



UNIVERSITY OF EMBU

2017/2018 ACADEMIC YEAR

SECOND SEMESTER EXAMINATIONS

**SECOND YEAR EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE
(COMPUTER SCIENCE)**

CSC 441: KNOWLEDGE ENGINEERING AND SOCIETY

DATE: APRIL 3, 2018

TIME: 11:00 AM – 1:00 PM

INSTRUCTIONS:

Answer Question ONE and ANY other two Questions

QUESTION ONE (30 MARKS)

- a) Recall the terms artificial Intelligence and knowledge engineering. (4 marks)
- b) Differentiate between priori knowledge and posteriori knowledge. (4 marks)
- c) Discuss the THREE major components of knowledge based systems. (6 marks)
- d) Discuss the following ways with respect to inference engine (8 marks)
 - i) Abduction
 - ii) Forward chaining
 - iii) Backward chaining
 - iv) Reasoning under uncertainty
- e) Explain the issues arising from, and impact of artificial Intelligence in society (8 marks)

QUESTION TWO (20 MARKS)

- a) Discuss TWO major application areas of AI with relevant examples. (6 marks)
- b) Explain how the brain influences the way human beings solve problems. (6 marks)
- c) Discuss the following approaches to learning giving merits and demerits of each (8 marks)
- i) Discovery
 - ii) Observation
 - iii) Supervised learning
 - iv) Learning from examples

QUESTION THREE (20 MARKS)

- a) Discuss in detail the relationship between knowledge engineering and national development. (10 marks)
- b) Discuss the issues behind the failure of adopting AI. (10 marks)

QUESTION FOUR (20 MARKS)

- a) Differentiate between government and governance (4 marks)
- b) Discuss the importance of an e-government in detail (8 marks)
- c) Discuss the challenges of implementing an e-government (8 marks)

QUESTION FIVE (20 MARKS)

- a) Discuss the challenges of implementing digital culture (10 marks)
- b) Discuss the impact of knowledge based systems in the society today (10 marks)

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