

**MNK203R**

( 497758)

October/November 2009

**ENTERPRISE RISK MANAGEMENT (BUSINESS MANAGEMENT (RISK) 202)**

Duration 2 Hours

70 Marks

**EXAMINERS**

FIRST

MRS A MUTEZO

MS CJ DE SWARDT

SECOND

MR C NYOKA

Use of a non-programmable pocket calculator is permissible

This paper consists of 15 pages in total plus instructions for completing a mark-reading sheet

This paper comprises two sections, A and B

Section A consists of forty multiple choice questions that each counts 1 mark. The answers to these questions must be indicated on the mark reading sheet provided. Indicate your student number and the unique number **497758** on the mark reading sheet

Section B comprises **THREE** paragraph/calculation type questions. Each question counts 10 marks. Section B must be answered in the designated areas on pages 11 to 13

**THIS PAPER REMAINS THE PROPERTY OF THE UNIVERSITY OF SOUTH AFRICA AND MAY NOT BE REMOVED FROM THE EXAMINATION ROOM**

**Please note.**

- 1 This is a fill-in examination paper and there is no need for any examination scripts. Students must hand over the examination paper to the invigilator before leaving the examination hall. Students must answer the questions in Section B in the spaces provided on the examination paper.
- 2 Any silent, non-programmable, battery operated pocket calculator may be used
- 3 Pages for rough work have been provided (see pages 14 and 15) No rough work will be marked

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**SECTION A: MULTIPLE-CHOICE QUESTIONS**

Indicate the correct answer to each question on the mark-reading sheet.

- 1 Which one of the following statements is **correct**?
- 1 Risk and return are mutually interchangeable concepts
  - 2 Uncertainty in terms of motorcar accidents can be classified as subjective uncertainty
  - 3 Only fundamental event risks are insurable
  - 4 Investment risk refers to the risk that an organisation may lose interest income due to changes in market interest rates
- 2 During a hailstorm the gutters of a house are blocked. This causes consequential damage to the possessions in the house.

Indicate the **incorrect** statement

- 1 The storm is a peril
  - 2 The blocked gutters are a peril
  - 3 The blocked gutters are a physical hazard
  - 4 The hail can be considered both a peril and a hazard in this case
- 3 Which of the following is an example of event risk for a motor car manufacturer?
- 1 Fluctuation in sales
  - 2 Failure of systems
  - 3 The cost of components
  - 4 Changes in the wages paid to workers

USE THE FOLLOWING INFORMATION TO ANSWER QUESTIONS 4 TO 6

Assume the following hypothetical distribution of possible losses due to a fire at two separate premises of a retail outlet

PREMISE A

OUTCOME	AMOUNT OF LOSS	PROBABILITY OF OUTCOME
A	R10 000	0,5
B	R15 000	0,3
C	R20 000	0,2

PREMISE B

OUTCOME	AMOUNT OF LOSS	PROBABILITY OF OUTCOME
A	R10 000	0,33
B	R15 000	0,33
C	R20 000	0,33

[TURN OVER]

- 4 The expected value of losses due to fire for Premise A is
- 1 R15 000
  - 2 R13 500
  - 3 R45 000
  - 4 None of the above
- 5 The standard deviation of the losses due to fire for premise A is
- 1 R4 349,33
  - 2 R4082,48
  - 3 R30 276,50
  - 4 None of the above
- 6 Indicate the correct statements
- 1 The coefficient of variation for losses due to fire at Premise A is higher than that at Premise B
  - 2 The coefficient of variation for losses due to fire at Premise A is lower than that at Premise B
  - 3 The risk of losses due to fire is higher at Premise A than at Premise B
  - 4 The mean and expected value of possible losses due to fire is the same for both premises

Choose the **correct** combination

- 1 b,c,d
  - 2 a,c
  - 3 b,c
  - 4 a,c,d
- 7 Which of the following aspects is **not** governed in terms of the Companies Act 61 of 1973?
- 1 Allocation of share capital to directors
  - 2 Shareholding of directors
  - 3 Liability of directors in case a company acts unlawfully or in bad faith
  - 4 Responsibility of company towards stakeholders
- 8 Which of the following risk management approaches is best described as optimising risk/return trade-offs across the enterprise's portfolio of risk taking activities?
- 1 Business approach
  - 2 Enterprise approach
  - 3 Top-down approach
  - 4 Traditional approach

[TURN OVER]

- 9 Business risk management is characterised by a
- 1 narrow focus on hazard risks
  - 2 comprehensive, inclusive and proactive approach to risk management
  - 3 functional approach to risk management responsibilities
  - 4 lack of consistency in terms of level of detail and reporting formats
- 10 Indicate the **incorrect** statement
- 1 The absence of common language has been the cause of many national and corporate breakdowns
  - 2 A common language creates a negative perception of uncertainty
  - 3 A common language facilitates communication
  - 4 Different groups of people in an enterprise often have different dialects of risk
- 11 Which one of the following is **not** a barrier to the successful implementation of Enterprise Risk Management (ERM)?
- 1 Organisational culture
  - 2 Organisational turf
  - 3 Organisational structure
  - 4 Improper yardsticks
- 12 Internal factors that may influence the corporate and risk management objectives include the following
- a the natural environment within which the enterprise operates
  - b the infrastructure of the enterprise
  - c the technology used in the enterprise
  - d the personnel the enterprise has at its disposal
- Choose the **correct** combination
- 1 a,b,c,d
  - 2 a,b,c
  - 3 b,c,d
  - 4 b,d
- 13 The setting of clear goals and objectives is part of which one of the elements of the business risk management process?
- 1 Establishment of the process
  - 2 Assessment of business risks
  - 3 Formulation of risk management strategies
  - 4 Design and implantation of risk management strategies

- 14 Which one of the following methods is used to establish the potential frequency of losses?
- 1 Business interruption
  - 2 Maximum possible loss
  - 3 The "pareto" rule
  - 4 Insured gross profit
- 15 The destruction of a factory by fire is a Category two type of risk, characterised by
- 1 Low frequency and low severity
  - 2 Low frequency and high severity
  - 3 High frequency and low severity
  - 4 High frequency and high severity
- 16 SWOT analysis
- 1 is normally applied with the assistance of insurance intermediaries
  - 2 is a graphic representation of any form of flow within and to the enterprise
  - 3 serves to identify risks in the internal and external enterprise environment
  - 4 assesses the extent to which risk is centralised or decentralised within the enterprise
- 17 An organisation's limit framework should include a combination of the following
- a volume limits
  - b portfolio level limits
  - c value-at risk (VAR) limits
  - d stop loss limits

**Choose the correct combination:**

- 1 a,b,c
  - 2 a,c,d
  - 3 b,c,d
  - 4 a,b,c,d
- 18 The Chief Executive Officer's (CEO) main duty is to
- 1 define the enterprise's risk priorities
  - 2 align risk management processes with the award system
  - 3 oversee the business risk management function
  - 4 allocate resources/capital and manage risk/return

## ANSWER QUESTIONS 19 AND 20 BY MAKING USE OF THE FOLLOWING INFORMATION

Company A uses short-term finance by issuing banker's acceptances. The treasurer expects short-term interest rates to rise and wants to hedge the next BA rollover. Assume that the following information applies:

Nominal amount	R1 000 000
Current date	4 April
Rollover/settlement date	20 July
Spot rate on 20 July	16,50%
FRA spot-rate offer	17,60%

The treasurer wants to hedge the next rollover by buying a forward rate agreement (FRA) at 17,60%.

19 The cost (discount) of issuing the BA will be

- 1 R40 684,93
- 2 R38 219,18
- 3 R35 506,85
- 4 R 3 452,05

20 In order to lock in a discount rate of 17,60%

- 1 the bank will have to pay R2 712,33 to Company A
- 2 Company A will have to pay R2 712,33 to the bank
- 3 the bank will have to pay R4 685 to Company A
- 4 Company A will have to pay R4 685 to the bank

21 Hurdle rates are used to

- 1 measure performance, taking into account the risks inherent in a portfolio
- 2 strengthen the links between performance, accountability and established risk thresholds
- 3 screen capital projects when using discounted cashflow techniques
- 4 facilitate the allocation of capital based on risk

22 is an attempt to provide a single number which summarises the total risk in a portfolio of financial assets

- 1 Cashflow at risk
- 2 Earnings at risk
- 3 Value at risk
- 4 Risk adjusted return

[TURN OVER]

- 23 Monitoring processes are generally applied to accomplish the following
- a determine changes in an enterprise's risk profile
  - b identify emerging risks
  - c evaluate risk management performance
  - d evaluate the adequacy of specific measures, policies and procedures

Choose the **correct** combination:

- 1 a,b,c,d
- 2 b,c,d
- 3 a,c,d
- 4 a,b,d

- 24 Indicate the **correct** statement

- 1 Aggregation methods provide qualitative means to transfer, avoid and securitise risk
- 2 Aggregation is a way to summarise an extremely simple set of rules
- 3 Aggregation decreases the efficiency of decision-making
- 4 Aggregation of multiple risks enhances reporting and capital allocation

- 25 The benefits of the monitoring stage in the risk management process include

- a accumulating evidence to support assumptions and results of the analysis
- b increasing the cost associated with improper or redundant risk control
- c identifying new or changing risks
- d improving the risk management process as a whole

Choose the **correct** combination

- 1 a,b,c,d
- 2 a,b,c
- 3 a,b,d
- 4 a,c,d

- 26 The enterprise-wide vision should be translated into a logical set of tasks such as

- a targeting the business risks and processes requiring the most attention
- b defining the overall business risk management strategy and framework
- c promoting accountability for actions taken
- d demonstrating management leadership

Choose the **correct** combination

- 1 a,b,c,d
- 2 a,b,c
- 3 b,c,d
- 4 a,b,d

[TURN OVER]

- 27 Risk and control self-assessment aims to
- 1 eliminate risks completely
  - 2 ignore risk exposures
  - 3 determine operational losses
  - 4 evaluate risks and controls of the organisation in order to serve as a decision making mechanism
- 28 Reputational risk is regarded as
- 1 the risk of a loss of staff due to resignations
  - 2 the risk that usually results in a specific loss to the company
  - 3 the risk that any action taken by a company or its employees creates a negative perception in the external market place
  - 4 the risk that any action taken by a company or its employees creates a positive perception in the external market place
- 29 A non-executive director of a company is
- 1 a full-time salaried employee of the company
  - 2 not a full-time employee of the company
  - 3 a part-time consultant to the company
  - 4 not a full-time salaried employee of the company
- 30 The role of internal audit regarding risk management involves
- 1 implementing risk controls to prevent losses
  - 2 providing the finance department with the detail of financial losses
  - 3 performing risk assessments to determine the inherent risks of a business unit
  - 4 providing management with the assurance that risks are being managed according to policy and procedures
- 31 Risk drivers of operational risk management could be viewed as a starting point for establishing a formal risk management function. It is important for organisations to identify and understand the main drivers of operational risk management, to enable them to
- 1 develop a loss management process
  - 2 develop control policies and procedures
  - 3 develop a risk management strategy
  - 4 identify residual risks



- 32 The aim of risk evaluation is to determine the potential impact of a loss event and the likelihood of a risk event occurring. This will provide management with
- 1 guidelines on what preventive control measures are required to prevent the event from occurring
  - 2 guidelines on what should be included in an operational risk report
  - 3 guidelines on what to discuss with the board of directors, who are ultimately responsible for risk management
  - 4 guidelines on what to disclose to the legal department to make recommendations on legal actions on risk events
- 33 The primary underlying factors of operational risk management can be categorised as
- 1 floods, fire and earthquakes
  - 2 internal and external factors
  - 3 system downtime and power outages
  - 4 political and environmental factors
- 34 Which formula can be used to express residual risk?
- 1 Loss history minus current losses
  - 2 Inherent risk minus controls
  - 3 Inherent risk plus controls
  - 4 Loss history plus controls
- 35 The four pillars of risk control are
- 1 policies and procedures, auditing, compliance and governance
  - 2 organisational structure, policies and procedures, internal controls and reporting
  - 3 corporate governance, compliance management, risk assessments and action plans
  - 4 action plans, control of staff, risk assessments and risk financing
- 36 It is imperative to identify the principles for risk management to determine roles and responsibilities. In terms of this, identify the **correct** statement
- 1 It is not necessary for a risk control system to address all the risk types
  - 2 Internal controls should be a monthly activity involving all employees
  - 3 Senior management has little responsibility for implementing the board's control policies
  - 4 The board of directors is ultimately responsible for the adequacy of control systems

- 37 Capital allocation for operational risk is regarded as a risk financing tool for the following risk events
- 1 High frequency/High impact
  - 2 Low frequency/High impact
  - 3 Low frequency/Low impact
  - 4 High frequency/Low impact
- 38 When management decides to transfer risk during a risk management committee meeting, the intention is to
- 1 transfer the risk to a 3rd party
  - 2 eliminate a potential risk event
  - 3 *avoid the risk*
  - 4 reduce the effect of a risk event should the event occur by means of insuring against the potential effect
- 39 Optimal risk financing is where
- 1 expected reward is lower than the cost of risk mitigation
  - 2 expected reward is equal to the cost of risk mitigation
  - 3 expected reward is equal to the cost of risk mitigation
  - 4 none of the above
- 40 Monitoring of operational risk management aims to
- 1 ensure the effectiveness of each of the components of the operational risk management process
  - 2 ensure that risk managers are performing according to their job descriptions
  - 3 ensure that line managers accept their responsibilities of risk management
  - 4 Ensure that the board of directors approve the organisation's risk appetite

**[40 X 1 = 40 marks]**

**[TURN OVER]**





**Question 3**

A six-month American call option is written on a commodity at a strike price ( $X$ ) of R68. The option premium is R0.30. The market price ( $S$ ) at the time the option was written was R58.25. Four months after the option is written the market price of the commodity rises to R68.75.

(a) Give a graphical presentation of the payment profile for the call option buyer. (6 marks)

(b) Indicate whether the buyer of the option should exercise the option at the current market price.

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[10]

[3 x 10 = 30 marks]

TOTAL MARKS: 70

**DO YOUR ROUGH WORK HERE  
NO ROUGH WORK WILL BE MARKED**

**[TURN OVER]**

**DO YOUR ROUGH WORK HERE  
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**PART 1 (GENERAL/ALGEMEEN) DEEL 1**

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For use by examination invigilator  
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**IMPORTANT**

**BELANGRIK**

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| 1 USE ONLY AN HB PENCIL TO COMPLETE THIS SHEET                      | 1 GEBUIK SLEGS N HB POULOOD OM HIERDIE BLAD TE VOLTOOI      |
| 2 MARK LIKE THIS  | 2 MERK AS VOLG  |
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**PART 2 (ANSWERS/ANTWOORDE) DEEL 2**

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**Specimen only**



## MARK READING SHEET INSTRUCTIONS

Your mark reading sheet is marked by computer and should therefore be filled in thoroughly and correctly

### USE ONLY AN HB PENCIL TO COMPLETE YOUR MARK READING SHEET

*PLEASE DO NOT FOLD OR DAMAGE YOUR MARK READING SHEET*

Consult the illustration of a mark reading sheet on the reverse of this page and follow the instructions step by step when working on your sheet

Instruction numbers ① to ⑩ refer to spaces on your mark reading sheet which you should fill in as follows

- ① Write your paper code in these eight squares for instance

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- ② The paper number pertains only to first-level courses consisting of two papers

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 for the second. If only one paper then leave blank

- ③ Fill in your initials and surname
- ④ Fill in the date of the examination
- ⑤ Fill in the name of the examination centre
- ⑥ WRITE the digits of your student number HORIZONTALLY (from left to right). Begin by filling in the first digit of your student number in the first square on the left, then fill in the other digits each one in a separate square
- ⑦ In each vertical column mark the digit that corresponds to the digit in your student number as follows [-]
- ⑧ WRITE your unique paper number HORIZONTALLY  
NB Your unique paper number appears at the top of your examination paper and consists only of digits (e.g. 403326)
- ⑨ In each vertical column mark the digit that corresponds to the digit number in your unique paper number as follows [-]
- ⑩ Question numbers 1 to 140 indicate corresponding question numbers in your examination paper. The five spaces with digits 1 to 5 next to each question number indicate an alternative answer to each question. The spaces of which the number correspond to the answer you have chosen for each question and should be marked as follows [-]
- ◆ For official use by the invigilator. Do not fill in any information here