



**PROGRAM** : NATIONAL DIPLOMA  
IN EXTRACTION METALLURGY

**SUBJECT** : **MINERAL PROCESSING II**

**CODE** : **MPR 2A20**

**DATE** : SUMMER EXAMINATION 2015  
19 NOVEMBER 2015

**DURATION** : (SESSION 1) 08:30 - 10:30

**WEIGHT** : 50:50

**FULL MARKS** : 85

**TOTAL MARKS** : 100

---

**EXAMINER** : Dr. W. NHETA

**MODERATOR** : MR M. HENDERSON

**NUMBER OF PAGES** : 2 PAGES

---

**INSTRUCTIONS TO STUDENTS:**

1. ANSWER ALL QUESTIONS.
  2. DRAW NEAT DIAGRAMS AND WRITE CLEARLY, MARKS CAN BE DEDUCTED FOR UNTIDY WORK.
-

## MINERAL PROCESSING II. MPR2A20

---

### Question 1

1.1 Ore storage costs money and has its own problems.

Why then do plants do it?

(16)

**[16]**

---

### Question 2

2.1 Name and define the three laws of comminution.

(6)

2.2 Give the size range of particles and the type of comminution to which each one applies.

(6)

2.3 Explain why you would choose a gyratory crusher rather than a jaw crusher as a primary crusher?

(13)

**[25]**

---

### Question 3

Explain by means of diagrams what effect do the following have upon the performance of a hydrocyclone in terms of capacity and  $D_{50}$ .

3.1 Feed Pressure.

(6)

3.2 % solids in feed.

(6)

**[12]**

---

### Question 4

4.1 Why are flocculants used in thickening?

(2)

4.2 Discuss the four points that need attention in mixing and using flocculants?

(13)

**[15]**

---

### Question 5

Discuss the various factors that influence the throughput of a rotary drum filter.

(17)

**[17]**

---