



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF BIOLOGICAL AND PHYSICAL SCIENCES
UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF EDUCATION
(SCIENCE)
2ND YEAR 1ST SEMESTER 2016/17
MAIN REGULAR

COURSE CODE: PES 3213

COURSE TITLE: ENVIRONMENTAL POLLUTION AND CONTROL 1

EXAM VENUE: STREAM: (BED SCI)

DATE: EXAM SESSION: 2.00 – 4.00 PM

TIME: 2:00HRS

Instructions:

- 1. Answer question 1 (Compulsory) in Section A and ANY other 2 questions in Section B.**
- 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**

SECTION A: COMPULSORY QUESTION (30 MARKS)

QUESTION 1

- (a) Describe how the acid rain is formed? 8 Marks
- (b) Outline the smog formation in the atmosphere
- (i) Show how NO_2 photo dissociation cycle (null cycle) 4 Marks
 - (ii) Name the contribution of non-methane volatile organic compounds to the depletion of the Environment 4 Marks
- (c) What is Ozone destruction? 8 Marks
- (d). Differentiate between the Ozone hole and Ozone destruction 4 Marks
- (e) Name the major effects of pollutants in the atmosphere 4 Marks

SECTION B: ATTEMPT ANY TWO QUESTIONS (40 MARKS)

QUESTION TWO

- (a) Write notes on each of the following
- (i) PAHs (Polycyclic aromatic hydrocarbons and derivatives) 4 Marks.
 - (ii) Particulates and aerosols 4 Marks
 - (iii) Metal and metalloid compounds and favors. 4 Marks
- (b) What is the Greenhouse effect? 4 Marks
- (c) What are the hazardous effects of noise pollution in humans? 4 Marks

QUESTION THREE

- (a) Describe the contribution of the combustion process as the main air pollution source.

12 Marks

(b) What is the importance of air-fuel ratio on exhaust composition

8 Marks

QUESTION FOUR

(a) What are the main effects of pollutants on the atmosphere? Discuss. 8 Marks

(b) Name the main air pollutants in the environment. 4 Marks

(c) Outline the combustion process as the main source of pollution 4 Marks

(d) What are the effects of climate change in the environment 4 Marks

QUESTION FIVE

Describe how the movement, the storage and the fate of pollutants in the following sections of Hydrosphere

- (i) Rain water
- (ii) Streams and rivers
- (iii) Lake water
- (iv) Ground water
- (v) Sea water
- (vi) Brakish and saline water

20 Marks

END