

The Papua New Guinea University of Technology

DEPARTMENT OF MINING ENGINEERING

2020 SECOND SEMESTER EXAMINATION

Second Year Mineral Process Engineering

MN212 – INTRODUCTION TO MINING ENGINEERING

(Mineral Processing Section)

DATE: FRIDAY 30th OCTOBER, 2020

TIME: 12:50 P.M

TIME ALLOWED: 3 HOURS

INFORMATION FOR CANDIDATES:

1. You have ten minutes to read this question paper. You **SHOULD NOT** begin writing during this period.
2. There are **TWO** questions altogether. Answer all **TWO** questions.
3. **ALL** answers must be provided on the answer book provided. No other written material will be accepted.
4. Write your **NAME** and **NUMBER** clearly on the **ANSWER BOOK**. Do this **NOW**.

Question one.

- a) Discuss the main objective of crushing.
- b) What is the main purpose of comminution?
- c) Briefly discuss the operating principles of a jaw crusher and a gyratory crusher and outline the advantages and disadvantages of a gyratory crusher as compared to a jaw crusher?

Question two.

- a) Tumbling or grinding mills are classified into four distinct types, briefly describe them and outline their special features.
- b) The speed of the mill is very important, it affects mill critical speed and the tumbling motion; please discuss critical speed and tumbling motion.
- c) What are the functions of a mill liner?
- d) Explain circulation load in a grinding mill.