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)***

QUESTION 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).**