



**TECHNICAL UNIVERSITY OF MOMBASA**

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**Faculty of Engineering and Technology  
Department of Mechanical & Automotive Engineering**

**UNIVERSITY EXAMINATION FOR:**

**BSc. Mechanical Engineering**

**EMG 4214 : Professional Ethics and Human Rights for Engineers and Technologists**

**SUPPLEMENTARY EXAMINATION**

**SERIES: SEPTEMBER 2018**

**TIME: 2 HOURS**

**DATE: Pick Date Sep 2018**

**Instructions to Candidates:**

1. You are required to have the following for this examination:
    - Answer Booklet
    - A Non-Programmable Scientific Calculator
  2. This paper consists of **FIVE** Questions.
  3. Answer **ANY THREE** Questions.
  4. All questions carry equal marks.
  5. **This paper consists of FOUR printed pages.**
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**Question 1 (40 Marks)**

**a)** Give concise definitions of each of the following terms/words:

- i. Profession
- ii. Professionalism
- iii. Professional
- iv. Intellectual
- v. Integrity

(10 Marks)

**b)** Give a definition of the word maturity and then list ten (10) signs of emotional maturity. (10 Marks)

**c)** List ten (10) examples of personal moral codes. (10 Marks)

**d)** Give concise definitions of the following terms:

- i. Family morals
- ii. Society morals
- iii. Religious morals
- iv. Organization values
- v. Aesthetic values

(10 Marks)

**Question 2 (40 Marks)**

- a) Give a concise definition of the word value (7 Marks)
- b) Values may be divided into many categories. List ten (10) of these categories.(10 Marks)
- c) Give a definition of the term “personal values” (8 Marks)
- d) Give fifteen(15) examples of personal values (15 Marks)

**Question 3 (40 Marks)**

- a) There are many Acts of Parliament which have an impact on the practicing engineer. Name eight (8) of them. (16 Marks)
- b) A student has completed the 5 – year degree course in TUM.
  - i. List the steps he/she has to go through to become a registered engineer (by the Engineer’s Board of Kenya) (5 Marks)
  - ii. List the steps he/she has to go through to become a corporate member of the Institution of Engineers of Kenya (IEK) (5 Marks)
  - iii. Name two (2) things he/she is required to do to remain a member of IEK (4 Marks)
- c) Give a definition of the term “Group Dynamics” and then give names of four (4) types of groups relevant to an engineer. (6 + 4 = 10 Marks)

**Question 4 (40 Marks)**

- a) A Health, Safety and Environment (HSE) Officer is to be hired by a reputable organization. List ten (10) responsibilities he/she may be expected to be involved in. (10 Marks)
- b) List eight (8) purposes of an HSE Document (16 Marks)
- c) List seven (7) risk reduction measures that are appropriate to manufacturing industries (14 Marks)

**Question 5 (40 Marks)**

- a) Schedule 5 is a risk analysis matrix on which Probability and Severity are given:  
Calculate the Risk Indices (RI) and insert them in the correct boxes. (15 Marks)
- b) Give concise definitions of the following terms:
  - i. Safety
  - ii. Risk
  - iii. Hazard(9 Marks)
- c) A developer wishes to have a 10 story building designed and constructed. List eight (8) things that can be done to reduce the risk of the building collapsing.(16 Marks)

**Schedule 5**

**RISK MATRIX**

PROBABILITY	SEVERITY							
	Negligible 1	Notifiable 2	Minor 3	Marginal 4	Significant 5	Major 7	Disaster 9	Catastrophic 10
Very Frequently 10								
Frequently 8								
Occasionally 6								
Probable 4								
Possible 3								
Seldom 2								
Unlikely 1								