DSVV

COVID – 19 (ONLINE EXAMINATION)

देव संस्कृति विश्वविद्यालय

शान्तिकुन्ज, हरिद्वार

आन्तरिक मूल्यांकन परीक्षा – INTERNAL EVALUATION TEST

उत्तर-पुस्तिका

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पेपर कोड Paper code: .....

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नामांकन संख्या Enrollment Number: .....

कक्षा Class: BCA (6th Sem)

विषय Subject: AI

दिनाँक Date: 24/03/21

दिन Day: Wednesday

प्रश्न पत्र संख्या Examination Paper Number: .....

लघुत्तरीय A) Short Answer Type		योग/Total
1	2	
दीर्घ उत्तरीय B) Long Answer Type		
1		
कुल योग अंकों में / TOTAL IN DIGITS		
कुल योग शब्दों में/TOTAL IN WORDS		

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Date

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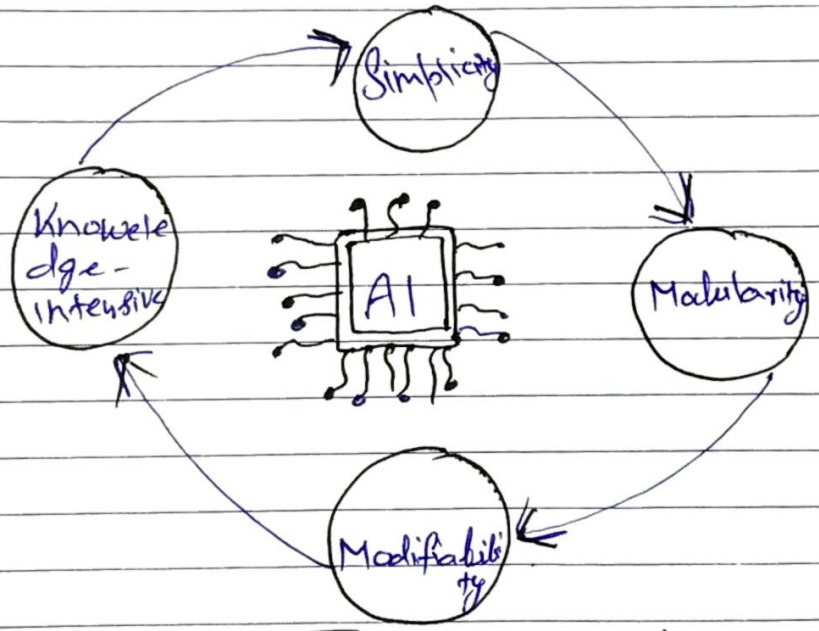
Short Answer type question

1. Production System or production rule System is a computer program typically used to provide some form of artificial intelligence, which consists of a set of rules about behavior but it also include the mechanism nessary to follow those rules as the System responds to states of the world.

Features of production System in AI

- The main features of the production System include.



i. Simplicity:- The structure of each Sentence in a production System is unique and uniform as they use the "IF-THEN" structure.

ii) Modularity: This means the production rule code the Knowledge available in discrete pieces.

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iii) Modifiability :- This means the facility for modifying rules.

iv) Knowledge-intensive :- The knowledge base of the production system stores pure knowledge.

Advantages

- Provides excellent tools of structuring AI programs
- The system is highly modular because individual rules can be added, removed or modified independently.
- Separation of Knowledge and control - Recognise Act cycle.
- A good way to model the state-driven nature of intelligent machines.

Disadvantages

- It is very difficult to analyze the flow of control within a production system.
- It describes the operations that can be performed in a search for solution to the problem.
- There is an absence of learning due to a rule-based production system that does not store the result of the problem for future use.

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2) ANN:-

- Artificial Neural Network (ANN) uses the processing of the brains as a basis to develop algorithms that can be used to model complex patterns and prediction problem.
- ANN has been successfully applied to broad spectrum of data-intensive applications like financial, data mining, operational analysis, industrial sales and marketing.
- One such important application is in the field of medical science such as
- Medical diagnosis.
- Detection and evaluation of medical phenomena
- Patient's length of stay forecasts
- Treatment cost estimation.
- Handwriting Recognition - The idea of Handwriting recognition has become very important.
- Traveling-Salesman problem - Naural networks can also solve the traveling salesman problem.
- Image Compression: Vast amounts of input information is received and processed at one by neural Network

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Long Answer type Question

h) FUZZY Logic:-

- Fuzzy Logic is defined as a many-valued logic form which may have truth values of variables in any real number between 0 and 1.
- It is the handle concept of partial truth.
- In real life, we may come across a situation where we can't decide wether the statement is true of or false.
- At that time, fuzzy logic offers very valuable flexibility for reasoning.
- Fuzzy logic algorithm helps to solve a problem after considering all available data.

Characteristic of Fuzzy logic

- Flexible and easay to implement machine learning technique
- Helps you to mimic the logic of human thought
- Logic may have few value which represent two possible solution.

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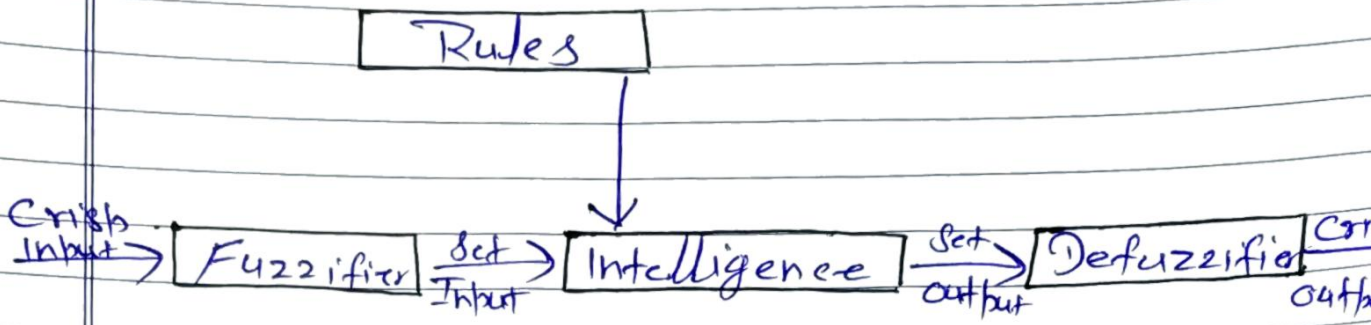
Fuzzy dogic Arcteecture



- Rule Base:- It contains the rules and the if-then conditions offered by the experts to control the decision making system.
- Fuzzification:- Fuzzification's step helps to convert inputs.
- Inference Engine:- It help you do determine the degree of match between fuzzy input th rules.
- Defuzzification:- At last the Defuzzification process is performed to convert the fuzzy sets into a crisp value.

Fuzzy Logic examples

- See the below-given diagram.
- It shows in a Fuzzy system, the values are denoted by a 0 to 1 number.

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In this example, 1.0 means absolute truth and 0.0 means absolute falseness.