



UNIVERSITY  
OF  
JOHANNESBURG

**PROGRAM** : BACHELOR OF ENGINEERING TECHNOLOGY  
MINING ENGINEERING

**SUBJECT** : MINERAL BENEFICIATION 2A

**CODE** : MBEMNA2

**DATE** : SUMMER EXAMINATION  
07 JUNE 2018

**DURATION** : (SESSION 1) 08:30– 11:30

**WEIGHT** : 40:60

**FULL MARKS** : 85

**TOTAL MARKS** : 100

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**EXAMINER** : DR W NHETA

**MODERATOR** : DR E. MATINDE

**NUMBER OF PAGES** : 2

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**INSTRUCTIONS TO STUDENTS:**

ANSWER ALL QUESTIONS.

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Question 1

Discuss why do we need to store ore in a metallurgical plant? (16)  
**[16]**

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Question 2

- 2.1 Comment on five factors that would lead you to choose a rail transport system (10)  
2.2 Define what is a feeder (2)  
2.3 By means of a diagram, illustrate a chain feeder and briefly explain how it works. (6)  
2.4 What type of material is it used for (2)  
**[20]**
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Question 3

- 3.1 What is froth flotation? (3)  
3.2 Discuss its advantages over other concentration processes (12)  
**[15]**
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Question 4

4.1 Discuss the processes that takes place in the extraction of copper from Run of mine to Cathode formation. Mention the processes and the equipment used only. A flowsheet is not required. (12)  
**[12]**

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Question 5

- Dense Medium Separation (DMS) is widely used in coal washing.  
5.1 What is the name of the medium that used in coal? (2)  
5.2 What ideal properties should the medium have (10)  
5.3 Pollution is caused at several stages in the mining and processing of coal, as well as during its usage. Discuss types of pollution directly attributed to coal: (10)  
**[22]**
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