the letter 'World' in the string (1 marks)
- x. Print *str* documentation (1 marks)

- (b) Write a python script to generate a simple calculator. The calculator must have FOUR (4) basic mathematical functions which is add, subtract, divide and multiply. Each function must have TWO (2) parameters.

(15 marks)

END OF EXAMINATION PAPER