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**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY SCHOOL OF SPATIAL PLANNING**

**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN WATER RESOURCE AND ENVIRONMENTAL MANAGEMENT**

 **SEMESTER 2016/2017 ACADEMIC YEAR**

**CENTRE: MAIN CAMPUS**

**COURSE CODE: PES 3412**

**COURSE TITLE: ENVIRONMENTAL RESOURCE PLANNING AND MANAGEMENT**

**EXAM VENUE: STREAM: SPATIAL PLANNING**

**DATE: EXAM SESSION:**

**TIME: 2 HOURS**

**Instructions:**

1. **Answer question 1 ( compulsory ) and ANY other 2 questions.**
2. **Candidates are advised not to write on the question paper.**
3. **Candidates must hand in their answer booklets to the invigilator while in the examination room.**

**Question 1**

1. Distinguish between a resource and a natural resource (5 marks)
2. With concrete examples outline any FIVE services healthy natural ecosystems can provide

 (5 marks)

1. Outline the ecological principles of natural resources planning management (5 marks)
2. What are the basic practices in which environmental resources can be managed and/or conserved (5 marks)
3. Briefly explain how drought can impact on the planning and management of natural resources

 (5 marks)

1. In brief explain how community institutions and organizations can participate in planning and development of natural resources (5 marks)

**Question 2**

Discuss the role of agriculture in the economic development of a country, with Kenya as a case

 (20 marks)

**Question 3**

Discuss the approaches applied to natural resources planning and management (20 marks)

**Question 4**

Discuss the Ecological Principles of natural resources management (20 marks)

**Question 5**

Discuss the following:-

1. Natural resources use conflict (10 marks)
2. Co-operative agricultural economy (10 marks)