

**UNIVERSITY OF KWAZULU-NATAL  
SCHOOL OF AGRICULTURAL, EARTH & ENVIRONMENTAL SCIENCES  
DISCIPLINE OF GEOGRAPHY  
EXAMINATION: JUNE 2014  
CONTEMPORARY ENVIRONMENTAL ISSUES ENVS751**

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**DURATION: 3 HOURS**

**TOTAL MARKS: 300**

**Internal Examiner: Ms. D. Trotter**

**External Examiner: Prof. S. Grab**

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**NOTE: THIS PAPER CONSISTS OF TWO (2) PAGES. PLEASE SEE THAT YOU HAVE THEM BOTH.**

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Answer **THREE QUESTIONS only.**

Question One is compulsory. Answer one question from Question Two and one question from Question Three.

Each question carries equal (100) marks.

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**Question One: Compulsory question**

1) In the sorts of issue-driven science relating to environmental debates, typically:-

- Facts are uncertain,
- Values are in dispute,
- Stakes are high, and
- Decisions are urgent.

Discuss, in the light of the above, why is it necessary for humankind to recognise participatory agent based social simulation modelling as a new way of enabling science to engage with the challenges of the 21<sup>st</sup> century.

**Question Two: Answer a or b only**

**2a)** “Within this turbulent era of global change, it can be argued that to move beyond the ‘Utopia’ of sustainable development, a global shift in mind-set is required across scales from the current linear ‘command-and-control’ system of management and environmental governance, to a paradigm of persistence (social-ecological systems), transformation (from crisis to innovation) and adaptability (to unavoidable change)” (Rockstrom, 2010: no page number).

With reference to the statement above, critically discuss whether the ‘planetary boundaries’ concept could effectively reform environmental governance of contemporary environmental issues at multiple scales.

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**OR**

**2b)** The South African Constitution supports the rights of all its citizens to an environment that is not harmful, and similarly Section 24 (b) of NEM: Waste Act (2008) rallies for these rights in a legislative manner. However, there are many conflicts in our regulatory framework that make it difficult to achieve cooperative governance and effective integrated waste management (IWM), particularly at a local level. Critically discuss.

**Question Three: Answer a or b only**

**3a)** “The ecosystem services (ES) framework reveals ecosystems’ benefits to society and presents a fundamental natural resource management approach. In the last several decades, it has gained increasing attention from the research community, and it recently reached the political agenda” (Matzdorf and Meyer, 2014: 509).

Would you argue that the ES concept has the capacity to cause institutional change in environmental policy and influence the practice of environmental assessment in South Africa? Elaborate your answer.

**OR**

**3b)** You have been tasked with writing a report entitled “*Energy Outlook: Policies and Priorities for South Africa*”, which addresses the concept of energy in South Africa as a developing country, and critical issues for sustainability, outlining the current situation and future outlook for both energy demand and supply (including the country’s potential to increase the contribution of renewable energy to the total energy mix).

Provide an **executive summary** for the report, as well as an overview of the full report content (i.e. Table of Contents that lists headings and subheadings for each chapter in the report, providing local examples, where appropriate).