

**NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**FACULTY OF APPLIED SCIENCES**  
**DEPARTMENT OF ENVIRONMENTAL SCIENCE AND HEALTH**  
**SUPPLEMENTARY EXAMINATIONS**  
**MAN AND THE ENVIRONMENT: ESH 1102**

**August 2012**

**DURATION 3 HRS**

**TOTAL 100MARKS**

**INSTRUCTIONS:**

**Answer any four questions. Each question carries 25 marks**

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1. Table 1 shows the distribution of people, according to reproductive age groups, in a hypothetical district in Zimbabwe from 1900 to 2000.

**Table 1. Proportion (%) of the population in different reproductive classes in a hypothetical district in Zimbabwe in different years**

Reproductive class	Year							
	1900		1940		1980		2000	
	male	female	male	Female	male	female	male	female
Post-reproductive	4	3	9	9	7	7	15	16
Reproductive	18	20	19	20	19	24	23	24
Pre-reproductive	25	30	21	22	20	24	12	10

- (a) Describe the changes in population structure from 1900 to 2000. [10 marks]  
 (b) Discuss the significance of woman education in structuring population size. [15 marks]

2. Describe and explain the impact of any six water pollutants and explain how they can be controlled.

3. Describe the current threats to biodiversity in Zimbabwe and suggest ways these threats can be mitigated.

4. Describe and explain fully any five land degradation problems which can result from poor agricultural practices and suggest ways to mitigate them.

5. “Technological advancement is systematically diminishing the capacity of the environment to perform its functions.” Discuss this statement.

6. Using examples, discuss the nature and environmental impacts associated with use of nuclear energy.

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**END OF EXAMINATION**

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**RADIATION AND POLLUTION:ESH 1204**  
**SUPPLEMENTARY EXAMINATION**

**July 2012**

**Time allowed: 3 Hours**

**Total Marks 100**

**INSTRUCTIONS**

**Answer any four questions. Each question carries 25 marks**

1. Discuss the radiation protective measures that can be employed by people who use ionizing radiation.
  
2. Compare and contrast two radiation monitoring systems for environmental monitoring and for personnel monitoring.
  
3. Compare and contrast the effects of ionizing and non ionizing radiation.
  
4. Evaluate your role as a radiation protection officer of an industry using ionizing radiation.
  
5. Discuss the effects of ionizing radiation that can occur due to a nuclear accident like the recent Fukushima Nuclear accident in Japan.
  
6. Discuss how nuclear fuel cycle is a danger to the environment and humankind

**END OF EXAMINATION**