



MACHAKOS UNIVERSITY

University Examinations 2016/2017

SCHOOL OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF BUILDING AND CIVIL ENGINEERING

FIFTH YEAR SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE
IN ELECTRICAL AND ELECTRONICS ENGINEERING

ECU 500: PROFESSIONAL PRACTICE AND ETHICS

DATE:

TIME: 2 HRS

INSTRUCTIONS:

- (i) *The Paper has Five questions.*
- (ii) *Question No.1 is Compulsory and carries 30 Marks.*
- (iii) *Select any other Two questions, each of which carries 20 Marks.*
- (iv) *Define all symbols used.*
- (v) *Marks will be awarded for procedure, methodologies used and not necessarily on the final answer.*

- 1 (a) (i) Explain why a *Code of Ethics* is necessary in the practice of engineering. (5 marks)
- (ii) State the conditions under which an engineer has a valid contract to work with. (5 marks)
- (b) (i) List the *New Labour Laws*. (5 marks)
- (ii) State five functions of the *Engineering Board of Kenya (EBK)*. (5 marks)
- (c) (i) Give the common *Quality Management Systems* and state where they apply. (5 marks)
- (ii) Explain the role of the *Industrial Court* in Kenya. (5 marks)

2. (a) Outline the rules of engineering practice that appertain to:-
 - (i) Professional matters for employers and/or clients. (5 MARKS)
 - (ii) Safety, health and welfare of the public. (5 MARKS)
- (b) Explain the provisions under the *Engineers Act 2011* which relate to:-
 - (i) The registration of engineers. (5 MARKS)
 - (ii) Registration of an engineering consulting firm. (5 MARKS)
3. (a) Under the Labour Relations Act:-
 - (i) Explain the concept of *Collective Agreements*. (5 marks)
 - (ii) Outline the steps for the resolution of disputes. (5 marks)
- (b) (i) Explain what engineering consultancy is. (5 marks)
- (ii) Outline the *Conditions of Engagements* for consultants. (5 marks)
4. (a) (i) Outline the routine of *ISO*. (6 marks)
- (ii) Give an overview of *ISO 14000*. (6 marks)
- (b) (i) Define a “*Tortfeasor*”. (1 marks)
- (ii) Giving examples, explain what “*Duty of Care*” is. (7 marks)
5. (a) (i) Outline the process of forming a *Limited Liability Engineering Consultancy Company*. (5 marks)
- (ii) Explain the work a *Consulting Engineer* does. (4 marks)
- (b) (i) Give the obligations of the *Consulting Engineer* with respect to Care and Diligence. (6 marks)
- (ii) Outline the *Checklist* for drafting *Consulting Engineering Agreements* for complex assignments. (5 marks)