

**University of Eswatini (Kwaluseni Campus)**

**Faculty of Science and Engineering**

**Department of Physics**

---

Main Examination 2020/2021

Course Name: Ethics and Law in Science

Course Code: PHY608

Time Allowed: 3 Hours

Total Marks: 100

---

**Instructions to the Candidate**

1. This paper is structured in two compulsory sections.
  2. Section A consists of TEN short-paragraph questions.
  3. Section B consists of TWO essay-type questions.
  4. Choose FIVE questions in Section A and answer ALL questions in Section B.
- 

THIS PAPER IS MADE UP OF THREE PAGES, INCLUDING THE COVER PAGE, AND  
DOT OPEN IT PRIOR TO THE INVIGILATOR'S INSTRUCTION.

**Section A: [50 Marks]**

1. Scientists, non-professionals, and politicians have since realised that ethics are of particular importance, especially in areas such as *scientific research*. In about seven lines, outline one reason why ethics are of concern in science. (10)
2. Several aspects of the research environment contribute to ethical anomalies, one being the mere fact that science is a career for most scientists. In about seven lines, outline why this can be disadvantageous. (10)
3. In about seven lines, outline how science education may also contribute to ethical violations. (10)
4. Giving typical examples, and in about seven lines, justify why ethics is not law. (10)
5. In about seven lines, distinguish between ethics and religion. (10)
6. Moral philosophy includes the sub-disciplines: *normative ethics*, *applied ethics*, and *meta-ethics*. In about seven lines, distinguish between the three. (10)
7. Each member of the society is exposed to *common-sense* morality. In about seven lines, expand on this. (10)
8. In about seven lines, outline the sequence of steps involved in the basic method for making any kind of choice. (10)
9. What is right or wrong, ethical or unethical is relative to a particular society or culture. In about seven lines, write a short summary on *legal relativism*. (10)
10. Even though science is a social institution as well as a profession, not every social institution is a profession. In about seven lines, cite examples of such institution to which this statement applies. (10)

**Section B: [50 Marks]**

1. In no more than one and a half pages, name and describe the twelve principles of ethics in science, which apply to different aspects of the research process. (25)

2. In no more than one and a half pages, name and describe the seven components of objectivity in research. (25)