Solved Midterm Paper	CS607- Artificial Intelligence	
	VUAPEX.COM.PK	
	MIDTERM EXAMINATION Spring 2011 CS607- Artificial Intelligence	
	ks: 1) - Please choose one good idea when you are confident that the branching factor is	
► Extremely small		
► Small		
►Medium		
►Large		
	ks: 1) - Please choose one	
Another expert system na configuration assistant.	amedwas developed by Digital Equipment Corporation, as a computer	
configuration assistant.		
► R1/XCON (Page 1	12)	
► MYCIN		
►Dendral		
►R3/XCON		
Question No. 3 (Mar	ks: 1) - Please choose one	
An AI system must form a meaningful and useful of the internal information.		
5	6	
► Representation (Pag	ge 89)	
► Execution		
► Learning		
▶ Planning		

Question No: 4 (Marks: 1) - Please choose one An AI system has a component that allows the system to get information from its environment.
 Planning Perception (Page 89) Learning Execution
 Question No: 5 (Marks: 1) - Please choose one Progressive deepening guarantees to find the solution at a minimum depth like ▷ DFS ▷ BFS (Page 37) ▷ None
Question No: 6 (Marks: 1) - Please choose one In Adversarial search the goals of the adversaries are usually to each other ▶ Contrary (Page 62) ▶ Same ▶ None
Question No: 7 (Marks: 1) - Please choose one Which Cycle does the following figure show?
PERCEPTION
 AI Cycle (Page 89) Design Cycle SDLC None

Question No: 8Please choose oneTo infer new information from semantic networks, we can ask questions from nodes.

True (Page 97)False

Question No: 9 (Marks: 1) - Please choose one

Which one is not the application area of expert system?

- ► Diagnosis
- ▶ Prescription
- ► Interpretation
- ► None (Page 114)

Ref: - Expert systems may be used in a host of application areas including diagnosis, interpretation, prescription, design, planning, control, instruction, prediction and simulation.

Question No: 10 (Marks: 1) - Please choose one

An expert system is different from conventional programs in the sense that program control and knowledge are _____.

Separate (Page 121)

- ► Defined
- ►Together
- ►Common

Question No: 11 (Marks: 1) - Please choose one

Which one of the following is involved in an ES development project:

► The domain expert

- ► The knowledge engineer
- ► The end user
- ► All of the given (Page 122)

Question No: 12 (Marks: 1) - Please choose one

Semantic networks are computationally expensive at

► Run time (Page 97)

- ► Compile Time
- ► Start Time
- ► End Time

MIDTERM EXAMINATION Spring 2011 CS607- Artificial Intelligence

Question No: 1 (Marks: 1) - Please choose one

We can get optimal solution given some parameters using Genetic Algorithm.

► True (Page 79)

► False

Question No: 2 (Marks: 1) - Please choose one

reasoning is based on forming, or inducing a "generalization" from a limited set of observations.

- ► Deductive
- ► Abductive
- ► Analogical
- ► Inductive (Page 102)

Question No: 3 (Marks: 1) - Please choose one

_____ is the process of deriving logical conclusions from given facts.

- ▶ Representation
- ► Execution
- ► Reasoning (Page 102)
- ► Planning

Question No: 4 (Marks: 1) - Please choose one

Identify the correct step used to start design of an expert system.

- ► Feasibility study (Page 129)
- ► Problem reorganization
- ► Scope study
- ► Rapid prototyping

Question No: 5 (Marks: 1) - Please choose one

Inductive learning is based on the knowledge that if something happens a lot it is likely to be generally

True (Page 160)

► False

► Ambiguous

► None of the given

Question No: 6 Please choose one

If the antecedent is only partially true, then the output fuzzy set is truncated according to the _____ method

► Intrinsic

► Implication (Page 153)

▶Boolean

► None of the given

Question No: 7 (Marks: 1) - Please choose one

Choose the fields in which Fuzzy inference systems have been successfully applied:

► automatic control

► data classification

► decision analysis

All of the given (Page 153)

Question No: 8 (Marks: 1) - Please choose one

Usually a _____ graph is chosen to represent a fuzzy set.

Triangular (Page 151)

►Circular

► Conical

► None of the given

Question No: 9 (Marks: 1) - Please choose one

Fuzzy logic is actually a superset of conventional Boolean logic

► TRUE (Page 150)► FALSE

Question No: 10 (Marks: 1) - Please choose one

Reasoning in fuzzy logic is just a matter of generalizing the familiar _____ logic.

► Boolean (Page 147)

► Complex

► Coagnitive

► Supervised

Question No: 11 (Marks: 1) - Please choose one

A classical set is a container, which wholly includes or wholly excludes any given element.

► TRUE (Page 145)► FALSE

Question No: 12 (Marks: 1) - Please choose one

The degree of truth that we have been talking about is specifically driven out by a function called the ______ function.

► Membership (Page 149)

- ► Ordinary
- ►Fuzzy
- ► Inline

Question No: 13 (Marks: 1) - Please choose one

The tractable problems are further divided into structured and _____ problems

- ► Non-structured
- Complex (Page 166)
- ► Simple

Question No: 14 (Marks: 1) - Please choose one

If the antecedent is only partially true, then the output fuzzy set is truncated according to the ______ method

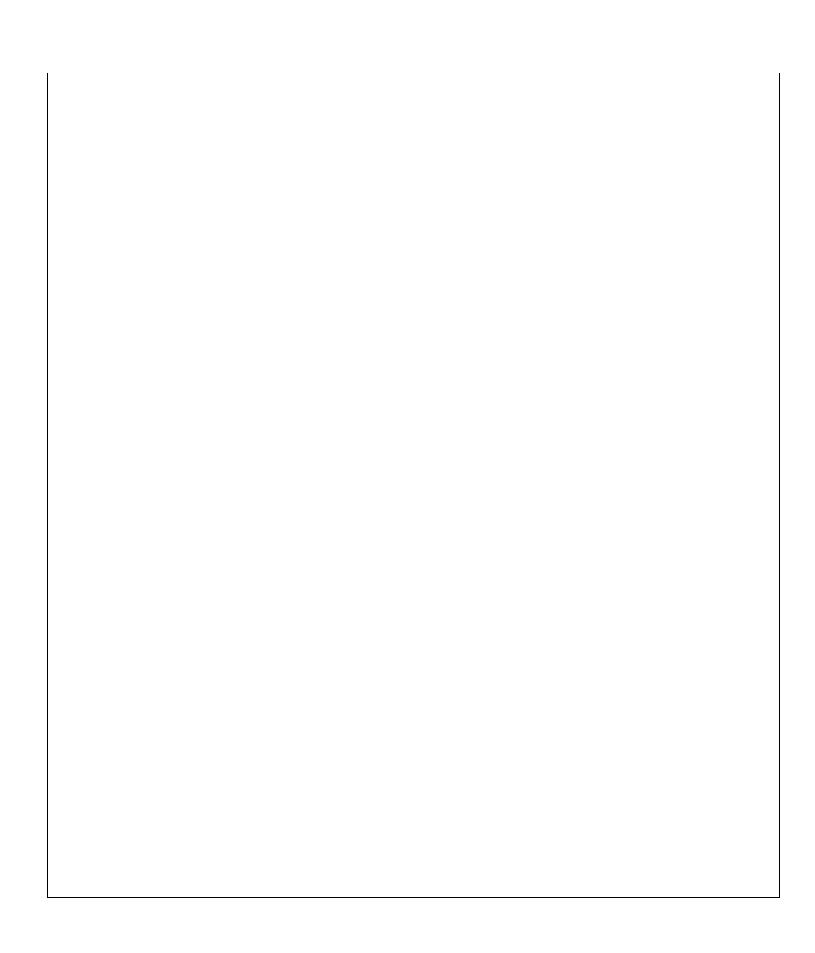
- ► Intrinsic
- ► Implication (Page 153) rep
- ► MSE stands for
- ► Mean Square Error

MIDTERM EXAMINATION Spring 2010 CS607- Artificial Intelligence (Session - 1)

Question No: 1 (Marks: 1) - Please choose one

"The branch of computer science that is concerned with the automation of intelligent behavior" this definition is from:

- ► Luger and Stubblefield (Page 8)
- ► Winston
- ► Schalkoff
- ▶ Bellman



Question No: 2 Please choose one

Searching is a formal mechanism to explore

- Alternatives (Page 21)
- ► Recursive
- ►Best
- ► Fitness

Question No: 3 (Marks: 1) - Please choose one

In Artificial Intelligence GA stands for Genetic Algorithms

► True (Page 77)

► False

Question No: 4 (Marks: 1) - Please choose one

----- is based on forming, or inducing a "generalization" from a limited set of observations

► Inductive reasoning (Page 102)

- ► Deductive reasoning
- Analogical reasoning
- ► Common-sense reasoning

Question No: 5 (Marks: 1) - Please choose one

"A computer program designed to model the problem solving ability of a human expert" is known as ---

Expert system (Page 111)

- ► Intelligent System
- ► Echo System
- ► Energy System

Question No: 6 (Marks: 1) - Please choose one

An expert system may replace the expert or assist the expert

```
True (Page 113)False
```

Question No: 7 (Marks: 1) - Please choose one

A ----- is "A person who posses the skill and knowledge to solve a specific problem in a manner superior to others"

The domain expert (Page 122)

► The knowledge engineer

► The end user

► All of the given

Question No: 8 (Marks: 1) - Please choose one

Hill Climbing is basically a ----- with a measure of quality that is assigned to each node in the tree.

► Depth First Search (Page 39)

- ► Breadth First Search
- ► Best First Search
- ► Beam Search

Question No: 9 (Marks: 1) - Please choose one

----- are closely coupled components; each is intrinsically tied to the other.

i-Knowledge representation ii-

Reasoning iii-Planning iv-

Execution

- ▶ ii & iii
- ▶ ii & iii
- ▶ iii & iv
- ▶ i & ii (Page 89)

Question No: 10 (Marks: 1) - Please choose one

Every graph can be converted into a tree

True (Page 22)

► False

Question No: 11 (Marks: 1) - Please choose one

Which one of the problem is more subtle, and consequently, is more frustrating:

► Foothill problem

▶ Plateau

► Ridge (Artificial Intelligence, 3/E) <u>click here for detail</u>

►Box

MIDTERM EXAMINATION Spring 2009 CS607- Artificial Intelligence (Session - 1)

Question No: 1	(Marks: 1)	- Please choose one	
Most of the solution	on spaces for	problems can be represented in a	

► Graph (Page 21)

- ►Table
- ▶Demo

Question No: 2 (Marks: 1) - Please choose one

By getting grips on ______ that deal with searching techniques in graphs and trees, problem solving can be performed in an efficient manner.

- ► Pseudocode
- ► Algorithms (Page 21)
- ► Charts
- ► Graphs

Question No: 3 (Marks: 1) - Please choose one

Every graph can be converted into a tree.

True (Page 22)False

Question No: 4 (Marks: 1) - Please choose one

In Breadth First Search the node with the largest value of height will be at the _____ priority to be picked.

Maximum (Page 28)

- ► Minimum
- ► None of the given

Question No: 5 (Marks: 1) - Please choose one

Breadth-First Search checks all paths of a given length before moving on to any longer paths.

► True <u>Click here for detail</u>

► False

Question No: 6

Breadth-first search is a good idea when you are confident that the branching factor is _____

► Extremely small

Small (Artificial Intelligence, 3/E) <u>click here for detail</u>

- ►Medium
- ►Large

Question No: 7 (Marks: 1) - Please choose one

The foothhill problem occurs whenever there are _____ peaks.

►High

Secondary (Artificial Intelligence, 3/E) <u>click here for detail</u>

- ▶ Primary
- ►Deep

Question No: 8 (Marks: 1) - Please choose one

The Plateau problem comes up when there is a mostly flat area ______ the peaks.

Separating (Artificial Intelligence, 3/E) click here for detail

- ► Joining
- ►Over
- ► None of the given

Question No: 9 (Marks: 1) - Please choose one

Which one of the problem is more subtle, and consequently, is more frustrating:

- ► Foothill problem
- ► Plateau
- ► Ridge (Artificial Intelligence, 3/E) <u>click here for detail</u> Rep
- ►Box

Question No: 10 (Marks: 1) - Please choose one

The paths found by best-first search are likely to be ______ than those found with other methods.

► None of the given

- Shorter (Artificial Intelligence, 3/E) <u>click here for detail</u>
- ►Longer

Question No: 11 (Marks: 1) - Please choose one In Basic Genetic Algorithm the term mutation refers to a small random . ► Number ► Change (Page 77) ► Operator ▶ Operand **Ouestion No: 12** Which of the following two components are closely coupled and each is intrinsically tied to the other. i. Knowledge representation ii. Reasoning iii. Execution iv. Planning ▶i & iii ▶ii & iii ▶iii & iv ▶i & ii (Page 89) rep Question No: 13 (Marks: 1) - Please choose one Semantic networks are graphs, with nodes representing ______ and arcs representing between objects. ► objects, relationships (Page 97) ▶ relationships, distance ▶ objects, distance ► distance, relationships **Question No: 14** (Marks: 1) - Please choose one A proposition is the statement of a . ► Fact (Page 98) ► Equation ► Action ► Theorem **Question No: 15** (Marks: 1) - Please choose one reasoning is based on forming, or inducing a "generalization" from a limited set of observations. Deductive ► Abductive ► Inductive (Page 102) rep ► Analogical

Question No: 16 (Marks: 1) - Please choose one

An ______ is "A computer program designed to model the problem solving ability of a human expert."

Expert system (Page 111) rep

- ► Intelligent System
- ► Echo System
- ► Energy Sys

Question No: 17 Another expert system named ______ was developed by Digital Equipment Corporation, as a computer configuration assistant. ► R1/XCON (Page 112) ► MYCIN ▶ Dendral ►R3/XCON **Question No: 18** (Marks: 1) - Please choose one An expert system may replace the expert or assist the expert. ► True (Page 113) rep ► False **Question No: 19** (Marks: 1) - Please choose one Conventional programming focuses on _____, while ES programming focuses on _____ ► Solution, Problem (Page 122) ▶ Problem, Solution ▶ Problem, Expert ► Solution, Expert **Question No: 20** (Marks: 1) - Please choose one In backward chaining terminology, the hypothesis to prove is called the ▶ Proof ► Goal (Page 126) ► Plan ► None of the given

CS607 – Quizzes (Quiz No.1)

Question #1 of 10 (Marks: 1) - Please choose one

Some essential components of problem solving are Problem statement, ______, solution space and Operators

- ► Complex State
- ► Initial State
- ► Intermediate State
- ► Goal State (Page 17)

Question # 2 of 10 (Marks: 1) - Please choose one

The traveling inside a solution space requires something called as _____

- ▶ Operands
- ► Inner solution
- ► Space solution
- ► Operators (Page 18)

Question # 3 of 10 (Marks: 1) - Please choose one

Genetic Algorithms is a search method in which multiple search paths are followed in _____

► Series

► Parallel (Page 77)

- ► None of the give
- ► Sequential

Question # 4 of 10 (Marks: 1) - Please choose one

Which of the following disciplines provides us with the theories of structure and meaning of language

► Linguistic (Page 9)

- ▶ Philosophy
- ▶ Biology
- ▶ Psychology

Question # 5 of 10 (Marks: 1) - Please choose one

In optimal path searches we try to find the ______ solution

- ►Least
- ► Worst
- ► Least but not worst
- ► Best (Page 24)

6 of 10 (Marks: 1)

In Depth First Search the node with the largest value of height will be at the _____ priority to be picked.

► Minimum

- ► Maximum (Page 25)
- ►Zero
- ▶ Both Minimum and maximum

Question # 7 of 10 (Marks: 1) - Please choose one

In adversarial search there may occur such a scenario where two opponents also called ______ are searching for goal.

► Adversaries (Page 62)

- ► Friend
- ► Players
- ► Intruders

Question # 8 of 10 (Marks: 1) - Please choose one

From discipline ______ we have information about the network structure of a human brain and all the theories on functionalities of different human organs.

- ► Mathematics
- ► Biology (Page 9)
- ► Computer Science
- ▶ Psychology

Question # 9 of 10 (Marks: 1) - Please choose one

Hit and trial is classical approach to solve the _____ problem easily

Trivial (Page 15)Medium

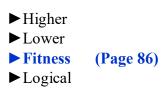
Question # 10 of 10 (Marks: 1) - Please choose one

We use graph to represent problems and their solution spaces.

- ►False
- True (Page 22)

Question # 1 of 10 (Marks: 1) - Please choose one

In GA, the random process is repeated until an individual with required ______ level is found. Select correct option:



Question # 2

Mutation can be as simple as just flipping a bit at random or any number of bits

True (Page 79)

► False

Question # 3 of 10 (Marks: 1) - Please choose one

Genetic algorithm uses evolutionary techniques, based on function optimization and artificial intelligence, to develop a solution.

True <u>click here for detail</u>False

Question # 4 of 10 (Marks: 1) - Please choose one

An AI system has a ______ component that allows the system to get information from its environment.

► Planning

► Perception (Page 89)

- ► Learning
- ► Execution

Question # 5 of 10 (Marks: 1) - Please choose one

In the worst case of semantic network, we may need to traverse the entire network and then discover that the requested info _____. **> Does not exist** (Page 97)

- ► Exists
- ► Is incorrect
- ► Is correct

Question # 6 of 10 (Marks: 1) - Please choose one

A statement in conjunctive normal form (CNF) consists of ______

ANDs of Ors. (Page 107)

- ► ANDs
- ► Ors
- ► Ors of ANDs

Question # 7 of 10 (Marks: 1) - Please choose one

What is the correct order for solving a problem using GA

- I. Choose the best individuals from the population for crossover
- II. Choose initial population
- III. Evaluate the fitness of each individual
- ►I,II,III
- ►I,III,II

► II,I,III ► II,III,I (Page 84)

8 Intelligence id the characteristics of:

Living things (Page 4)

- ► All things
- ► None of them
- ► All of them

Question # 9 of 10 (Marks: 1) - Please choose one

Intelligence is the ability to

Think / learn/Plan/ Schedule (Page 5)

- Recognize / Remember
- ► Problem Solving
- ► All of the Above

Question # 10 of 10 (Marks: 1) - Please choose one

Ability to tackle ambiguous and fuzzy problems demonstrate

► Intelligence (Page 6)

- ► Non intelligence behavior
- ► All of the given
- ► None of the given

Question #1 of 10 (Marks: 1) - Please choose one

Can we precisely define Artificial Intelligence? ► Yes We Can

► No we cannot (Page 14)

Question # 2 of 10 (Marks: 1) - Please choose one

The traveling inside solution space requires something called

Problem StatementOperands

- ► Operators (Page 18)
- ► Solution Space

Question # 3 of 10 (Marks: 1) - Please choose one

In DFS node with the largest value of height will be at Priority

- ► Maximum (Page 25)
- ► Minimum
- ►Zero
- ►Least

4

Try to catch out own thoughts as they go by is

► Introspection (Page 28)

- ▶ Psychology
- ► Both of above
- ► None of the above

Question # 5 of 10 (Marks: 1) - Please choose one

Classical way of problem solving

GAGenerate and Test (Page 15)

Question # 6 of 10 (Marks: 1) - Please choose one

A function by which we can tell which board position is nearer to our goal is called

- ► Alternative function
- ► Recursive function
- ► Best function
- ► Fitness function (Page 83)

Question # 7 of 10 (Marks: 1) - Please choose one

Procedures that search the solution space in an uninformed manner are usually costly with respect to _____

►Time

- ► Space
- Time and space both
- ► All of the given (Page 37)

Question # 8 of 10 (Marks: 1) - Please choose one

Best first search is a greedy approach.

True (Page 47)False

Question # 9 of 10 (Marks: 1) - Please choose one Answering the Sequence Problem need

► Intelligence (Page 15)

- Ability to make plan
 Ability to schedule
 None of the given

Cs607 – Quizzes (Quiz No.2)

Question # 1 of 10 (Marks: 1) - Please

choose one

IF A THEN B This can be considered to have a similar logical meaning as the following:

► A -> B (Page 99)

- ► A <-> B
- ►A <- B
- ► None of the given

Question # 2 of 10 (Marks: 1) - Please

choose one

Within an expert system, the ______ contains facts about a specific subject area and rules that express the reasoning procedures of an expert on the subject.

- ► Inference engine
- ► Knowledge engineer
- ► Knowledge base
- ► None of the given options

Question # 3 of 10 (Marks: 1) - Please

choose one

In the statement "IF A THEN B", B is called

AntecedentConsequent (Page 95)

Question # 4 of 10 (Marks: 1) - Please

choose one

In some cases, the rules provide more definite actions such as "move left" or "close door", in which case the rules are being used to represent ______.

- ► Recommendations
- ► Directives (Artificial Intelligence, 3/E) Click here for detail
- ► Relations
- ► None of the given options

Question # 5 of 10 (Marks: 1) - Please

choose one Expert system can be expressed as:

► It provides tools for the management, delivery, tracking, and assessment of various types of employee learning and training

► The set of business processes, culture, and behavior required to obtain value from investments in information systems

► Used for finding the optimal solution for a specific problem by examining a very large number or possible solutions for that problem

► Intelligent technique for capturing tacit knowledge in a very specific and limited domain of human expertise, this knowledge is converted to rules that can be used throughout the entire organization <u>click here for detail</u>

Question # 6 of 10 (Marks: 1) - Please

choose one

In general, the antecedent of a rule compares an object with a possible value, using an operator. \triangleright True <u>click here for detail</u>

►False

Question # 7 of 10 (Marks: 1) - Please

choose one

IF temperature is below 0 THEN weather is cold The above rule is used to represent

- ▶ Recommendations
- ► Directives
- ► Relations (Page 96)
- ► None of the given options

Question #8 of 10 (Marks: 1) - Please

choose one Which of the following is a valid example which represents a suitable antecedent in a rule?

IF x > 3
IF name
is "Bob"
IF
weather is cold
All of the given options

Question # 9 of 10 (Marks: 1) - Please choose one

From discipline of ______ we have the tools and techniques to investigate the human mind and ways to represent the resulting theories

- ► Computer Science
- ▶ Biology
- ► Mathematics
- Psychology (Page 9)

Question # 10 of 10 (Marks: 1) - Please choose one

Intelligence is the characteristic of

► Living being (Page 4)

- ► All things
- ► None of them
- ► All of them

Question # 1 of 10 (Marks: 1) - Please choose one

AI actually tries to recreate the functions of the inside of the brain as opposed to simply emulating behavior

- ►Weak
- ► Strong (Page 8)
- ► Weak and Strong
- ► None of the given

Question # 2 of 10 (Marks: 1) - Please choose one

____ AI treats the brain as a black box and just emulates its functionality.

► Weak (Page 8)

- ► Strong
- ► Weak and Strong
- ► None of the given