

**BINDURA UNIVERSITY OF SCIENCE EDUCATION  
FACULTY OF SCIENCE AND ENGINEERING  
DEPARTMENT OF ENGINEERING AND PHYSICS**

**PROGRAMME: BACHELOR OF SCIENCE HONOURS DEGREE IN ELECTRONIC ENGINEERING**

**EEE2107 (2): RESEARCH METHODS**

**DURATION: 3h**

**TOTAL MARKS: 100**

JUN 2023

**INSTRUCTIONS TO CANDIDATES**

1. Answer question one and any other two.
  2. Start the answers for each question on a fresh page.
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1. Compare and contrast traditional and sustainable engineering designs. [40]
2. The hottest temperature in the United States ever recorded by the National Weather Service, 56.7 degrees Celsius [ $^{\circ}\text{C}$ ], occurred in Death Valley California, on July 10, 1913. You are asked to design the temperature sensors in both degrees Celsius and Fahrenheit Calculate this value in units of degrees Fahrenheit [ $^{\circ}\text{F}$ ]. [30]
3. Explain the distinct stages of Engineering Design clearly give each stage characterization and properties. [30]
4. Define Sustainable Design referencing to Electronic Engineering. Compare and contrast traditional against sustainable designs approaches. [30]
5. Using a diagram explain ABET design approach. [30]

**END OF PAPER**