

My Today Paper of CS607 - 8-12-2012

75 % MCQ`s were from Old Papers

Q1 - Differentiate between Mutation and Crossover. (2 Marks)

Q2- Write CLIPS command for "remove only Facts" . (2 Marks)

Q3- Bike is heavy! This statement is uncertain fact or not? elaborate. (3 Marks)

Q4- Elaborate the importance of Knowledge Base in ES. (3 Marks)

Q5- Conflict Resolution Strategies (5 Marks)

Q6- "Riding a Horse is same as Riding a Donkey" , This Statement belongs which reasoning...elaborate it (5 Marks)

Best of Luck

...Remember me in your Prayers...

>>NaumanX2

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5-marks

1.GA using mutation procedure of 32-bit word that have first 16 bits 0s and last 16-bits 1s

2.step by step procedure of backward chaining

3 Marks

1.how knowledge representation and reasoning is closely coupled and independent too in AI cycle

2.structure of Expert system explain the analogy with the real world example

2 Marks

1. "defrule" in CLIPS syntax and example

2. shallow and structural knowledge?

MCQs are mostly papers shared by Nauman x2

Another paper Shared by Adeel

5 no wala do question

Q1. which is the best memory of all memory types and why it is different from knowledge base

Q2. which is the best knowledge and why

which system is used to model human beings (2 marks)

which is better in terms of cost, expert system or human expert (2 marks)

difference between meta knowledge and heuristic knowledge(3 marks)

conventional system and expert systems ka difference(3-marks)

Remember me in your prayers....

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### CS607 Today Paper

**1 Difference between expert system memory and Knowledge base**

**2. If a person tells other how to drive a truck. For this Declarative knowledge is suitable or not,justify ur ans**

**3 How Genetic algorithm is best.What is best for desired solution crossover,mutation,or both?**

**4 What is difference between Heuristic knowledge and Meta knowledge?**

**5 Describes three name of CLIPS window**

**6 Define DEFRULE with example**

---

-marks

**1.GA using mutation procedure of 32-bit word that have first 16 bits 0s and last 16-bits 1s**

**2.step by step procedure of backward chaining**

**3 Marks**

**1.how knowledge representation and reasoning is closely coupled and independent too in AI cycle**

**2.structure of Expert system explain the analogy with the real world example**

**2 Marks**

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**2. shallow and structural knowledge?**

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**Cs607 paper today**

Most of the MCQs were either from Muaz file or simple statements from handout. I think you must concentrate statement in handout which is likely to be asked as a single line fill in the blank type question. Paper was ok & I am expecting above 50%. Remember in your good prayers.

Question 21: Differentiate between perception and Knowledge Representation as components of AI Cycle? (2 marks)

Question 22: Elaborate the usage of defrule in CLIPS. (2 marks)

(Note. This is question 1, page 4 in Muaz file. But I am not satisfied with answer. Better search answer yourself.)

Question 23: From Human Expert and Expert System, which one is better in term of availability? (3 marks)

Question 24: Which knowledge type will be used to get some knowledge that , it is a raining day today. (3 marks)

Question 25: "Riding a horse is same as riding a donkey", analyze it. Which type of reasoning is working here? (5 marks)

(Note. This is question 6, page 2 in Muaz file. But I am not satisfied with answer. Better search answer yourself.)

Question 26: How programming of Expert system is different from conventional programming? (5 marks)

(Note. This is question 4, page 5 in Muaz file.)

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My todays Mid Term paper 07-06-2014

18) \_\_\_\_\_ chaining is more focused and tries to avoid exploring unnecessary paths.

Answer: backward chaining

20) Procedures that search the solution space in an uninformed manner are usually costly w.r.t \_\_\_\_\_

Answer: Time and Space Both

Question ) Which system is better Human Expert or Expert System and Why? 05

Answer :

**Question**

A person drive a truck is "Declarative Knowledge" yes or No give reason to justify your answer

## Page 8

**Answer:**

### **Declarative knowledge:**

It describes objects, rather than processes. What is known about a situation, e.g. it is sunny today, and cherries are red. That's why this is not declarative knowledge

### **Question Differentiate b/w monotonic and non-monotonic...marks 2**

**Ans: Page no: 104**

Non-Monotonic reasoning is used when the facts of the case are likely to change after some time, e.g.

Rule:

IF the wind blows

THEN the curtains sway

However, if we use monotonic reasoning, this would not happen. The fact that the curtains are swaying would be retained even after the wind stopped blowing. In nonmonotonic reasoning, we have a 'truth maintenance system'. It keeps track of what caused a fact to become true. If the cause is removed,

### **Q: Importance of Knowledge Base in expert systems**

**Ans: Page no :77 Topic :3.5**

Importance of knowledge in expert system:

1. Knowledge is the enquire part of the expert system.
2. Allow easy modification adding and deleting skill from the knowledge base.
3. Easy modification of the knowledge base is a major factor in producing a successful program in expert system.
4. Knowledge engineering must address a range of problem.
5. Through a knowledge we create one part without affecting the other.
6. User knowledge specific to a problem domain to provide "expert quality" performance in that application area.

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MCQs from Previous Papers... very easy.. file of MCQ by Moaaz was very helpful. do prepare it.. Also See solved by Hina.. Thanks to both..

And there were quiz.. 4 questions were from current 3 quiz files shared in the group..

Long Questions were Conceptual.. just discussion.

= one was to convert into CNF ..  $(A \vee B) \rightarrow (C \vee D)$

= conflict resolution strategies.

= prime role of ES designer

= experience gained by driving a truck is the knowledge "Declarative Knowledge". Do you agree? Justify 5 marks

I strongly disagree

= expert system learning and representation ... agree.. I agreed..

other were long paragraphic statements.. even the answers were lesser in word count than question statements.. agree or not ..and justify..

Best of Luck..

Do See MCQs in this section.. hope you will find 70% of them in your paper..

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### **Write CLIPS command for "remove only Facts"**

**page 134 "retract command used for remove only Facts "**

**"defrule" in CLIPS syntax and example**

**used to define a rule in CLIPS page**

**listen lecture 22 for more explanation**

**Riding a Horse is same as Riding a Donkey" , This Statement belongs which reasoning...elaborate it**

**its about analogical reasoning read this at page 103 of handouts**

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My today paper of cs 607 is

75% mcqs were past paper

1: diff between monotonic and non monotonic reasoning?

2: name 2 languages used in AI?

3: which components of experts system are tightly coupled?

4: Forward chaining and its approach?

5: Which is best in learning ability of human expert and expert system?

6: Is perception and knowledge representation are tightly coupled? Yes or not and why?

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**My today's paper cs607**

**27/5/13**

**2:00 pm**

20 mcqs 7 from moaaz file

6 subjective questions

All were conceptual type...

1) Which topic in AI is related to a situation in which a computer system emulates the decision making ability of a human expert?

2) Replace of expert is a role of an expert system give an example of daily life?

3) When we run out of time in GA then can it guaranteed to find exact solution which is required?

4) Apply GA to solve the following problem suppose our individual have 32 bit computer word, we want a word which all bits are zeros?

(2 questions note nhi kr ski.. wo b conceptual thy.)

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My today's paper

half mcqz from moaz file half were from handout

paper was easy

differentiate b/w mutation and crossover (2mrks)

how you elaborate the prime role of expert system designer (2mrks)

which is better in terms of cost, expert system or human expert (3 marks)

*In adversarial search probabilistic function is used to score/number the nodes? yes or no and give reason to justify your answer (3mrks)*

*one scenario was given we have to asked to tell which is the best suited knowledge give reason also (5mrks)*

*how you elaborate the conflict resolution strategies? (5mrks)*

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as per course announcement

we have to prepare all delivered lectures

and as per MDB, delivered lectures are 1-20

Please friends tell me that how much lectures will include in exam. 1-20

because uptill now in study period we have to prepare 1-22 lectures for mid term.

thanks for your cooperation.

---

Jazakallah for sharing your papers. Lectures are coming 1-20 only.

it helped, and i prepared. But read carefully.

Expert Systems topic detail preparation needed.

Lecture 17-20 is important, but this is only for those who didn't prepare a single lecture. Otherwise paper is from all lectures of AI.

All subjective questions are already posted by other students :) and MCQs are in Moaaz File, i read Moazz subjective file, it is not well written. but MCQs are ok.

I am sorry that Sir Didn't accept our request for non-graded of 3rd Assignment solution. I got failed. :(

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Salam, Dear 1z.....My Today Cs607 paper..

Q1: Differentiate b/w monotonic and non-monotonic...marks 2

Q2: Is Truck Driven is declarative knowledge, define ur answer.marks5

Q3: suppose u r AI administrator, u have to define how "system expert" is different from " Engineering Knowledge" that the other person can understand the difference.....marks5

sorry other 3 questions I forgot.....

Dear Fellows some mcqz were from moaaz file.....and some were from handouts.....Prepare the Lec#14 to 23.....

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If you have read all the lectures than you can get better marks.

1. In GA static evaluator is the criteria that check various individuals/solutions for being better than other in the population..? agree or not.... 5
2. Apply GA for 32 Bit Computer generated words 5
3. Guess the type of reasoning with example. 3
  1. Ali wears long shoes of bata, when running
  2. Today ali walking in long shoes.
  3. So it is raining.
  4. A STUDENT want to get knowledge about forward chaining. How you shall elaborate that? 3
  5. Differentiate the Structural knowledge and shallow knowledge 2
  6. How to Convert structure to CNF 2

MCQs were from moaz and handout.

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**today CS607 Mid Term Paper Spring 2013 papers was:**

8-10 mcqs were from moaaz file remaining were new

Q#1: Difference b/w monotonic and non-monotonic reasoning? 2 marks

Q#2: What is Evaluation function and situation analyzer? 2 marks

Q#3: Two search strategies were given and the question was which one is best for GA and why? 3 marks

Q#4: What is the importance of knowledge base in ES? 3 marks

Q#5: Apply GA to solve the following problem suppose our individual have 32 bit computer word ,we want a word in which 16bits are zeros and 16bits are ones? 5 marks

Q# 6: Conflict Resolution Strategies ? 5 marks

paper was not so difficult .... GOOD LUCK

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Subjective part of my paper today:

1. Differentiate briefly between 'Adversarial Search' and 'Genetic Algorithm' (2 marks)
2. Write the command which is used to start execution of a CLIPS program (2 marks)
3. Out of two 'Adversarial Search' strategy and 'Genetic Algorithm' which one is best for a situation in which requirements are not clearly defined and the problem is ill-structured, that is, we don't exactly know the initial state, goal state and operators etc? (3 marks)
4. Write name of any three windows used in the CLIPS software (3 marks)
5. Let us consider the statements given below (5 marks)
  - Statement # 1: Ali wears long shoes of Bata company when it is raining

Statement # 2: Today Ali is walking in long shoes

Statement # 3: so it is raining

Analyze the given statements and tell that which type of reasoning is working here? Given a strong reason precisely and briefly to support your answer?

6. Out of human expert and expert system, which one do you think is better in terms of learning ability? Also explain why. (5 marks)

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1) Difference between shallow knowledge and structural knowledge 2 marks (page 90)

2) define Deffrule construct 2 marks (page 135)

3) knowledge base is the part of expert system or not? 3 marks(page 117)

4) What is the best in mutation and cross over? 3 marks(page 82)

5) Ak statement thi pocha tha k kn c memory use hoti hai during the session? Or knowledge base or is memory me kia difference hai? 5 marks

Ans is working memory (page 117)

6) Statement 1: ali wear a long shoes when it is raining

Statement 2: today ali wear long shoes

Statement3: so it is raining

Describe the reasoning with strong reason? 5 marks

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Statement 1: ali wear a long shoes when it is raining

Statement 2: today ali wear long shoes

Statement3: so it is raining

Describe the reasoning with strong reason? 5 marks

plz is ka ans bta dain jaldi jaldi

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My today's papaer.... Rao Shahid Jabbar

1. Difference between adversarial search and genetic algo

2. perception and KR closely coupled or not

3. if you're a lecturer at some university and you've to tell the students about expert sys. then how will you teach them with a real life example

4. genetic algo 32bits problem

5. Explanation facility of expert system

overall the paper was too easy that i can't expect.

just prepare moaz file only for mcqs and prepare imp questions from 12 to 21 lecture you'll get 90% marks. wish you all best of luck and please pray for me

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### CS607 Current Midterm Papers:

Paper 1

My Today Papar of CS607 - 8-12-2012

75 % MCQ`s were from OLd Papers

Q1 - Differentiate between Mutation and Crossover. (2 Marks)

Q2- Write CLIPS command for "remove only Facts" . (2 Marks)

Q3- Bike is heavy! This statement is uncertain fact or not? elaborate. (3 Marks)

Q4- Elaborate the imporance of Knowledge Base in ES. (3 Marks)

Q5- Conflict Resolution Strategies (5 Marks)

Q6- "Riding a Horse is same as Riding a Donkey" , This Statement belongs which reasoning...elaborate it (5 Marks)

## Best of Luck

### Paper 2

5 no walay do question

Q1. which is the best memory of all memory types and why it is different from knowledge base

Q2. which is the best knowledge and why

which system is used to model human beings (2 marks)

which is better in terms of cost, expert system or human expert (2 marks)

difference between meta knowledge and heuristic knowledge(3 marks)

conventional system and expert systems ka difference(3-marks)

### Paper 3

5-marks

1. GA using mutation procedure of 32-bit word that have first 16 bits 0s and last 16-bits 1s

2. step by step procedure of backward chaining

3 Marks

1. how knowledge representation and reasoning is closely coupled and independent too in AI cycle

2. structure of Expert system explain the analogy with the real world example

2 Marks

1. "defrule" in CLIPS syntax and example

2. shallow and structural knowledge?

### Paper 4

CS607 Today Paper

1 Difference between expert system memory and Knowledge base

2. If a person tells other how to drive a truck. For this Declarative knowledge is suitable or not. justify ur ans

3 How Genetic algorithm is best. What is best for desired solution crossover, mutation, or both?

4 What is difference between Heuristic knowledge and Meta knowledge?

5 Describes three name of CLIPS window

6 Define DEFRULE with example

### Paper 5

5-marks

1. GA using mutation procedure of 32-bit word that have first 16 bits 0s and last 16-bits 1s

2. step by step procedure of backward chaining

3 Marks

1. how knowledge representation and reasoning is closely coupled and independent too in AI cycle

2. structure of Expert system explain the analogy with the real world example

2 Marks

1. "defrule" in CLIPS syntax and example

2. shallow and structural knowledge?

MCQs are mosly papers shared by Nauman x2

Another paper Shared by Adeel

5 no walay do question

Q1. which is the best memory of all memory types and why it is different from knowledge base

Q2. which is the best knowledge and why

which system is used to model human beings (2 marks)

which is better in terms of cost, expert system or human expert (2 marks)

difference between meta knowledge and heuristic knowledge(3 marks)

conventional system and expert systems ka difference(3-marks)

Remember me in your prayers...

Paper 6

My today paper of cs 607 is

75% mcqs were past paper

1: diff between monotonic and non monotonic reasoning?

2: name 2 languages used in AI?

3: which components of experts system are tightly coupled?

4: Forward chaining and its approach?

5: Which is best in learning ability of human expert and expert system?

6: Is perception and knowledge representation are tightly coupled? Yes or not and why?

Remember me in prayers.

Paper 7

Subjective part of my paper today:

Differentiate briefly between 'Adversarial Search' and 'Genetic Algorithm' (2 marks)

Write the command which is used to start execution of a CLIPS program (2 marks)

Out of two 'Adversarial Search' strategy and 'Genetic Algorithm' which one is best for a situation in which requirements are not clearly defined and the problem is ill-structured, that is, we don't exactly know the initial state, goal state and operators etc? (3 marks)

Write name of any three windows used in the CLIPS software (3 marks)

Let us consider the statements given below (5 marks)

Statement # 1: Ali wears long shoes of Bata company when it is raining

Statement # 2: Today Ali is walking in long shoes

Statement # 3: so it is raining

Analyze the given statements and tell that which type of reasoning is working here? Given a strong reason precisely and briefly to support your answer?

6. Out of human expert and expert system, which one do you think is better in terms of learning ability? Also explain why. (5 marks)

Paper 8

My Today Paper of CS607

All MCQs were from past papers and 2 quizzes already held and from uploaded file

Total Questions = 26 MCQs = 20 Subjective = 6

Q :Elaborate defrule command in CLIPS and its purpose with example (3Marks)

Ans:

Defrule command is used to add rules but using component rules facts must be defined first

IF Ahmad is Ali's Father than Ali is Ahmad's Son

CLIPS> (defrule isSon)

IF I start seeing shop then I am close to market It is Declarative knowledge or not elaborate? (3)

Ans:

It is not declarative knowledge it is heuristic or shallow knowledge because a guess is given in it and heuristic knowledge is rule of thumb help to make guesses

Describes three name of CLIPS window

Ans:

Fact Window

Agenda Window

Global Window

How Genetic algorithm is best what is best for desired solution crossover mutation or both?

Ans:

GA search for the best solution or we can say that the pretty good solutions in parallel produces next generation from preexisting solutions using inheritance and mutation so we can say both are used in GA and of great importance but depending on the type and situation because in GA there will be possibility of lack of genetic diversity so there will be chance of desired result may miss out so better way to avoid this is to combine mutation with crossover

What is CNF? Is the given statement is in CNF or not elaborate

Ans:

It stands for Conjunctive normal form Facts in this form contains Ands of Ors the given statement was in CNF (There were ANDS and ORS) so I wrote yes it is in CNF because contain ANDS of ORS

How can we cross over?

Ans:

The best way to crossover is combine the head of one individual with the tail of other individual

Paper 9

1) Difference between shallow knowledge and structural knowledge 2 marks (page 90)

2) define Defrule construct 2 marks (page 135)

3) knowledge base is the part of expert system or not? 3 marks(page 117)

4) What is the best in mutation and cross over? 3 marks(page 82)

5) Ak statement thi pocha tha k kn c memory use hoti hai during the session? Or knowledge base or is memory me kia difference hai? 5 marks

Ans is working memory (page 117)

6) Statement 1: ali wear a long shoes when it is raining

Statement 2: today ali wear long shoes

Statement3: so it is raining

Describe the reasoning with strong reason? 5 marks

Paper 10

Statement 1: ali wear a long shoes when it is raining

Statement 2: today ali wear long shoes

Statement3: so it is raining

Describe the reasoning with strong reason? 5 marks

plz is ka ans bta dain jaldi jaldi

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15 MCQ's from moazz file,only 5 were new.

subjective se 1 question tha past ka,

It will probably be rain today is fuzzy fact or not.Give reasons.

give analogy to daily life example of short term and long term memory in ES,

show the product of 5 and 25 using CLIPS,

ek question bit wala tha,yad ni

can we structure the statement in CNF?

ek question adversial and GA se related tha.

---

THIS IS THE PAPER OF SABA:

Questions regarding

3

-

marks:

21

-

Differentiate briefly and precisely b/w Meta knowledge and Heuristic knowledge.

22

-

Command used to execute CLIPS program?

Questions regarding 3

-

marks:

23

-

Which reasoning is best suitable here if we have carbon and oxygen and the combination of both will

1 carbon

dioxide?

24

-

Which term is best suitable for a person who is specialized in his profession, capable and working in a specific area?

Questions regarding 5

-

marks:

25

-

Write a 32

-

bit "Genetic Algorithm" in which all bits are 0's.

26

-

How expert system is different from Conventional Programming

---

**CS607 todays Uzma kanwal 11-06-2014 Wednesday 8:30**

**Mcqs moaz file may say thay 10 almost baki new thay**

Difference between "meta knowledge" and "Heuristic knowledge" (2M)

How can we structure the statement in CNF? (2M)

give analogy to daily life example of short term and long term memory in ES(3M)

GA ko agar ham multiple time b solve karay to ans remain same give reason (3M)

ES ka usage aap students ko ksay xplain karo gay (5M)

32 bit word problem the k first 16 bits 1 and last 16 bits 0 ho(5M)

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Mcqs were mostly new but easy thay and subjective

Difference between monotonic and nonmonotonic?

32 bit word problem the k first 16 bits 0 and last 16 bits 1 ho?

Ek expert system se related tha

ek working memory ka kya role hai expert system mein  
paper was easy bus itna hei yaad hai

---

My Paper today

An Ai system must form a meaningful and usefull \_\_\_\_\_ of the internal information

- Representation
- Execution
- Planning
- Learning

\_\_\_\_\_ reasoning is an informal form of reasoning that uses rules gained through experience or what we call rules-of-thumb

- Inductive
- Deductive
- Abductive
- Common-sense

The components of a statement in CNF are

- Clauses and literals clauses
- Clauses
- Literals
- Frames

An \_\_\_\_\_ is “A computer program designed to model the problem solving ability of a human expert”

- Expert system
- Intelligent system
- Echo system
- Energy system

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

- Computer science
- Biology
- Math
- Psychology

In Depth first search, the node with the largest value of height will be picked \_\_\_\_\_

- First
- Last
- Randomly
- None of the given

Breadth-First search requires a great deal of \_\_\_\_\_ If the branching factor is large or infinite, because of exponential explosion

- Energy
- Space
- Care
- None of the given

Best first search is a \_\_\_\_ approach

- Greedy
- Generous
- Optimized
- None of the given

In adversarial search, the goals of the adversaries are usually \_\_\_\_ to each other

- Same
- Contrary
- Parallel
- None of the given

Genetic Algorithm can be applied to \_\_\_\_ problems

- All
- Real
- Selected
- None of the given

\_\_\_\_ were developed from semantic networks later evolved into modern day classes and objects

- Logic
- Networks
- Frames
- None of the given

\_\_\_\_ is based on deducing old information from logically related known information

- Inductive
- Deductive
- Abductive
- Analogical

An expert system named \_\_\_\_ was developed by digital equipment corporation as a computer assistant

- R1/Xcon
- MyCin
- Dendral
- R3/Xcon

\_\_\_\_ chaining, is like an exhaustive search

- Forward
- Backward
- Parallel
- Serial

Most of the solution for problems can be represented in a \_\_\_\_\_

- Graph
- Table
- Demo Algorithm

Which of the following does not make hill climbing hard

- Foothills
- Ridges

Plateaus  
Slopes

Intelligence is the ability to  
Recognize/ Remember  
Solve  
Learn  
All of the given options

\_\_\_\_\_ AI treats the brain as a black box and just emulates its functionality  
Weak  
Strong  
Soft  
None of the given options

Luger and stubblefield defined AI as “The branch of computer science that is concerned with the \_\_\_\_\_ of intelligent behaviour”  
Perception  
Automation  
Understanding  
Explanation

An expert system reasons \_\_\_\_\_ by encoding an experts’ rule-of-thumb  
Heuristically  
Drastically  
efficiently  
None of the given

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My today's paper

1. perception and Knowledge Representation definition. 2 marks
  2. clips command to remove only facts. 2 marks
  3. main people involved in an expert system. 3 marks
  4. perception and knowledge representation are coupled, yes or no with reason. 3 marks
  5. a student wants to understand Expert System. explain to him. 5 marks
  6. apply GA to solve the following problem suppose our individual have 32 bit computer word, we want a word which all bits are zeros? 5 marks
- MCQ's were easy some were new most were from past papers  
Good Luck

---

today's mine paper  
most mcqs from moaaz file  
subjective:  
diff b/w mono-tonic and non monotonic reasoning? 2 mark  
command to exit clips? 2 mark  
ak CNF sentence dia hoa tha batana tha k ye CNF hy ya nai ? 3mark

there are diff types of memory in expert system . which memory is best suitable. also diff this memory with the knowledge base ?

Write a 32-bit "Genetic Algorithm" in which all bits are 0's?? 5 mark

---

My today's paper (16-6-2014 08:30am)

Subjective portion

Q1# What problem may arise, if we use only crossover without mutation in genetic algorithm. 5 marks

Ans:  
In mutation each "Individual" (or "solution") had only one parent. The only way to introduce variation was through mutation (random changes). In Inheritance or Crossover, each "Individual" (or "solution") has two parents. Assuming that each organism has just one chromosome, new offspring are produced by forming a new chromosome from parts of the chromosomes of each parent.

Q2# A student want to understand about the resolution by refutation , how can you elaborate the resolution by refutation with all its steps. 5 marks

Ans:  
The steps for proving a statement using resolution refutation are:

- Write all sentences in CNF
- Negate the desired conclusion
- Apply the resolution rule until you derive a contradiction or cannot apply the rule anymore.
- If we derive a contradiction, then the conclusion follows from the given axioms
- If we cannot apply anymore, then the conclusion cannot be proved from the given axioms

Q3# A student want to get knowledge about forward chaining. How can you elaborate the term forward chaining. 3marks

- Ans:
1. Add facts to working memory (WM)
  2. Take each rule in turn and check to see if any of its premises match the facts in the WM
  3. When matches found for all premises of a rule, place the conclusion of the rule in WM.
  4. Repeat this process until no more facts can be added. Each repetition of the process is called a pass.

Q4# A person gain some knowledge to drive a bike. Which knowledge type is suitable in this situation. 3marks

Ans:  
In the given situation procedural knowledge is suitable. It Describes how to do things, provides a set of directions of how to perform certain tasks, e.g., how to drive a car

Q5# Command which is used to start execution of a CLIPS program. 2 marks

Ans:  
CLIPS>(run)

Q6# Perception and knowledge representation in AI system. 2 marks

Ans:  
An AI system has a perception component that allows the system to get information from its environment. As with human perception, this may be visual, audio or other forms of sensory information. The system must then form a meaningful and useful representation of this information internally. This knowledge representation maybe static or it may be coupled with a learning component that is adaptive and draws trends from the perceived data.

Some mcqs

1. The foothill problem occur whenever there is -----peak(s)  
High  
Multiple  
Single

Deep

1. Which of the following does not make hill climbing hard

Foothills

Ridge

Plateaus

Slopes

1. -----were develop from semantic networks and later evolved in our modren days classes and objects.

Logic

Networks

Frams

None of the given

1. Depth first search does not guarentee finding the ----- goal.

Shallowest

Finitely

Infinitely

None of the given

1. Neurea networks were based on the ----- propagation learning algorithm.

Omni

Forward

Back

None of the given

---

Today's paper of cs607.

Q.How can you elaborate the usage of "defrule" in clips?\_\_(2)

Q.Difference b/w meta knowledge and heuristic knowledge .\_\_(2)

Q.Which algorithm is best when we don't exactly know the initial goal state and operators?\_\_(3)

Q.How programming of experts system is different from conventional program.?\_\_(5)

Q.A student wants to get knowledge about forward chaing.how can you elaborate it ?\_\_(5)

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my ppr

1. perception and Knowledge Representation definition. 2 marks

2. write any 2 names of systems 2 marks

3. write detail about use of representation . 3 marks

4. perception and knowledge representation are coupled, yes or no with reason. 3 marks

5. a student wants to understand Expert System. explain to him. 5 marks

6. apply GA to solve the following problem suppose our individual have 32 bit computer word, we want a word which all bits are zeros? 5 marks

MCQ's were easy some were new most were from past paper

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### **Here is my todays CS507 mid term exam**

Total Questions : 26

MCQs : 20 ( Each containing 1 mark )

Short Questions : 4 ( Containing 3 or 2 marks for each question )

Long Question : 2 ( Each containing 5 marks )

### **Detail of Question:**

Q21. Difference between Material Requirement Planning and Manufacturing Planning?

Q22. What is Operational Feasibility and Behavioural Feasibility?

Q23. What is system Development? Writes any two models.

Q24. What characteristics are needed to make Group DSS?

Q25. Case study about Human Relation Information System?

Q26. Case study about benefits of Spiral Model?

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my today paper 9 am

mostly mcq from past papers , sirf moaz wali file kafi nhi jo baki is page py di hui hn woh bhi lazmi prhni hn , q k us men kuch ,misssing hn ,

subjective was totly conceptual and , from lectr 14 to 22 .,

1 q men 1 condition di hui thi , us pe genetic algorithm apply krna tha ,

2 q men , replacement aur knowlegde representation ko define krna tha ,

Expert system y related 2 question thy , inmen sy 1

1 q uestion men just ye btana tha k , ye line kis topic ki hai , mtlab 1 line given thi ye btana tha k , ye kis topic sy lia gya hai , woh expert sytem sy lia gya tha,

Conjunction normal form sy 1 question tha ,

116 page py jo figure di hui hai expert system ki , ye long term aur short term memory ko represent krti hai , ye achi trah sy ani chahey ,

Modes ponens and modes tonens sy mcq thy ,

logic sy related , goal se related mcq thy ,

best of luck

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Q) What problem may arise, if we use only crossover operation without mutation in Genetic Algorithm? Briefly discuss. (5 Marks)

Ans:

Knowledge and its types:

Durkin refers to it as the understanding of a subject area. A well-focused subject area is referred to as a knowledge domain, for example: Medical domain, Engineering Domain, Business Domain etc. if we analyse the various types of knowledge we using everyday life we can broadly define knowledge to the one of the categories.

Procedural Knowledge:

It describe how to do things provide a set of direction of how to perform certain tasks, e.g. how to drive a car.

Declarative knowledge:

It describe object whether then process what is about e, g. it is sunny today.

Q) How can you elaborate the "explanation facility" in expert system? Elaborate it with an example. (5 Marks)

Ans:

Expert system are a popular and useful application area in artificial intelligence. Having studied KRR it is instructive to study expert system to see practical Manifestation of the principal learnt there.

The possess specialized knowledge in a certain area.

They possess experience in the given area.

They can provide upon elicitation and explanation on their decisions.

They have a skill set that enables them to translate the specialized knowledge gained through experience into solution.

Q) Which components of an Artificial Intelligent System collects information from its environment? Also explain which kind of information it can collect? (3 Marks)

Ans:

AI system has a perception component that allows a system to get information from its environment. As with human perception this may be visual, audio or other forms of sensory information. The system must then form a meaningful and useful representation of this information internally.

Q) Out of human experts and expert system, which one do you think is better in terms of availability? Also explain why. (3 Marks)

Ans:

Learning ability of human experts is best.  
Because of its Knowledge and reasoning.

Q) Briefly describe the appropriate situation for application of Adversarial Search and Genetic Algorithm. (2 Marks)

Ans:

If we have a situation analyser that converts all judgement about board situation into a single overall quality number, this situation analyser is also called a static evaluator.

Q) Write the command which is used to start execution of a CLIPS program. (2 Marks)

Ans:

CLIPS>

Command can be entered here to leave CLIPS

(exit)

### **Give definition of Expert System.**

**Answer: (Page#111)**

#### **Expert Systems**

Expert Systems (ES) are a popular and useful application area in AI. Having studied KRR, it is instructive to study ES to see a practical manifestation of the principles learnt there.

#### **Question No: 36**

**In Genetic algorithm if we use only crossover and not mutation then does it make any hurdle in finding our desired solution or not? Give reason to support your answer?(5)**

**Answer:**

#### **Knowledge and its types**

Before we go any further, lets try to understand what „knowledge“ is. Durkin refers to it as the “Understanding of a subject area”. A well-focused subject area is referred to as a knowledge domain, for example, medical domain, engineering domain, business domain, etc..

If we analyze the various types of knowledge we using every day life, we can broadly define knowledge to be one of the following categories:

- Procedural knowledge: Describes how to do things, provides a set of directions of how to perform certain tasks, e.g., how to drive a car.
- Declarative knowledge: It describes objects, rather than processes. What is known about a situation, e.g. it is sunny today, and cherries are red.

The genetic

algorithm technology comes from the concept of human evolution.

An AI system has a perception component that allows the system to get information from its environment. As with human perception, this may be visual, audio or other forms of sensory information. The system must then form a meaningful and useful representation of this information internally. This knowledge representation maybe static or it may be coupled with a learning component that is adaptive and draws trends from the perceived data.

An expert system may take two main roles, relative to the human expert. It may replace the expert or assist the expert

This knowledge representation maybe static or it may be coupled with a learning component that is adaptive and draws trends from the perceived data.

----- 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: 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

In Basic Genetic Algorithm the term mutation refers to a small random \_\_\_\_\_.  
► Number ► **Change (Page 77)** ► Operator ► Operand

**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

**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 # 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 # 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 # 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

Intelligence is the ability to ► **Think / learn/Plan/ Schedule (Page 5)** ► Recognize / Remember ► Problem Solving ► All of the Above

**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 # 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)**

But in reality, exploring the entire search space is never feasible and at times is not even possible

---

mine paper

12 mcqs from past papers out of 20 mcqs.

subjective,

meta data r heuristic data m farak

fact remove karny ki command

truck k part ko assemble karny k liye kon c type of knowledge use karin gy,

expert system r human expert m sy konsa availabilty k point of view sy behtar hy.

conventional r expert programming m farak malom karna tha.

itna he yad

---

AOA to ALL.

CS607 my today paper:

**Objectives almost moaaz file 2, and 3 new objectives but easy**

**Some objectives:**

1. **An expert system is different from conventional programs in the sense that program control and knowledge are \_\_\_\_\_.**  
▶ Separate (Page 121)
2. **\_\_\_\_\_ is the process of deriving logical conclusions from given facts.**  
▶ Reasoning (Page 102)
3. **"A computer program designed to model the problem solving ability of a human expert" is known as ---**  
▶ Expert system (Page 111)
4. **A proposition is the statement of a \_\_\_\_\_.**  
▶ Fact (Page 98)
5. **An \_\_\_\_\_ is "A computer program designed to model the problem solving ability of a human expert."**  
▶ Expert system
6. **In backward chaining terminology, the hypothesis to prove is called the-----.**  
▶ Goal (Page 126)
7. **Some essential components of problem solving are Problem statement,-----, solution space and Operators**  
▶ Goal State (Page 17)
8. **Procedures that search the solution space in an uninformed manner are usually costly with respect to \_\_\_\_\_.**  
▶ All of the given (Page 37)
9. **From discipline of \_\_\_\_\_ we have the tools and techniques to investigate the human mind and ways to represent the resulting theories**  
▶ Psychology (Page 9)
10. **----- Logic lets us define realistically the true function that defines real world scenarios.**

11) \_\_\_\_\_ chaining is more focused and tries to avoid exploring unnecessary paths.

► backward chaining

12) Components of a statement in CNF are

► clauses and literals

13) Sequence problem (1, 3, 5, 7, 9, ?) where is ?

► searching

**Q. Differentiate precisely and briefly between monotonic and non monotonic reasoning? 2m**

Monotonic reasoning is what a knowledge base is of fixed size and cannot be updated as in prolog file that is fixed during the clause checking and do not update that automatically but in non monotonic reasoning. A machine got a capability to learn self by getting possible operations on it so when you give some clauses to it, it does update database if it does not create conflicting situations with the database otherwise it would demoted from current set and moved to update set that is not being in use and checked further for its positive clause of fact.

**Q. How can you elaborate the usage of "defrule" used in CLIPS? 2m**

The defrule construct is used to add rules. Before using a rule the component facts need to be defined.

For example:

If we have the rule

If ali is ahmed's father

THEN ahemad is ali's son

We enter this into CLIPS using the following construct :

; Rule header

( define isSon "An example rule"

; Patterns

( fatheer (fathersName "ali")(sonsName "ahmed")

; THEN

; Actions

(assert (son(sonsName "ahmed")(fathersName "ali")))

)

**Q. Compare Backward chaining with Forward chaining. 3m**

The exploration of knowledge has different mechanisms in forward and backward chaining. Backward chaining is more focused and tries to avoid exploring unnecessary paths of reasoning. Forward chaining on the other hand is like an exhaustive search. Forward chaining starts with several facts in the working memory. It used rules to generate more facts. In the end several facts have been adding amongst which one or more may be relevant. Backward chaining however, starts with the goals state and tries to search down to all primitive nodes marked by ?, where information is sought from is the user.

**Q. Does the fact that a bike is heavy is uncertain fact or not? Give reason to support your answer. 3m**

Above the fact is not uncertain fact, it's a fuzzy fact. Because an uncertain fact is sometimes we need to represent uncertain information in facts. These facts are called uncertain facts. While fuzzy facts are ambiguous in natural, e.g. Bike is heavy. Here it is unclear what heavy means because it is a subjective description. Fuzzy representation is used for such facts. While define fuzzy facts we use certainty factor values to specify value of "truth".

**Q. Let us consider a statement given below**

**'Riding a horse is just like riding a donkey'**

**Analyze the given statements and tell that which type of reasoning is working here? Given s strong reason precisely and briefly to support your answer? 5m**

Above the statement is the type of Analogical reasoning. Analogical reasoning works by drawing analogies between two situations looking for similarities and difference, e.g. when you say riding a horse is just like riding a donkey, by analogy you know that there are some similarities in the riding, but you also know that there are certain other distinct characteristics of each.

**Q. A student wants to understand the Expert System. How can you briefly elaborate the usage of Expert System? 5m**

The most important is the expert system applied area of AI. An expert system is a knowledge based system that employs knowledge about its application domain and uses an inferencing reason procedure to solve problems that would otherwise require human competence or expertise. The power of expert systems stems primarily from the specify knowledge about a narrow domain stored in the expert systems knowledge base.

It is important to stress to student that expert systems are assistants to decision makers and not substitutes for them. Expert systems do not have human capabilities. They use a knowledge base of a particular domain and bring that knowledge to bear on the facts of the particular situation at hand. the knowledge base of an ES also contains heuristic knowledge rules of thumb used by experts who work in the domain.

.....BeSt Of LuCk.....

.....Remember Pray For Me.....

---

my mid CS607 ppr 19-1-15 11 am

Most of the mcqs from past pprs.

Name any two tools/shells used in AI. 2marks

diff between monotonic and non monotonic reasoning? 2marks

Do you think inductive reasoning is based on deducing new information from logically known information. Give reason why? 3 marks

Elaborate the importance of Knowledge Base in ES. (3 Marks)

Draw structure of expert system. 5marks

"Riding a Horse is same as Riding a Donkey" , This Statement belongs which reasoning...elaborate it (5 Marks)

Remember me in ur prayers.

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**CS607 Current Midterm Papers Fall 2014 - 2015 Starting from Monday, January 12, 2015**

My Paper today

An Ai system must form a meaningful and usefull \_\_\_\_\_ of the internal information

Representation

Execution

Planning

Learning

\_\_\_\_\_ reasoning is an informal form of reasoning that uses rules gained through experience or what we call rules-of-thumb

Inductive

Deductive

Abductive

Common-sense

The components of a statement in CNF are

Clauses and literals clauses

Clauses

Literals  
Frames

An \_\_\_\_\_ is “A computer program designed to model the problem solving ability of a human expert”

Expert system  
Intelligent system  
Echo system  
Energy system

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

Computer science  
Biology  
Math  
Psychology

In Depth first search, the node with the largest value of height will be picked \_\_\_\_\_

First  
Last  
Randomly  
None of the given

Breadth-First search requires a great deal of \_\_\_\_\_ If the branching factor is large or infinite, because of exponential explosion

Energy  
Space  
Care  
None of the given

Best first search is a \_\_\_\_ approach

Greedy  
Generous  
Optimized  
None of the given

In adversarial search, the goals of the adversaries are usually \_\_\_\_ to each other

Same  
Contrary  
Parallel  
None of the given

Genetic Algorithm can be applied to \_\_\_\_ problems

All  
Real  
Selected  
None of the given

\_\_\_\_\_ were developed from semantic networks later evolved into modern day classes and objects

Logic  
Networks  
Frames  
None of the given

\_\_\_\_\_ is based on deducing old information from logically related known information

- Inductive
- Deductive
- Abductive
- Analogical

An expert system named \_\_\_\_\_ was developed by digital equipment corporation as a computer assistant

- R1/Xcon
- MyCin
- Dendral
- R3/Xcon

\_\_\_\_\_ chaining, is like an exhaustive search

- Forward
- Backward
- Parallel
- Serial

Most of the solution for problems can be represented in a \_\_\_\_\_

- Graph
- Table
- Demo Algorithm

Which of the following does not make hill climbing hard

- Foothills
- Ridges
- Plateaus
- Slopes

Intelligence is the ability to

- Recognize/ Remember
- Solve
- Learn
- All of the given options

\_\_\_\_\_ AI treats the brain as a black box and just emulates its functionality

- Weak
- Strong
- Soft
- None of the given options

Luger and stubblefield defined AI as “The branch of computer science that is concerned with the \_\_\_\_\_ of intelligent behaviour”

- Perception
- Automation
- Understanding
- Explanation

An expert system reasons \_\_\_\_\_ by encoding an experts's rule-of-thumb

Heuristically

Drastically

efficiently

None of the given

1. perception and Knowledge Representation definition. 2 marks

2. clips command to remove only facts. 2 marks

3. main people involved in an expert system. 3 marks

4. perception and knowledge representation are coupled, yes or no with reason. 3 marks

5. a student wants to understand Expert System. explain to him. 5 marks

6. apply GA to solve the following problem suppose our individual have 32 bit computer word, we want a word which all bits are zeros? 5 marks

MCQ's were easy some were new most were from past papers

Good Luck

Today's paper of cs607.

Q.How can you elaborate the usage of "defrule" in clips?\_\_(2)

Q.Difference b/w meta knowledge and heuristic knowledge .\_\_(2)

Q.Which algorithm is best when we don't exactly know the initial goal state and operators?\_\_(3)

Q.How programming of experts system is different from conventional program.?\_\_(5)

Q.A student wants to get knowledge about forward chaing.how can you elaborate it ?\_\_(5)

my ppr

1. perception and Knowledge Representation definition. 2 marks

2. write any 2 names of systems 2 marks

3. write detail about use of representation . 3 marks

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6. apply GA to solve the following problem suppose our individual have 32 bit computer word, we want a word which all bits are zeros? 5 marks

MCQ's were easy some were new most were from past paper

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CS607\_Midterm\_Artificial Intelligence spring 2015 (Held On Dated 27-JUNE-2015)

Total Questions: 26 Total Marks: 40

Objective: 20 marks, Subjective 20 marks

Q.21 Describe roles of an expert system? (2 marks)

Answer: (Page 113)

An expert system may take two main roles, relative to the human expert. It may replace the expert or assist the expert

Q.22 Briefly describe the appropriate situation for application of Adversarial Search and Genetic Algorithm.? (2 marks.)

Answer: (Page 82)

In many applications there might be multiple agents or persons searching for solutions in the same solution space. Such scenarios usually occur in game playing where two opponents also called adversaries are searching for a goal. Their goals are usually contrary to each other.

In many problems where the size of search space grows extremely large we often use techniques in which we don't need to keep all the history in memory. Similarly, in problems where requirements are not clearly defined and the problem is ill structured, that is, we don't exactly know the initial state, goal state and operators etc; we might employ such techniques where our objective is to find the solution not how we got there.

In order to speed up the techniques we can follow a parallel approach where we start from multiple locations (states) in the solution space and try to search the space in parallel.

Q.23 A student wants to learn about the knowledge of forward chaining. How would you guide him about forward chaining? (3marks)

Answer: (page 123)

Let's look at how a doctor goes about diagnosing a patient. He asks the patient for symptoms and then infers diagnosis from symptoms. Forward chaining is based on the same idea. It is an "inference strategy that begins with a set of known facts, derives new facts using rules whose premises match the known facts, and continues this process until a goal state is reached or until no further rules have premises that match the known or derived facts" (Durkin). As you will come to appreciate shortly, it is a data-driven approach.

Q.24 Keeping in mind other types of knowledge, which situation (knowledge type) is most suitable for the statement "It is rainy today", and tell why it is suitable? (3 marks)

Answer: (page 90)

Given statement belongs to the declarative statement

Declarative knowledge: It describes objects, rather than processes. What is known about a situation, e.g. it is sunny today, and cherries are red.

Q.25 What problem may arise, if we use only crossover operation without mutation in Genetic Algorithm? Briefly discuss. (5 marks)

Answer: (page 82)

In the 32-bit word problem, the (two-parent, no mutation) approach, if it succeeds, is likely to succeed much faster because up to half of the bits change each time, not just one bit. However, with no mutation, it may not succeed at all. By pure bad luck, maybe none of the first (randomly generated) words have (say) bit 17 set to 1. Then there is no way a 1 could ever occur in this position. Another problem is lack of genetic diversity. Maybe some of the first generation did have bit 17 set to 1, but none of them were selected for the second generation. The best technique in general turns out to be a combination of both, i.e., crossover with mutation.

Q.26 Describe steps for proving a statement using resolution refutation? (5 marks)

Answer: (page 108)

- Write all sentences in CNF
- Negate the desired conclusion
- Apply the resolution rule until you derive a contradiction or cannot apply the rule anymore.
- If we derive a contradiction, then the conclusion follows from the given axioms
- If we cannot apply anymore, then the conclusion cannot be proved from the given axioms

Almost 15 MCQ's from past, and mostly subjective from last 11 lectures

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My today paper CS607

35% MCQ form moaaz

Q1: explain difference b/t crossover and mutation? 2 marks

Q2: describe the prime role of ES designer and give main reason? 2 marks

Q3: Statement # 1: Ali wears long shoes of Bata Company when it is raining

Statement # 2: Today Ali is walking in long shoes

Statement # 3: so it is raining

Identify the above statement reasoning and give your strong support? 5 marks

Q4: How can you elaborate the "explanation facility" in expert system? Elaborate it with an example. (5 Marks)

Q5: Perception and KR closely coupled yes or not and give the reasons? 3 marks

Q6: describe the term in which a person has skill, experience, specialized knowledge? 3 marks

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