



Strathmore
UNIVERSITY

SCHOOL OF COMPUTING AND ENGINEERING SCIENCES
MASTER OF SCIENCE IN SUSTAINABLE ENERGY TRANSITIONS
MSET: BIG DATA & INTERNET OF THINGS

DATE: 4th May 2023

Time: 2.5 Hours

Instructions

1. This examination consists of **FOUR** questions.
2. Answer Question ONE (**COMPULSORY**) and any other TWO questions.

Question One [20 Marks]

- a) Explain what may motivate energy experts to pay attention to Big Data. **[3 Marks]**
- b) As an expert in energy systems, explain at least 5 types of data that you may deal with in your field of study. **[5 Marks]**
- c) Discuss at least 2 application areas of Big Data. **[6 Marks]**
- d) Using an example, describe the electronic components of an IoT device. **[6 Marks]**

Question Two [15 Marks]

- a) Discuss at least 2 enabling technologies for Big Data. **[5 Marks]**
- b) Describe the Big Data architecture. **[10 Marks]**

Question Three [15 Marks]

- a) Discuss at least 2 enabling technologies for IoT. **[5 Marks]**
- b) Describe the IoT protocol stack. **[10 Marks]**

Question Four [15 Marks]

- a) Using examples, explain the interdependence that may exist between an IoT application and a Big Data application. **[7 Marks]**
- b) Discuss at least 4 issues that come with Big Data. **[8 Marks]**