



*(Knowledge for Development)*

**KIBABII UNIVERSITY**  
**UNIVERSITY EXAMINATIONS**  
**2020/2021 ACADEMIC YEAR**  
**THIRD YEAR SECOND SEMESTER**  
**MAIN EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF COMMERCE**

**COURSE CODE: BCF 323**

**COURSE TITLE: FINANCIAL RISK MANAGEMENT**

**DATE: 8<sup>TH</sup> OCTOBER, 2021**      **TIME: 9.00AM – 11.00AM**

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**INSTRUCTIONS TO CANDIDATES**

Answer Question **One** and any other **Two (2)** Questions

**TIME: 2 Hours**

KIBU observes **ZERO** tolerance to examination cheating

This Paper Consists of Printed Pages. Please Turn Over.

**SECTION A****QUESTION ONE (COMPULSORY)**

- (a) Explain the conceptual difference between the Arbitrage Pricing Theory (APT) and Capital Asset Pricing Model (CAPM) (6marks).
- (b) State and explain some of the factors that affect the call option (4 marks)
- (c) The following are the historical returns for the Anita Computer Company Ltd

Year	Anita Computer Company Ltd	General Index
1	37	15
2	9	13
3	-11	14
4	8	-9
5	11	12
6	4	9

Given the following,  $E(R)_i = 9.67$   $E(R)_m = 9$   $\delta_i^2 = 201.89$   $\delta_m^2 = 68.33$   $\delta_i = 14.21$   $\delta_m = 8.27$

**Required**

- (i) Compute the correlation coefficient between Anita Computer Company Ltd. And the general index. (8 marks)
- (ii) Compute the beta for the Anita Computer Company Ltd. (2 marks)

- (d) Consider the following two bureau and their forex.

A		B	
Bid price	Ask Price	Bid price	Ask price
Tshs	Kshs 0.07	Kshs 0.08	Kshs 0.09 Kshs 0.10

Consider a Kenyan investor with Kshs. 2,000,000 who wants to take advantage of the difference in pricing to make an arbitrage gain. Compute the gain from locational arbitrage from the Kenyan investor (4 marks).

- (e) Demonstrate your understanding of the following terms: Efficient portfolios, superefficient portfolios and inefficient portfolios (6 marks).

**(Total 30 Marks)**

**SECTION B (CHOOSE ANY TWO QUESTIONS)**

**QUESTION TWO**

- (a) Commodity risk is the threat of changes to a commodity price that may have a negative effect on future market value and income. State and explain the types of commodity risk in the market( 4 marks)
- (b) The risk free rate is 10% and the expected return on the market portfolio is 15%. The expected returns for 4 securities are listed below together with their expected betas

<b>Security</b>	<b>Expected Return</b>	<b>Expected Beta</b>
A	17.0%	1.3
B	14.5%	0.8
C	15.5%	1.1
D	18.0%	1.7

**Required**

- (i) On the basis of these expectations, which securities are overvalued? Which are undervalued?(6 Marks)
- (ii) If the risk-free rate were to rise to 12% and the expected return on the market portfolio rose to 16%, which securities would be overvalued? Which would be under-valued? (Assume the expected returns and the betas remain the same). (5 marks)
- (iv) Demonstrate your understanding of the following term: Mean variance dominance rule  
(3 marks).
- (v) Waflex is looking to enter into a forward contract for an investment asset currently trading at \$2,000. The risk-free rate in Waflex's country is 5%. Calculate the forward price of the investment (2 marks).

**(Total 20 Marks)**



### QUESTION THREE

- (a) Differentiate between the terms long position and short position in regards to the futures contract (2 marks)
- (b) The derivative market has a number of participants that make the market vibrant, state and explain the key players in the derivatives market (4 marks).
- (c) Mapema Ltd's share is currently trading at sh. 3.50 per share. European call option exists on the shares with an exercise price of sh. 3.30 with 3 months to maturity. The risk free rate is 8% and the variance of the rate of return on the shares is 12%.

#### Required:

- (i) Determine the value of a call option using the Black schools option pricing model (8 marks).
- (ii) Determine the value of the put option guided by the computation from C(i) above (4 arks)
- (iii) Outline four limitation of the black schools option model (2 Marks)

**(Total 20 Marks)**

### QUESTION FOUR

- (a) The demand for foreign currency arises from the traders who have to make up payments for imported goods. The supply arises from those who have exported goods and services abroad. This depends largely on how much foreigners are willing to buy goods and services from a particular country. State and explain the factors affecting exchange rates (8 Marks)
- (b) With the help of a diagram differentiate between systematic and unsystematic risks (4 marks).
- (c) Assume that the foreign currency (F) has been quoted against the £ as follows :

Spot rate	£1: F2156 – 2166
3 months forward rate	£1: F2207 – 2222

**Required:**

- (a) Determine the amount required in sterling pound to buy 2 million foreign currencies
  - (i) At the spot (2 marks)
  - (ii) In 3 months' time under the forward exchange contract.(2 marks)
- (b) Compute the amount a customer would get if he were to sell 2 million foreign currency.
  - (i) At the spot rate(2 marks)
  - (iii) In 3 months' time under forward exchange contract(2 marks)

**(Total 20 Marks)**

**QUESTION FIVE**

You have been retained by the management of an international group to advice on the management of its foreign exchange exposure.

**Required:**

- (a) Explain the main types of foreign exchange exposure ( 6 marks)
- (b) Advise on policies which the corporate treasurer could consider to provide valid and relevant methods of reducing exposure to foreign exchange risk(6 marks)
- (c) To address the issues arising from financial risks, companies opt for financial risk management. State and explain the major ways on how the finance manager can deal with this issues ( 4 marks)
- (d) Differentiate between interest rate swap and currency swap (4 marks)

**(Total 20 Marks)**



**NORMAL DISTRIBUTION TABLE**

<b>Z</b>	<b>.00</b>	<b>.01</b>	<b>.02</b>	<b>.03</b>	<b>.04</b>	<b>.05</b>	<b>.06</b>	<b>.07</b>	<b>.08</b>	<b>.09</b>
<b>0.0</b>	.50000	.50399	.50798	.51197	.51595	.51994	.52392	.52790	.53188	.53586
<b>0.1</b>	.53983	.54380	.54776	.55172	.55567	.55962	.56356	.56749	.57142	.57535
<b>0.2</b>	.57926	.58317	.58706	.59095	.59483	.59871	.60257	.60642	.61026	.61409
<b>0.3</b>	.61791	.62172	.62552	.62930	.63307	.63683	.64058	.64431	.64803	.65173
<b>0.4</b>	.65542	.65910	.66276	.66640	.67003	.67364	.67724	.68082	.68439	.68793
<b>0.5</b>	.69146	.69497	.69847	.70194	.70540	.70884	.71226	.71566	.71904	.72240
<b>0.6</b>	.72575	.72907	.73237	.73565	.73891	.74215	.74537	.74857	.75175	.75490
<b>0.7</b>	.75804	.76115	.76424	.76730	.77035	.77337	.77637	.77935	.78230	.78524
<b>0.8</b>	.78814	.79103	.79389	.79673	.79955	.80234	.80511	.80785	.81057	.81327
<b>0.9</b>	.81594	.81859	.82121	.82381	.82639	.82894	.83147	.83398	.83646	.83891
<b>1.0</b>	.84134	.84375	.84614	.84849	.85083	.85314	.85543	.85769	.85993	.86214
<b>1.1</b>	.86433	.86650	.86864	.87076	.87286	.87493	.87698	.87900	.88100	.88298
<b>1.2</b>	.88493	.88686	.88877	.89065	.89251	.89435	.89617	.89796	.89973	.90147
<b>1.3</b>	.90320	.90490	.90658	.90824	.90988	.91149	.91309	.91466	.91621	.91774
<b>1.4</b>	.91924	.92073	.92220	.92364	.92507	.92647	.92785	.92922	.93056	.93189
<b>1.5</b>	.93319	.93448	.93574	.93699	.93822	.93943	.94062	.94179	.94295	.94408
<b>1.6</b>	.94520	.94630	.94738	.94845	.94950	.95053	.95154	.95254	.95352	.95449
<b>1.7</b>	.95543	.95637	.95728	.95818	.95907	.95994	.96080	.96164	.96246	.96327
<b>1.8</b>	.96407	.96485	.96562	.96638	.96712	.96784	.96856	.96926	.96995	.97062
<b>1.9</b>	.97128	.97193	.97257	.97320	.97381	.97441	.97500	.97558	.97615	.97670
<b>2.0</b>	.97725	.97778	.97831	.97882	.97932	.97982	.98030	.98077	.98124	.98169
<b>2.1</b>	.98214	.98257	.98300	.98341	.98382	.98422	.98461	.98500	.98537	.98574
<b>2.2</b>	.98610	.98645	.98679	.98713	.98745	.98778	.98809	.98840	.98870	.98899
<b>2.3</b>	.98928	.98956	.98983	.99010	.99036	.99061	.99086	.99111	.99134	.99158
<b>2.4</b>	.99180	.99202	.99224	.99245	.99266	.99286	.99305	.99324	.99343	.99361
<b>2.5</b>	.99379	.99396	.99413	.99430	.99446	.99461	.99477	.99492	.99506	.99520
<b>2.6</b>	.99534	.99547	.99560	.99573	.99585	.99598	.99609	.99621	.99632	.99643
<b>2.7</b>	.99653	.99664	.99674	.99683	.99693	.99702	.99711	.99720	.99728	.99736
<b>2.8</b>	.99744	.99752	.99760	.99767	.99774	.99781	.99788	.99795	.99801	.99807
<b>2.9</b>	.99813	.99819	.99825	.99831	.99836	.99841	.99846	.99851	.99856	.99861
<b>3.0</b>	.99865	.99869	.99874	.99878	.99882	.99886	.99889	.99893	.99896	.99900
<b>3.1</b>	.99903	.99906	.99910	.99913	.99916	.99918	.99921	.99924	.99926	.99929
<b>3.2</b>	.99931	.99934	.99936	.99938	.99940	.99942	.99944	.99946	.99948	.99950
<b>3.3</b>	.99952	.99953	.99955	.99957	.99958	.99960	.99961	.99962	.99964	.99965
<b>3.4</b>	.99966	.99968	.99969	.99970	.99971	.99972	.99973	.99974	.99975	.99976
<b>3.5</b>	.99977	.99978	.99978	.99979	.99980	.99981	.99981	.99982	.99983	.99983
<b>3.6</b>	.99984	.99985	.99985	.99986	.99986	.99987	.99987	.99988	.99988	.99989
<b>3.7</b>	.99989	.99990	.99990	.99990	.99991	.99991	.99992	.99992	.99992	.99992
<b>3.8</b>	.99993	.99993	.99993	.99994	.99994	.99994	.99994	.99995	.99995	.99995
<b>3.9</b>	.99995	.99995	.99996	.99996	.99996	.99996	.99996	.99996	.99997	.99997