

BINDURA UNIVERSITY OF SCIENCE EDUCATION
FACULTY OF COMMERCE
DEPARTMENT: DEPARTMENT OF BANKING AND FINANCE
PROGRAMME: BCOM BANKING AND FINANCE
COURSE CODE: BS454 FINANCIAL MODELLING
DURATION: 3 HOURS TOTAL MARKS: 100 MARKS

5 JUN 2025

INSTRUCTIONS TO CANDIDATES

1. Answer Question One and any three questions.
 2. All questions carry equal marks.
 3. Credit will be given for grammatically well-constructed answers.
 4. Non-programmable calculators are allowed into the exam room
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QUESTION ONE

ABC Corporation, a well-established leader in the manufacturing sector, is seeking to expand its production capacity to meet the growing demand for its products. The company has identified an opportunity to acquire new production facilities, which will significantly boost its output and revenue. To finance this expansion, ABC Corporation plans to issue corporate bonds with a face value of \$1,000, carrying an annual coupon rate of 6%. These bonds are currently trading in the secondary market at \$950, indicating that investors are expecting a higher return than the coupon rate.

The bonds have a 5-year maturity, during which the company will make fixed coupon payments before repaying the principal at the end of the term. As a corporation, ABC is subject to a 30% tax rate, which affects its effective cost of borrowing. The company's management is particularly concerned about the fluctuations in market interest rates and how they impact the cost of raising funds through debt. Given these factors, the company aims to determine its after-tax cost of debt and understand the implications of market rate variations on its long-term financing strategy. How can ABC Corporation calculate its after-tax cost of debt, and how might changes in market interest rates affect this cost?

[40 MARKS]

QUESTION TWO

A retail business faces seasonal fluctuations in cash inflows. Create an **Excel-based cash budgeting model**, and conduct a scenario analysis assuming revenue fluctuations of $\pm 15\%$.

[20 MARKS]

QUESTION THREE

A dealer is managing a bond portfolio worth \$5 million. Using Excel, simulate a **bond position trading strategy** that factors in interest rate changes and determines profit or loss. [20 MARKS]

QUESTION FOUR

A financial institution is conducting a stress test on its investment portfolio. Using Excel, develop a **stress testing model**, simulating a 20% market drop and evaluating the impact on portfolio returns. [20 MARKS]

QUESTION FIVE

CBZ bank needs to manage its daily cash flow efficiently. As a junior dealer, build a **cash flow forecast model** incorporating daily inflows and outflows. Analyze the impact of an unexpected 10% drop in deposits on liquidity. [20 MARKS]

QUESTION SIX

A bank is reviewing its loan portfolio. As an analyst create a **credit scoring model** based on applicant financial data, assigning risk categories using a decision-tree approach.

[20 MARKS]

END OF EXAMINATION