



NATIONAL OPEN UNIVERSITY OF NIGERIA

14/16, Ahmadu Bello Way, Victoria Island

SCHOOL OF SCIENCE AND TECHNOLOGY

October, 2013 Examination

Course Code: CIT 474

Time: 3hrs

Course Title: Introduction to Expert Systems
3

Course Credit Unit:

Instruction: Answer any five (5) questions.

QUESTIONS

1a. Give a concise description of a 'shell' in expert systems.
(3 marks)

1b. Name the generic components of a shell. (5 marks)

1c. State the main difference between forward chaining and backward chaining.
(6 marks)

[Total = 14 marks]

2a. Give a brief explanation of the following from the perspective of expert systems:

i. Blackboard system

ii. Inference engine

iii. MYCIN

iv. Working memory 3 marks each = (12 marks)

2b. State any 2 advantages of expert systems.
(2 marks)

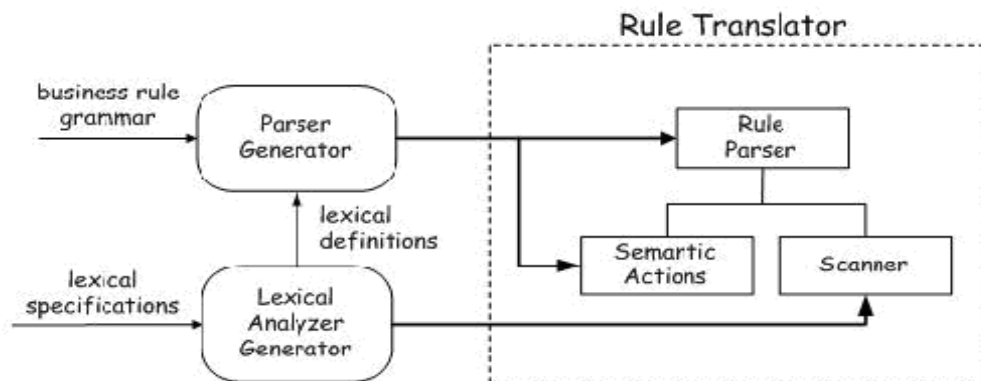
[Total = 14 marks]

3a. Outline the key functions of individuals who interact with expert systems.
(12 marks)

3b. Give a concise explanation of how expert systems resolve uncertainties.
(2 marks)

[Total = 14 marks]

4. Answer the questions that follow after going through the figure below:



4a. What does the figure depict? (4 marks)

4b. Specify the major role of the rule parser. (6 marks)

4c. Write down the products of the parser generator.
(4 marks)

[Total = 14 marks]

5a. Explain the procedure for designing and building a rule engine.
(10 marks)

5b. Name 2 basic 'Rule Actions' in expert systems.
(4 marks)

[Total = 14marks]

6a. The quality and effectiveness of speech produced by speech synthesizers are based on a number of characteristics. State any 3 of these characteristics.
(6 marks)

6b. Name 2 common forms of inferences.
(4 marks)

6c. State the difference between these 2 forms of inferences.
(4 marks)

[Total = 14 marks]

7a. Explain the concept of the 'Conversational Speech Interface'.
(6 marks)

7b. List 5 key components of an expert system.
(5 marks)

7c. Define the term 'grammar'.
(3 marks)

[Total = 14 marks]