



<b><u>PROGRAMME</u></b>	: NATIONAL DIPLOMA  <i>MINERAL SURVEYING</i> <i>MINING ENGINEERING</i>
<b><u>SUBJECT</u></b>	: <b>ENGINEERING MANAGEMENT III</b>
<b><u>CODE</u></b>	: <b>MGN32-1</b>
<b><u>DATE</u></b>	: FINAL SUMMATIVE ASSESSMENT OPPORTUNITY 15 NOVEMBER 2014
<b><u>DURATION</u></b>	: 3 HOURS (SESSION 1)
<b><u>TIME</u></b>	: 08:30 – 11:30
<b><u>WEIGHT</u></b>	: 40: 60
<b><u>TOTAL MARKS</u></b>	: 123
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<b><u>EXAMINERS</u></b>	: MR R SIBANDA (SECTION A)  MR S LUBISI (SECTION B)  MR N NDIWENI (SECTION C)
<b><u>MODERATOR</u></b>	: MR M RAMAGUBA
<b><u>NUMBER OF PAGES</u></b>	: 8 PAGES

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**INSTRUCTIONS:**

1. READ INSTRUCTIONS IN EACH SECTION CAREFULLY
2. WRITE YOUR LECTURER'S NAME ON YOUR ANSWER SHEET
3. PLAN YOUR TIME CAREFULLY

## **SECTION A**

Read the article "Strike losses put brakes on Impala" before answering the questions  
Choose the most correct answer. Write down the question number and correct letter only.

### **STRIKE LOSSES PUT BRAKES ON IMPALA** *by Jana Marais*

IMPALA Platinum, the world's second-biggest extractor of the metal, is reviewing capital projects and warns costs next year "will not be pretty" as it deals with the aftermath of the recent five month strike. CEO Terrence Goodlace said this week that the Rustenburg operations halted by the strike were now operating at 65% of capacity, but should be back to prestrike levels in October as planned. Cost levels were expected to normalize in financial 2016.

The company lost 312 000 ounces of platinum production because of the strike, and it expected 140 000 ounces to be lost during the ramp up process. It could lose up to 70 000 ounces at its Zimbabwe operations in financial 2015 after deteriorating ground conditions at its Bindura mine forced the withdrawal of all workers while detailed investigations were being carried out.

An analyst said, "It has been one setback after another for Impala. They have done well to conserve cash, but they really need to invest to bring down the cost curve. The strike means that this has been delayed." Impala is busy with three major projects in the Rustenburg area, including the construction of two new shafts and ramping up 16 Shaft, which was commissioned last year. 6rThe new shafts are crucial for future production with older shafts being mined out and grades declining.

Due to the strike and difficult ground conditions, 16 Shat is now expected to reach full production of 185 000 ounces only by 2020, compared with the previous target 2018. Impala said build-up of full production of 125 000 ounces at the 20 Shaft project was delayed by a year to 2019, while the first production from 17 Shaft would take place only in financial 2020, a year later than planned.

The company halted its dividend for the first time since 1990, according to Bloomberg data, and cut back on capital expenditure. Its cash reserves were R4.3-billion at the end of June, a decline of 13%. Impala reported a loss of R129 million, down from a profit of R1.07-billion.

Goodlace said the company remained committed to reaching production of 850 000 ounces at Rustenburg, previously targeted for 2018. Output was 709 200 ounces last year, when there were no major work stoppages. Total production for the year was 1.18 million ounces, down 26%.

Anglo American Platinum has been cutting jobs, closing shafts and selling assets, but Impala's aim was to raise productivity. "We are about establishing business for the long run; it is not about restructuring now." The market rewarded Amplants for its tougher stance sending its share price up 13% since the beginning of the year while Impala sank 22% and third-biggest producer Lonmin fell 25%. Platinum prices hardly reacted to the strike.

*Business Times*, 13 August, 2014

**SECTION: A**

**QUESTION 1: Multiple Choice**

1. The picture of the Platinum industry portrayed by the article is
  - A. Optimistic
  - B. Pessimistic
  - C. Controversial
  - D. Projective
2. What are the reasons for the Rustenburg mines operating at 65% of capacity?
  - A. Some workers are still on strike
  - B. Some machines are broken down
  - C. Some shafts are closed
  - D. Management is still assessing the safety of some shafts
3. The company lost 312 000 ounces of platinum production because of
  - A. The strike
  - B. Production was stopped
  - C. The shafts were closed
  - D. Poor platinum was produced
4. The 'ramp-up process' means
  - A. Increase in production loss
  - B. Increase in production
  - C. Increase in product demand
  - D. Increase in capital loss
5. The company's loss in Zimbabwe could be attributed to
  - A. Poor economic conditions in that country
  - B. Poor quality of platinum being produced
  - C. Unsafe mining conditions
  - D. Volatile political conditions in that country
6. When shafts are 'mined out' it could lead to:
  - (i) Loss in revenue
  - (ii) Poor quality ore produced
  - (iii) Loss of jobs
  - (iv) Being too dangerous to mine

Which of the above options is best correct answer

- A. ii only
- B. i and ii
- C. i, ii and iii

7. It said that, "The company halted its dividend..." This decision likely affected
- A. The striking workers
  - B. The share holders
  - C. The company management
  - D. The export earnings

8. In the mining industry major work stoppages are caused by
- (i) Strikes
  - (ii) Annual shutdowns
  - (iii) Fall in the share prices
  - (iv) Unsafe conditions underground

Which of the options below is correct?

- A. i only
  - B. ii and iii
  - C. i and iv
  - D. iv only
9. According to the article, the major reason mines could not reach high production was
- A. Laziness of workers
  - B. Industrial action
  - C. Shafts being closed
  - D. Lack of bonuses to workers
10. Evidence that Anglo American Platinum may be doing badly is that it is
- i. Retrenching
  - ii. Selling assets
  - iii. Losing revenue
  - iv. Closing some shafts

Which of the following options is correct

- A. i only
- B. i and iv
- C. i, ii and iii
- D. All the above

**Question 11-20 relate to the syllabus**

11. The economic principle implies that:
- A. Communities must be selective as production factors are scarce
  - B. Production factors are widespread and readily available
  - C. Businesses must minimize need satisfaction with the maximum amount of production factors
  - D. Communities must not use production factors in establishing businesses.

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12. Objectives of an enterprise include:
  - A. Supporting the community
  - B. Quality products and profit
  - C. Paying suppliers on time
  - D. All of the above
13. In a free market system:
  - A. There is no motivation to make a profit
  - B. Production factors belong to the state
  - C. Anyone has the right to make a profit
  - D. No competition between enterprises is permitted
14. South Africa's economic system is:
  - A. Completely socialist
  - B. A controlled free market
  - C. A centrally controlled system
  - D. A free market system
15. The tertiary sector of an economy is concerned with:
  - A. Exploiting natural resources
  - B. Transforming and processing of products
  - C. Producing final products
  - D. Distributing final products
16. Shoprite is an example of a:
  - A. Non-profit enterprise
  - B. A government enterprise
  - C. A private enterprise
  - D. A public Enterprise
17. The market environment includes:
  - A. Consumers and competitors
  - B. Social and cultural forces
  - C. Political and statutory variables
  - D. Production factors
18. The macro environment includes:
  - A. Competitors
  - B. Suppliers of resources
  - C. Macro market factors
  - D. Economic conditions

19. In establishing the location of an enterprise, the most important considerations are:

- (i) Absence of competitors
- (ii) Personal considerations
- (iii) Sufficient water and power
- (iv) The market and availability of labour

Which of the above statements is correct

- A. i only
- B. ii only
- C. iii only
- D. iii and iv

20. Middle level management is concerned with:

- A. Strategic planning
- B. Long term objectives
- C. The Board of Directors
- D. Medium to short term planning

[20]

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**QUESTION 2: Essay**

**Write a mini essay of only ONE page long on one of the topics below. Marks will be awarded for both content and style. Do not make vague statements that are not supported with facts.**

2.1 According to Blake and Mouton's theory of leadership, which grid positions are most likely to increase production levels in the Mining Environment? Justify your answer by expressing which positions you would likely prefer.

[20]

OR

2.2 Select one South Africa's greatest entrepreneurs you have studied and discuss how this entrepreneur responded to elements in the macro environment in establishing his/her enterprise.

[20]

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### **SECTION B: Labour Relations**

**N.B.** Answer all the questions according to the numbering system and sequence used and use a *separate* answer sheet for this Engineering Management section.

#### **QUESTION 1**

- 1.1 What are the fundamental rights for employees entrenched in the constitution? (5)
- 1.2 What does Labour Relations Act promote? (4)
- 1.3 List and discuss briefly the statutory labour legislations in South Africa. (14)

[23]

#### **QUESTION 2**

- 2.1 Define discipline. (2)
- 2.2 List and explain the aims of discipline. (4)
- 2.3 What are the elements that constitute an effective disciplinary procedure? (4)
- 2.4 By means of a sketch/diagram illustrate the disciplinary procedure in a unionised organisation. (6)

[16]

#### **QUESTION 3**

As a supervisor, list all categories with examples of all offences normally experienced in the workplace and the level of sanctions that you can apply to meet all aims of discipline. **Use tabular format.** (7)

[7]

#### **QUESTION 4**

List all elements stated in the BCEA that give effect to the right to fair labour practices referred to in section 23(1) of the Constitution in order to comply with the obligations of the Republic as a member state of the International Labour Organisation. [7]

**Sub-Total = 53**

**SECTION C: Risk Management**

**QUESTION 1**

Discuss how each of the words or words below play a role in making the Mine Health & Safety Act, a risk management system. [30]

- 1) Supervision
- 2) Annual reports
- 3) Appeals
- 4) FoG
- 5) Dangerous occurrence
- 6) Emergencies
- 7) Standards
- 8) Winding ropes
- 9) Inundation
- 10) Safety devices
- 11) Records
- 12) Competence
- 13) Statutory certificates
- 14) Occupational hygiene
- 15) Occupational disease

**Sub-total = 30 Marks**

**GRAND TOTAL= 123**

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