**SCOA Unit I MCQ**

1. **Membership function defines the fuzziness in a fuzzy set irrespective of the elements in the set, which are discrete or continuous.**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | True |
| **[B.](javascript:void(0);)** | False |

1. **The membership functions are generally represented in**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Tabular Form |
| **[B.](javascript:void(0);)** | Graphical Form |
| **[C.](javascript:void(0);)** | Mathematical Form |
| **[D.](javascript:void(0);)** | Logical Form |
|  |  |

1. **Membership function can be thought of as a technique to solve empirical problems on the basis of**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | knowledge |
| **[B.](javascript:void(0);)** | examples |
| **[C.](javascript:void(0);)** | learning |
| **[D.](javascript:void(0);)** | experience |

1. **Three main basic features involved in characterizing membership function are**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Intution, Inference, Rank Ordering |
| **[B.](javascript:void(0);)** | Fuzzy Algorithm, Neural network, Genetic Algorithm |
| **[C.](javascript:void(0);)** | Core, Support , Boundary |
| **[D.](javascript:void(0);)** | Weighted Average, center of Sums, Median   1. **The region of universe that is characterized by complete membership in the set  is called**  |  |  | | --- | --- | | **[A.](javascript:void(0);)** | Core | | **[B.](javascript:void(0);)** | Support | | **[C.](javascript:void(0);)** | Boundary | | **[D.](javascript:void(0);)** | Fuzzy | |

1. **A fuzzy set whose membership function has at least one element x in the universe whose membership value**

**is unity is called**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | sub normal fuzzy sets |
| **[B.](javascript:void(0);)** | normal fuzzy set |
| **[C.](javascript:void(0);)** | convex fuzzy set |
| **[D.](javascript:void(0);)** | concave fuzzy set |

1. **In a Fuzzy set a prototypical element has a value**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | 1 |
| **[B.](javascript:void(0);)** | 0 |
| **[C.](javascript:void(0);)** | infinite |
| **[D.](javascript:void(0);)** | Not defined |

1. **A fuzzy set wherein no membership function has its value equal to 1 is called**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | normal fuzzy set |
| **[B.](javascript:void(0);)** | Subnormal fuzzy set. |
| **[C.](javascript:void(0);)** | convex fuzzy set |
| **[D.](javascript:void(0);)** | concave fuzzy set |

1. **A  fuzzy set has a membership function whose membership values are strictly monotonically increasing or strictly monotonically decreasing or strictly monotonically increasing than strictly monotonically decreasing with increasing values for elements in the universe**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | convex fuzzy set |
| **[B.](javascript:void(0);)** | concave fuzzy set |
| **[C.](javascript:void(0);)** | Non concave Fuzzy set |
| **[D.](javascript:void(0);)** | Non Convex  Fuzzy set |
|  |  |

1. **The membership values of the membership function are nor strictly monotonically increasing or decreasing or strictly monoronically increasing than decreasing.**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Convex Fuzzy Set |
| **[B.](javascript:void(0);)** | Non convex fuzzy set |
| **[C.](javascript:void(0);)** | Normal Fuzzy set |
| **[D.](javascript:void(0);)** | Sub normal fuzzy set |

1. **The crossover points of a membership function are defined as the elements in the universe for which a particular fuzzy set has values equal to**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | infinite |
| **[B.](javascript:void(0);)** | 1 |
| **[C.](javascript:void(0);)** | 0 |
| **[D.](javascript:void(0);)** | 0.5 |

1. **Fuzzy Computing**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | doesnt deal with 2 valued logic |
| **[B.](javascript:void(0);)** | mimics human behaviour |
| **[C.](javascript:void(0);)** | deals with information which is vague, imprecise, uncertain, ambiguous, inexact, or probabilistic |
| **[D.](javascript:void(0);)** | All of the above |

1. **ANN is composed of large number of highly interconnected processing elements(neurons) working in unison to solve problems.**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | True |
| **[B.](javascript:void(0);)** | False |

1. **Artificial neural network used for**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Pattern Recognition |
| **[B.](javascript:void(0);)** | Classification |
| **[C.](javascript:void(0);)** | Clustering |
| **[D.](javascript:void(0);)** | All of these |

1. **A Neural Network can answer**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | For Loop questions |
| **[B.](javascript:void(0);)** | what-if questions |
| **[C.](javascript:void(0);)** | IF-The-Else Analysis Questions |
| **[D.](javascript:void(0);)** | None of these     1. **Ability to learn how to do tasks based on the data given for training or initial experience**  |  |  | | --- | --- | | **[A.](javascript:void(0);)** | Self Organization | | **[B.](javascript:void(0);)** | Adaptive Learning | | **[C.](javascript:void(0);)** | Fault tolerance | | **[D.](javascript:void(0);)** | Robustness | |

1. **Feature of ANN in which ANN  creates its own organization or representation of information it receives during learning time is**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Adaptive Learning |
| **[B.](javascript:void(0);)** | Self Organization |
| **[C.](javascript:void(0);)** | What-If Analysis |
| **[D.](javascript:void(0);)** | Supervised Learniing |

1. **In artificial Neural Network interconnected processing elements are called**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | nodes or neurons |
| **[B.](javascript:void(0);)** | weights |
| **[C.](javascript:void(0);)** | axons |
| **[D.](javascript:void(0);)** | Soma |

1. **Each connection link in ANN is associated with \_\_\_\_\_\_\_\_  which has information about the input signal.**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | neurons |
| **[B.](javascript:void(0);)** | weights |
| **[C.](javascript:void(0);)** | bias |
| **[D.](javascript:void(0);)** | activation function |

1. **Neurons or artificial neurons  have the capability to model networks of original neurons as found in brain**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | True |
| **[B.](javascript:void(0);)** | False |

1. **Internal state of neuron is called \_\_\_\_\_\_\_\_\_\_,  is the function of the inputs the neurons receives**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Weight |
| **[B.](javascript:void(0);)** | activation or activity level of neuron |
| **[C.](javascript:void(0);)** | Bias |
| **[D.](javascript:void(0);)** | None of these |

1. **Neuron can send  \_\_\_\_\_\_\_\_  signal at a time.**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | multiple |
| **[B.](javascript:void(0);)** | one |
| **[C.](javascript:void(0);)** | none |
| **[D.](javascript:void(0);)** | any number of |

1. **Artificial intelligence is**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | It uses machine-learning techniques. Here program can learn From past experience and adapt themselves to new situations |
| **[B.](javascript:void(0);)** | Computational procedure that takes some value as input and produces some value as output. |
| **[C.](javascript:void(0);)** | Science of making machines performs tasks that would require intelligence when performed by humans |
| **[D.](javascript:void(0);)** | None of these   1. **Expert systems**  |  |  | | --- | --- | | **[A.](javascript:void(0);)** | Combining different types of method or information | | **[B.](javascript:void(0);)** | Approach to the design of learning algorithms that is structured along the lines of the theory of evolution | | **[C.](javascript:void(0);)** | an information base filled with the knowledge of an expert formulated in terms of if-then rules | | **[D.](javascript:void(0);)** | None of these | |

1. **Falsification is**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Modular design of a software application that facilitates the integration of new modules |
| **[B.](javascript:void(0);)** | Showing a universal law or rule to be invalid by providing a counter example |
| **[C.](javascript:void(0);)** | A set of attributes in a database table that refers to data in another table |
| **[D.](javascript:void(0);)** | None of these |

1. **Evolutionary computation is**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Combining different types of method or information |
| **[B.](javascript:void(0);)** | Approach to the design of learning algorithms that is structured along the lines of the theory of evolution. |
| **[C.](javascript:void(0);)** | Decision support systems that contain an information base filled with the knowledge of an expert formulated in terms of if-then rules. |
| **[D.](javascript:void(0);)** | None of these |

1. **Extendible architecture is**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Modular design of a software application that facilitates the integration of new modules |
| **[B.](javascript:void(0);)** | Showing a universal law or rule to be invalid by providing a counter example |
| **[C.](javascript:void(0);)** | A set of attributes in a database table that refers to data in another table |
| **[D.](javascript:void(0);)** | None of these |

1. **Massively parallel machine is**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | A programming language based on logic |
| **[B.](javascript:void(0);)** | A computer where each processor has its own operating system, its own memory, and its own hard disk |
| **[C.](javascript:void(0);)** | Describes the structure of the contents of a database. |
| **[D.](javascript:void(0);)** | None of these |

1. **Search space**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | The large set of candidate solutions possible for a problem |
| **[B.](javascript:void(0);)** | The information stored in a database that can be, retrieved with a single query. |
| **[C.](javascript:void(0);)** | Worth of the output of a machine learning program that makes it understandable for humans |
| **[D.](javascript:void(0);)** | None of these |

1. **n(log n) is referred to**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | A measure of the desired maximal complexity of data mining algorithms |
| **[B.](javascript:void(0);)** | A database containing volatile data used for the daily operation of an organization |
| **[C.](javascript:void(0);)** | Relational database management system |
| **[D.](javascript:void(0);)** | None of these |

1. **Perceptron is**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | General class of approaches to a problem. |
| **[B.](javascript:void(0);)** | Performing several computations simultaneously |
| **[C.](javascript:void(0);)** | Structures in a database those are statistically relevant |
| **[D.](javascript:void(0);)** | Simple forerunner of modern neural networks, without hidden layers |

1. **Prolog is**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | A programming language based on logic |
| **[B.](javascript:void(0);)** | A computer where each processor has its own operating system, its own memory, and its own hard disk |
| **[C.](javascript:void(0);)** | Describes the structure of the contents of a database |
| **[D.](javascript:void(0);)** | None of these |

1. **Shallow knowledge**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | The large set of candidate solutions possible for a problem |
| **[B.](javascript:void(0);)** | The information stored in a database that can be, retrieved with a single query |
| **[C.](javascript:void(0);)** | Worth of the output of a machine learning program that makes it understandable for humans |
| **[D.](javascript:void(0);)** | None of these |

1. **Quantitative attributes are**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | A reference to the speed of an algorithm, which is quadratically dependent on the size of the data |
| **[B.](javascript:void(0);)** | Attributes of a database table that can take only numerical values |
| **[C.](javascript:void(0);)** | Tools designed to query a database |
| **[D.](javascript:void(0);)** | None of these |

1. **Subject orientation**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | The science of collecting, organizing, and applying numerical facts |
| **[B.](javascript:void(0);)** | Measure of the probability that a certain hypothesis is incorrect given certain observations. |
| **[C.](javascript:void(0);)** | One of the defining aspects of a data warehouse, which is specially built around all the existing applications of the operational data |
| **[D.](javascript:void(0);)** | None of these |

1. **Vector**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | It do not need the control of the human operator during their execution |
| **[B.](javascript:void(0);)** | An arrow in a multi-dimensional space. It is a quantity usually characterized by an ordered set of scalars |
| **[C.](javascript:void(0);)** | The validation of a theory on the basis of a finite number of examples |
| **[D.](javascript:void(0);)** | None of these |

1. **Transparency**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | The large set of candidate solutions possible for a problem |
| **[B.](javascript:void(0);)** | The information stored in a database that can be retrieved with a single query |
| **[C.](javascript:void(0);)** | Worth of the output of a machine learning program that makes it understandable for humans |
| **[D.](javascript:void(0);)** | None of these |

1. **Core of soft Computing is**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Fuzzy Computing, Neural Computing, Genetic Algorithms |
| **[B.](javascript:void(0);)** | Fuzzy Networks and Artificial Intelligence |
| **[C.](javascript:void(0);)** | Artificial Intelligence and Neural Science |
| **[D.](javascript:void(0);)** | Neural Science and Genetic Science |

1. **Who initiated the idea of Soft Computing**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Charles Darwin |
| **[B.](javascript:void(0);)** | Lofti A Zadeh |
| **[C.](javascript:void(0);)** | Rechenberg |
| **[D.](javascript:void(0);)** | Mc\_Culloch |

1. **Fuzzy Computing**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | mimics human behaviour |
| **[B.](javascript:void(0);)** | doesnt deal with 2 valued logic |
| **[C.](javascript:void(0);)** | deals with information which is vague, imprecise, uncertain, ambiguous, inexact, or probabilistic |
| **[D.](javascript:void(0);)** | All of the above |

1. **Neural Computing**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | mimics human brain |
| **[B.](javascript:void(0);)** | information processing paradigm |
| **[C.](javascript:void(0);)** | Both (a) and (b) |
| **[D.](javascript:void(0);)** | None of the above |

1. **Genetic Algorithm are a part of**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Evolutionary Computing |
| **[B.](javascript:void(0);)** | inspired by Darwin's theory about evolution - "survival of the fittest" |
| **[C.](javascript:void(0);)** | are adaptive heuristic search algorithm based on the evolutionary ideas of natural selection and genetics |
| **[D.](javascript:void(0);)** | All of the above |

1. **What are the 2 types of learning**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Improvised and unimprovised |
| **[B.](javascript:void(0);)** | supervised and unsupervised |
| **[C.](javascript:void(0);)** | Layered and unlayered |
| **[D.](javascript:void(0);)** | None of the above |

1. **Supervised Learning is**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | learning with the help of examples |
| **[B.](javascript:void(0);)** | learning without teacher |
| **[C.](javascript:void(0);)** | learning with the help of teacher |
| **[D.](javascript:void(0);)** | learning with computers as supervisor |

1. **Unsupervised learning is**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | learning without computers |
| **[B.](javascript:void(0);)** | problem based learning |
| **[C.](javascript:void(0);)** | learning from environment |
| **[D.](javascript:void(0);)** | learning from teachers |

1. **Conventional Artificial Intelligence is different from soft computing in the sense**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | Conventional Artificial Intelligence deal with prdicate logic where as soft computing deal with fuzzy logic |
| **[B.](javascript:void(0);)** | Conventional Artificial Intelligence methods are limited by symbols where as soft computing is based on empirical data |
| **[C.](javascript:void(0);)** | Both (a) and (b) |

1. **In supervised learning**

|  |  |
| --- | --- |
| **[A.](javascript:void(0);)** | classes are not predefined |
| **[B.](javascript:void(0);)** | classes are predefined |
| **[C.](javascript:void(0);)** | classes are not required |
| **[D.](javascript:void(0);)** | classification is not done |