CROSS RIVER UNIVERSITY OF TECHNOLOGY, CALABAR
DEPARTMENT OF COMPUTER SCIENCE
FIRST SEMESTER EXAMINATIONS 2018/2019 SESSION

COURSE CODE: 4102
COURSE TITLE: ARTIFICIAL INTELLIGENC **TIME: 2HRS**
INSTRUCTION: Attempt question one and any other three questions

QUESTION ONE

a. Answer the following Artificial Intelligence Multiple Choice Questions (MCQs)

(a1) What is Artificial Intelligence (b) Putting your intelligence into Computer
b. Programming with your own intelligence (c) Making a Machine Intelligence (d) Playing a Game
(a2) Which is not the commonly used programming language for AI? (a) PROLOG (b) Java (c) LISP (d) Perl
(a3) Artificial Intelligence has its expansion in the following application. (Mark all that apply) (a) Planning and Scheduling (b) Game Playing (c) Diagnosis (d) All of the mentioned

b. Read the following passage on Artificial Intelligence and answer the question that follows

Artificial Intelligence – a technology and can also be said as a branch of computer science which studies and develops intelligent machines and software. This technology is in burning use now-a-days. How? well, everybody uses calculator, right? So, has anybody thought how is this possible that when we press the buttons 4, + and 5, it gives 9 as a result, because we know and can identify “4”, “+” and “5”, but the calculator doesn’t have any brain of its own, then how does it gives the result! This is artificial intelligence. I hope now you have understood the importance of Artificial Intelligence. Knowing about its importance you can easily understand that wherever you would be applying for a job, if you have good knowledge of this subject, you can easily answer them. But there are some important questions which do not click in our brains all the times.

What is artificial intelligence in the context of this passage?

c. What is expert system?

QUESTION TWO

Draw and describe the architecture of an expert system.

QUESTION THREE

a. Explain a knowledge bases system in the context of artificial intelligence?
b. What is Pattern Recognition?
c. Briefly describe Learning.

QUESTION FOUR

a. Distinguish and discuss the two categories of the entire data set provided to the system during Training and learning in Pattern Recognition.
b. Illustrate diagrammatically to show how the categories of the entire dataset provided to the system during Training and learning in Pattern Recognition function.

QUESTION FIVE

a. Briefly discuss the Natural Language Generation (NLG)
b. Briefly discuss and with a sketch to show the general framework for solving problems by computer using Knowledge Representation

QUESTION SIX

a. Write a expert system to diagnose three (3) sicknesses of your choice in a human being
b. State and briefly account for the major stages of knowledge acquisition.
c. Differentiate between an Expert System and Software program.

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COURSE CODE: 4204
COURSE TITLE: COMPUTER GRAPHICS **TIME: 2HRS**
INSTRUCTION: ANSWER ANY FOUR QUESTIONS

1a. How would you define Artificial Intelligence, Expert System?

b. Draw an inference rule to detect the presence of hepatitis in human body following MYCIN approach.

c. What are the major benefits of AI/ES as compared to traditional software?

2. How do software engineers transfer the knowledge of Domain Knowledge Expert to the PC for it to take over the task of a human expert?

3a. What are the key issues today in AI Research?

b. Robot is a good example of an intelligence machine. How would you explain what a robot is and its key components? Which of the parts are handled by AI programmers

4. Explain briefly the following branches of AI (2 marks each) 1 mar for illustrations

- Pattern Recognition
- Ontology
- Heuristics
- Genetic Programming
- Natural Language Processing
- AI/ES Programming Language

5a. Who is the domain knowledge expert? Explain his role in AI software development.

b. Who is the knowledge engineer? Explain his role in AI software development

c. What do we do with AI/ES fruits today?

6. Is there any difference between “heuristic” and “logical’ problem solving?