



JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY
SCHOOL OF ENGINEERING AND TECHNOLOGY
UNIVERSITY EXAMINATIONS FOR THE DIPLOMA IN BUILDING AND CIVIL
ENGINEERING
2ND YEAR 2ND SEMESTER 2017/2018 ACADEMIC YEAR
CENTRE: MAIN CAMPUS

COURSE CODE: TBC 2227

COURSE TITLE: WATER AND WASTE WATER QUALITY ANALYSIS

EXAM VENUE: LAB 23

STREAM: DIP IN BLD & CIV ENG

DATE: 22/12/2017

EXAM SESSION: 9.00 – 10.30 AM

DURATION: 1 ½ HOURS

Instructions

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

QUESTION ONE

- a) Define water pollution. (4 Marks)
- b) Distinguish between pure water and portable water. (6 Marks)
- c) State Two examples each under the following categories of water pollutants:
i. Physical
ii. Chemical
iii. Biological (6 Marks)
- d) State any FOUR reasons why analysis of sewage and sewage effluent is important (8 Marks)
- e) Explain any THREE possible effect of discharging pollutants in rivers or streams (6Marks)

QUESTION TWO

Assume you are in charge of water quality surveillance for JOOUST water supply system, answer the following:

- a) With the aid of a sketch indicate salient points where you will take your samples (10 Marks)
- b) Based on sketch given in (a) State which type of tests you would carry out. (10 Marks)
- (9 Marks)

QUESTION THREE

- (a) What do you understand by grab sampling and in what circumstances is it recommended. (5 Marks)
- (b) JOOUST uses Waste stabilization ponds for its waste treatment, what types of waste water quality tests should the institution carry out. (10 Marks)
- (c) What is the significance of Dissolved Oxygen test in water bodies. (5 Marks)

QUESTION FOUR

Explain a laboratory procedure for carrying out the following tests:

- a) BOD₅
b) E.coli

(20 Marks)