MNK203R   (476643)   October/November 2011

ENTERPRISE RISK MANAGEMENT

Duration   2 Hours

70   Marks

EXAMINERS
FIRST   MRS AT MUTEZO
SECOND   MR F VAN DYK

Use of a non-programmable pocket calculator is permissible

This examination question paper remains the property of the University of South Africa and may not be removed from the examination venue.

This paper consists of 14 pages, including 4 pages for rough work 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. Write your student number and the unique number **476643** 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 10 to 12.

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Please note:

1   This is a partial 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 13 and 14). No rough work will be marked.

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SECTION A: MULTIPLE-CHOICE QUESTIONS

This section consists of 40 multiple choice questions. Use the mark-reading sheet provided to indicate your answers.

1. Indicate the **correct** statement.

    1   Risk relates to the environment surrounding the cause of loss.
    2   Risk implies the presence of certainty.
    3   The probability of an event refers to its long-term frequency of occurrence.
    4   Uncertainty arises from a person's perfect state of knowledge about future events.

2. Motorcar accidents are an example of subjective uncertainty. Which of the following characteristics **best describes** subjective uncertainty?

    1   Outcomes can be predicted with precision.
    2   Outcomes are identified and probabilities are known.
    3   Outcomes are identified but probabilities are unknown.
    4   Outcomes are not fully identified and probabilities are unknown.

    Answer the next three questions by making use of the following information:

    | | Asset A | |
Possible outcomes	Probability	Returns (%)
Pessimistic	0.25	5
Most likely	0 55	10
Optimistic	0 20	13

3. The expected value for Asset A is ...

    1   10%
    2   9.33%
    3   9.35%
    4   9.38%

4   The standard deviation of returns is .

    1   8%
    2   7%
    3   4.68%
    4   2.76%

5. The coefficient of variation for Asset A is ...

    1   1.25%
    2   2.15%
    3   2.0%
    4   0.3%

[TURN OVER]

6. The possibility of loss of an enterprise's plant and equipment due to a fire is an example of a/an ... risk

    1   speculative
    2   resource
    3   incidental
    4   event

7. Indicate the **correct** statement.

    1   Speculative risks may be treated by techniques such as hedging.
    2   Core business risks impact indirectly on an organisation's operating profit.
    3   Event risks are inherent to the organisation's main business.
    4   Unsystematic risk stems from occurrences which affect the economy as a whole.

8. Which of the following is an example of systems risk?

    1   Fraud and theft
    2   Security breaches
    3   Negligent staff
    4   Stock pilfering

9. In corporate governance, which of the following interventions resulted from the Enron scandal?

    1   The Turnbull Committee
    2   The Higgs Report
    3   The Sarbanes-Oxley Act
    4   The King Committee

10. Effective corporate governance ...

    1   promotes the inefficient use of resources
    2   attracts higher cost capital
    3   retards overall performance
    4   ensures adherence to legislation

11. Thabo has just been named the Risk Manager of Tsalanang Company. He has decided to create a risk management program which takes into account all of the risks faced by Tsalanang - pure, speculative, operational and strategic - into a single risk management program. This an example of a/an .... risk management approach.

    1   business
    2   traditional
    3   enterprise
    4   financial

12. Which of the following evolving tools enable enterprises to ensure that returns are adequate for the risk undertaken and that capital is allocated optimally?

   1   Risk-adjusted return on capital (RAROC)
   2   Alternative risk transfer (ART)
   3   Enterprise risk management (ERM)
   4   Value added tax (VAT)

13 Which of the following are important drivers towards an enterprise risk management approach?

   a   Decline of insurance
   b   Development of ART
   c   Increased value of intangible assets
   d   Increased concentration of risk

Choose the correct combination

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

14. Which of the following are benefits of enterprise risk management?

   a   Increased organisational effectiveness
   b   Better risk reporting
   c   Enhanced business performance
   d   Increased value of tangible assets

Choose the correct combination

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

15. Which of the following methods can be used to identify the risks that should be included in an organisation's common language framework?

   1   Internal interviewing
   2   Hedging
   3   Documenting
   4   Insurance reviews

[TURN OVER]

16. In a generic oversight structure, the chief risk officer (CRO) is responsible for...

    1   defining the enterprise's risk priorities
    2   allocating resources/capital and managing risk/return
    3   ensuring that risks are managed efficiently
    4   overseeing the business risk management function

17. Which of the following risk identification methods concentrates on ascertaining all the possible combination of failures that can lead to the ultimate risk such as a boiler exploding?

    1   Failure mode analysis
    2   Fault tree analysis
    3   Flow charts
    4   Hazard and operability studies

18 By studying organisational charts, the risk manager will be able to...

    a   identify key personnel
    b. identify supplier risk
    c. assess the extent to which control is centralised or decentralised
    d. assess the degree of autonomy given to managers at different levels of autonomy

Choose the correct combination.

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

19 In addition to the past claims history, which one of the following is considered in order to establish the potential frequency of losses?

    1   Accumulation
    2   As-if analysis
    3   Incident reporting
    4   Asset value

20. Sometimes the best method of handling or treating risk is to try and avoid the risk This is particularly relevant to. .

    1   Type 1 losses
    2   Type 2 losses
    3   Type 3 losses
    4   Type 4 losses

[TURN OVER]

21 Which one of the following is an example of risk transfer?

    1   Outsourcing cleaning services
    2   Insuring the fleet of vehicles
    3   Having a back-up facility at a distant location
    4   Erecting a security wall around the property

22. Indicate the **correct** statement

    1   Hedging tends to reduce risk as well as profits.
    2   A call option is the right to sell an asset.
    3   A put option is the right to buy an asset
    4   An option contract is an obligation to buy or sell an asset.

23. The value of a put option at expiry, in simple mathematical terms, can be stated as...

    1   $S - X$
    2   $X - S$
    3   $X + P$
    4   $X - P$

24. Forward contracts are...

    1   traded on a formal exchange
    2   less expensive than futures contracts
    3   easy to get out of once they have been established
    4   customised to meet the precise needs of contracting parties

25. Which one of the following statements is **true** about a rate cap?

    1   It limits how far the loan rate can be adjusted downward by the lender if market rates decrease.
    2   It limits how far the loan rate can be adjusted upward by the lender if market rates increase.
    3   It is used to hedge or modify an existing asset or liability.
    4   Both the lender and the borrower are protected against rising rates

26. Indicate the **correct** statement about forward rate agreements (FRAs).

    1   If the current rate is higher than the agreement rate, the buyer will receive the interest differential determined over the life of the loan.
    2   If the current rate is lower than the agreement rate, the buyer will receive the interest differential from the seller.
    3   An investor of funds seeking protection from falling interest rates will buy an FRA.
    4   An investor of funds seeking protection from rising interest rates will sell an FRA

[TURN OVER]

Answer questions 27 to 29 by making use of the following information:

An organisation uses short-term finance by issuing bankers' acceptances. The treasurer expects short-term interest rates to rise and wants to hedge the next BA-rollover by buying an FRA at 15,5%. Assume the following applies:

Nominal amount	R1 000000
Rollover date	15 August
Settlement date	15 April
Spot rate on 15 August	18, 5%
FRA spot (bid/offer)	15, 0/15, 5%
Number of days in the year	365

The treasurer wants to hedge the next rollover by buying a forward rate agreement (FRA) at 15, 5%

27. The cost (discount) of issuing the BA is ....

    1   R60 821, 92
    2   R45 616, 43
    3   R50 958, 90
    4   R38 219, 18

28 How much will the company have to receive in order to lock in a discount rate of 15.5%?

    1   R 7 397, 26
    2   R 8 630, 14
    3   R 9 863, 01
    4   R11506, 85

29. Calculate the cost of the roll-over to the company (holder of the FRA).

    1   R38 219, 18
    2   R49 315, 07
    3   R50 958, 91
    4   R53 424, 66

30 Which one of the following is responsible for articulating and communicating an enterprise's risk appetite to different constituencies?

    1   Methodologies
    2   Limits and controls
    3   Volume or notional limits
    4   Risk-sensitivity limits

[TURN OVER]

31. Which one of the following is a risk reporting objective of the enterprise-wide reporting framework?

   1   Heighten awareness and transparency of all risks.
   2   Exclude quantitative and qualitative information
   3   Compliance with relevant laws and regulations.
   4   Effectiveness and efficiency of the organisation's operations

32. Which one of the following is an enabler of the continuous improvement philosophy?

   1   Identifying new or changing risks
   2   Developing a more accurate portrait of risk
   3   Detecting future threats and opportunities timeously
   4   Benchmarking of performance to identify best practices

33. Monitoring processes are generally applied to. .

   1   keep up to date with regulatory requirements
   2   determine changes in an enterprise's risk profile
   3   demonstrate management leadership
   4   foster an environment that motivates people to learn

34 Which of the following is a risk-pooling approach?

   1   Managing the pooled risks as a portfolio
   2   Insure each risk separately
   3   Hedge based on single index
   4   Combine risks with high or positive correlations

35. Which of the following is a method of monitoring a risk management process?

   1   Internal audits
   2   Insurances reviews
   3   Statutory records
   4   Fault tree analysis

36. Indicate the **correct** statement.

   1   Hurdle rates facilitate the allocation of capital based on risk.
   2   Risk exposures can be quantified using techniques such as VaR.
   3   "At risk" frameworks are used to screen capital projects when using discounted cash flow techniques.
   4   Cash flow at risk is an attempt to provide a single number which summarises the total risk in a portfolio of financial assets

[TURN OVER]

37. Central bank regulators use ... to determine the capital a bank is required to keep to reflect the market risk it is bearing.

   1   Earnings at risk
   2   Value at risk
   3   Cash flow at risk
   4   Risk-adjusted return on capital

38. Indicate the **correct** statement.

   1   Capacity represents the risk the enterprise is capable of undertaking.
   2   Risk appetite dictates the nature and level of risks that are unacceptable to the enterprise.
   3   Determining an enterprise's capacity and appetite for risk impedes the effective allocation of capital
   4   Aggregation methods provide a qualitative means to transfer, avoid and securitise risk.

39 Indicate the **correct** statement.

   1   Aggregation methods provide a qualitative means to transfer, avoid and securitise risk
   2   Aggregation is a way to summarise an extremely simple set of rules.
   3   Risks of which the mutual relationships are not known are pooled in order to manage them better.
   4   Aggregation of multiple risks improves reporting and capital allocation.

40. Indicate the **correct** statement.

   1   It is more cost-effective to manage individual risks.
   2   The transaction cost of pooled risk is higher than that of individual risk.
   3   An aggregate index can be used with the hedging of pooled risks.
   4   It is more cost effective to insure individual than pooled risks.

[40 X 1 = 40 marks]

SECTION B: PARAGRAPH QUESTIONS AND CALCULATIONS

ANSWER ALL THE QUESTIONS IN THIS SECTION

Question 1 (10 marks)

1.1   Discuss **two** basic properties of probabilities.   4

1.2   **Briefly describe each of the following types of risk:**

1.2.1   Interest rate risk   2
1 2.2   Investment risk   2
1.2.3   Liquidity risk   2

Question 2 (10 marks)

2.1   Explain how the concepts **Maximum Possible Loss** and **Normal Loss Expectancy** can be used to determine the severity of possible losses.   **4**

The shortcomings of systems are underlying risk factors of operational risk.

2.1.1 List **six** typical system risks   **3**

2.1.2 Suggest **three** proactive measures that can be implemented to control typical technology risk exposures.   **3**
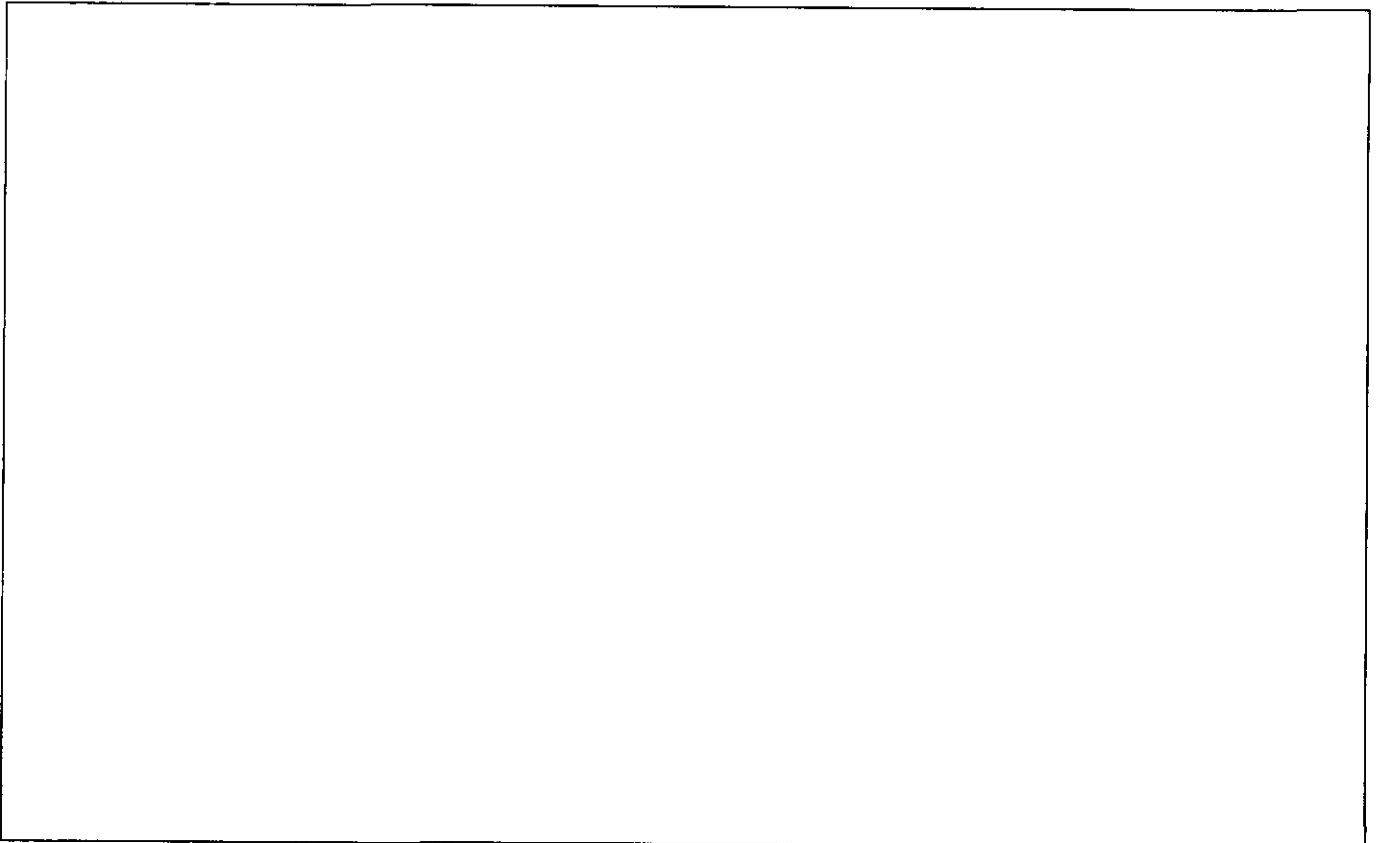
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Question 3 (10 marks)

A six-month American call option is written on a commodity at a strike price (X) of R78. The option premium is R0.30. The market price (S) at the time the option was written was R68.25. Four months after the option is written the market price of the commodity rises to R78 75.

3.1   **Draw a graph** of the payment profile for the call option buyer.   6

3.2   Point out the **implications** of exercising the option at the current market price.   4

[3 x 10 = 30 marks]
TOTAL MARKS: 70

[TURN OVER]

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

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PART 1 (GENERAL/ALGEMEEN) DEEL 1

STUDY UNIT e g PSY100-X
STUDIE-EENHEID bv PSY100-X

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PAPER NUMBER
VRAESTELNOMMER **②**

INITIALS AND SURNAME
VOORLETTERS EN VAN **③**

DATE OF EXAMINATION
DATUM VAN EKSAMEN **④**

EXAMINATION CENTRE (E G PRETORIA)
EKSAMENSENTRUM (BV PRETORIA) **⑤**

STUDENT NUMBER
STUDENTENOMMER **⑥**

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8. DO NOT FOLD

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PART 2 (ANSWERS/ANTWOORDE) DEEL 2

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2	c13 c23 c33 c43 c53	37	c13 c23 c33 c43 c53	72	c13 c23 c33 c43 c53	107	c13 c23 c33 c43 c53
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Specimen only