NATIONAL OPEN UNIVERSITY OF NIGERIA
14-16 AHMADU BELLO WAY, VICTORIA ISLAND LAGOS
SEPTEMBER/OCTOBER 2015 EXAMINATION
SCHOOL OF SCIENCE AND TECHNOLOGY

COURSE CODE: **CIT 474**

COURSE TITLE: **Introduction to Expert Systems**

TIME ALLOWED: **2 Hours**
INSTRUCTION: Answer any four (4) questions.

1a. Give a concise definition of the following within the context of expert systems:
i. Explanation facility (3 ½ marks)
ii. Working memory (4 marks)

1b. Identify any five (5) benefits of expert systems. (10 marks)

[Total = 17$^{1}/_{2}$ marks]

2a. Outline the steps involved in designing and building a **rule engine**using a well labelled diagram. (11$^{1}/_{2}$ marks)

2b. State two (2) typical 'Rule Actions' in expert systems. (6 marks)

[Total = 17$^{1}/_{2}$ marks]

3. In the context of expert systems, describe the notion of 'Blackboards'using a well-labelled diagram to illustrate it's components.

[Total = 17$^{1}/_{2}$ marks]

4. Give the precise roles of the following in the event that they relate to expert systems:
a. Domain Expert) 5 marks
b. System Engineer) 5 marks
c. User) 2$^{1}/_{2}$ marks
d. Knowledge Engineer) 5 marks

[Total = 17$^{1}/_{2}$ marks]

5a. Following from the principle of interactivity, state any four (4) ways of interacting in expert systems. (12 marks)

5b. Expert systems are said to be cost-effective compared to human experts. Give three (3) good reasons for this. (5^{1}/2 marks)

[Total = 17$^{1}/_{2}$ marks]

6. Describe the technique of the automatic generation of Rule Translation using a well-labelled diagram for your illustration.

[Total = 17$^{1}/_{2}$ marks]