NATIONAL OPEN UNIVERSITY OF NIGERIA

PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI – ABUJA FACULTY OF SCIENCES DEPARTMENT OF COMPUTER SCIENCE 2022 2 EXAMINATIONS

COURSE CODE: CIT474

COURSE TITLE: INTRODUCTION TO EXPERT SYSTEMS

COURSE CREDIT: 2 UNITS TIME ALLOWED: 2 HOURS

INSTRUCTION: ANSWER QUESTION 1 AND ANY OTHER THREE (3) QUESTIONS

QUESTION 1

- 1a. What does the sensor stage in vision of a **Mycin** do? (12 marks)
- b. Enumerate extensively the components of Knowledge Engineering Environment (KEE) system. (10marks)
- c. Draw the components of MYCIN system. (3 marks)
- d. Categorize the following into "ADVANTAGE" or "DISADVANTAGE" of expert system:
 - (i) Degradation (ii) Timeliness (iii) Creativity (iv) Learning (v) Scope (5 marks)

OUESTION 2

- 2a. Describe the procedure for designing and building a rule editor. (6 marks)
- b. Indicate the year each of the following was invented. (5 marks)
- c. State two (2) issues that must be considered when building a natural interface for an expert system? (4 marks)
- d. Name five (5) distinguishing characteristics of programming languages needed for expert systems applications. (5 marks)

QUESTION 3

- 3a. Expert systems are now in commercial and research use in a number of fields. State the fields. (12 marks)
- b. Describe the method a Mycin operates. (8marks).

QUESTION 4

- 4a. What are the four steps involved in the execution of rule Engine? (6 marks)
- b. In the context of object-oriented programming, name six (5) postulates of inheritance in Frame- Based experts. (10marks)
- c. Explain what this expert system characteristic means: "Make logical inferences based on knowledge stored." (4marks)





QUESTION 5

- 5a. Outline and elucidate five (5) components of Expert System (12.5 marks)
- b. Write an overview of a Knowledge Engineering Environment (KEE). (7.5marks).