MIDTERM   EXAMINATION
Spring 2011
CS607- Artificial Intelligence

Question No: 1   (Marks: 1)   - Please choose one
Breadth-first search is a good idea when you are confident that the branching factor is_____

►Extremely small
►**Small   (Artificial Intelligence, 3/E)**   Click here for detail
►Medium
►Large

Question No: 2   (Marks: 1)   - Please choose one
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: 3   (Marks: 1)   - Please choose one
An AI system must form a meaningful and useful _____ of the internal information.

►**Representation   (Page 89)**
►Execution
►Learning
►Planning

دنیا میں سب سے مشکل کام اپنی اصلاح اور سب سے آسان کام دوسروں پر نکتہ چینی کرنا ہے

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
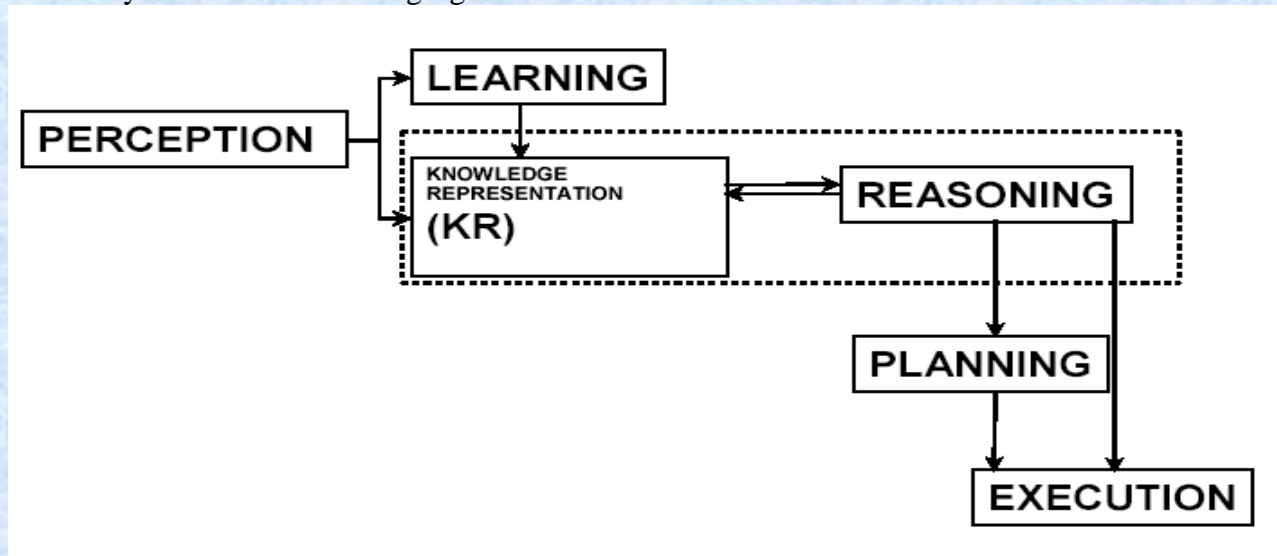►DFS
►**BFS   (Page 37)**
►None

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?

►**AI Cycle   (Page 89)**
►Design Cycle
►SDLC
►None

خدا کے سوا کسی سے امید مت رکھو

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

بری صحبت سے تنہائی بہتر ہے اور تنہائی سے نیک صحبت بہتر ہے

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

اللہ کا خوف سب سے بڑی دانائی ہے

Question No: 6 (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)**
►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

ایماندار کو غصہ دیر سے آتا ہے اور جلدی دور ہو جاتا ہے

Question No: 2   (Marks: 1)   - 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)**   click here for detail
►Box

زندگی میں کامیابی کا یہی راز ہے کہ پریشانیوں سے پریشان مت بنو

Question No: 1   (Marks: 1)   - Please choose one
Most of the solution 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**   Click here for detail
►False

دنیا کی سب سے بڑی فتح نفس پر قابو رکھنا ہے

Question No: 6   (Marks: 1) - Please choose one
Breadth-first search is a good idea when you are confident that the branching factor is _____
►Extremely small
►**Small   (Artificial Intelligence, 3/E)**   click here for detail
►Medium
►Large

Question No: 7   (Marks: 1) - Please choose one
The foothhill problem occurs whenever there are_____ peaks.

►High
►**Secondary   (Artificial Intelligence, 3/E)**   click here for detail
►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)**   click here for detail   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)**   click here for detail
►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

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

11

Question No: 17   (Marks: 1) - Please choose one
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

جھوٹ انسان اور ایمان دونوں کا دشمن ہے

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)**

عقل مند کہتا ہے میں کچھ نہیں جانتا جبکہ بے وقوف کہتا ہے کہ میں سب کچھ جانتا ہوں

Question # 6 of 10 (Marks: 1) - Please choose one
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:
►Higher
►Lower
►**Fitness   (Page 86)**
►Logical

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Question # 2 of 10 (Marks: 1) - Please choose one
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**   click here for detail
►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)**

Question # 8 of 10 (Marks: 1) - Please choose one
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 Statement
►Operands
►**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

<div dir="rtl">جو لوگوں کے سامنے فخر کرتا ہے وہ لوگوں کی نظروں سے گر جاتا ہے</div>

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

►GA
►**Generate 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

عقل مند اپنے عیب خود دیکھتا ہے اور بیوقوفوں کے عیب دنیا دیکھتی ہے

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**   click here for detail
▶ None of the given options

Question # 3 of 10 (Marks: 1) - Please choose one
In the statement "IF A THEN B", B is called

▶ Antecedent
▶ **Consequent (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

بد صورت چہرہ بد صورت دماغ سے بہتر ہے

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** click here for detail

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.

►**True**   click here for detail

►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)**

جو شخص ناکامیوں سے ڈر کر بھاگتا ہے کامیابی اُس سے ڈر کر بھاگتی ہے

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

اپنی مرضی اور اللہ کی مرضی میں فرق کا نام غم ہے

اس سے پہلے کہ تمہیں شہوت فتنے میں ڈالے نکاح کر لو

وہ لوگ مبارک ہیں جو الفاظ سے نصیحت نہیں کرتے بلکہ عمل سے کرتے ہیں

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