



KENYATTA UNIVERSITY
UNIVERSITY EXAMINATIONS 2017/2018

FIRST SEMESTER EXAMINATION FOR THE DEGREE OF
MASTER OF SCIENCE

SCH 853: ELECTRONIC AND MICROCOMPUTER MEASUREMENTS

DATE: Thursday, 1st February 2018

TIME: 2.00p.m-5.00p.m

INSTRUCTIONS:

Answer ALL Questions

1. With the help of examples where applicable, differentiate between the following and indicate their significance to analytical chemistry:
 - i) Fourth generation and fifth generation computers. (6 Marks)
 - ii) Operational amplifiers and oscilloscopes (6 Marks)
 - iii) Digital and analogue coil meters. (4 Marks)
2. Discuss the statement: "Many Analytical instrument manufacturers now offer their instruments complete with micro-computers and supporting software packages to perform appropriate instrument control tasks, processing, storing and displaying or printing out of the results. (8 Marks)
3. Using Fourier Transform, explain signal processing and its role in the life of analytical chemists, and in control and management of HIV and AIDs. (6 Marks)
4.
 - a) Elaborate the modes of computerized instruments including their advantages and disadvantages. (6 Marks)
 - b) Discuss real time processing and how it has affected solutions to the challenges facing mankind by chemists. (6 Marks)

- c) Write short but comprehensive notes on interfaces including what, how and significance of interfaces. (10 Marks)
5. Noise is important to analytical chemists. Discuss this statement including all aspects of noise and how it is dealt with in analytical instrumentation. (10 Marks)
6. Most people get acquainted with chemistry at times gaining formal or informal ways. Elaborate this statement and its significance in the achievement of the sustainable development goals and Kenya Vision 2030? (8 Marks)