DHARMSINH DESAI UNIVERSITY, NADIAD
FACULTY OF TECHNOLOGY
B.TECH. SEMESTER VII [IT]
SUBJECT: (IT714) KNOWLEDGE SYSTEM

Examination	**: Second sessional**	**Seat No.**	**: _____**
Date	**: 11-09-2021**	**Day**	**: Saturday**
Time	**: 11:30 to 12:45**	**Max. Marks**	**: 16**

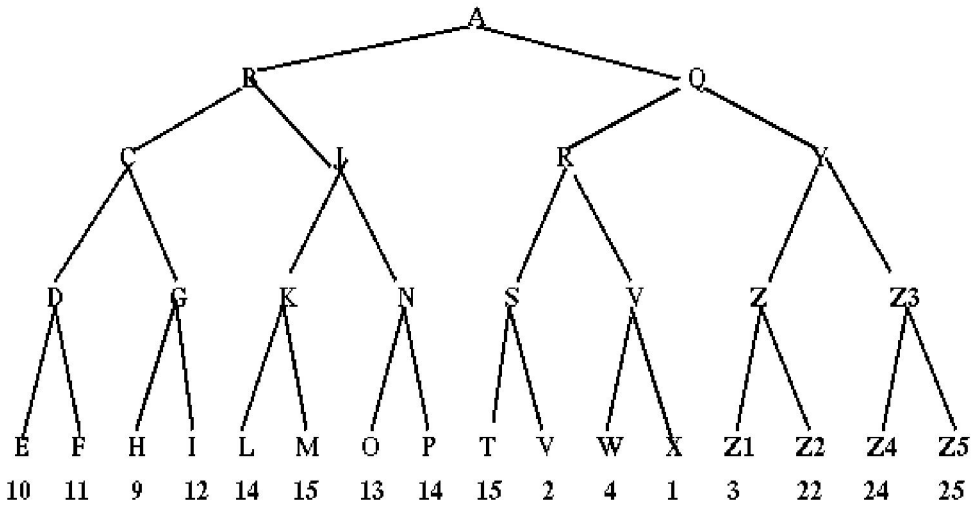
INSTRUCTIONS:
1. Figures to the right indicate maximum marks for that question.
2. The symbols used carry their usual meanings.
3. Assume suitable data, if required & mention them clearly.
4. Draw neat sketches wherever necessary.

Q.1 **Do as directed.**
In form of MCQs

Q.2 Attempt ***Any Two*** of following questions. **[8]**

(a) Represent the given sentences using semantic net or partitioned semantic net. **[4]**
1. Every AI student is a CS student.
2. Every loon is a bird, and every loon is aquatic.

(b) Apply Mininmax algo with alpha beta pruning and find the value for root node. Clearly mention the values of alpha and beta. **[4]**



c) What are the usage of not, fail and cut predicate in prolog. Explain each with separate example. **[4]**

Q.3 (a) Suppose, you want to arrange a celebration at your home. **[8]**
These are some guidelines by government:
- Anyone tested positive for COVID-19 cannot travel.
- People, who live in containment area, cannot travel.
- People, who are self-quarantine, are not allowed to travel.
- If a person tested positive for COVID-19 the People living with him will be in self-quarantine.
- People who are invited but cannot travel will not attend any function.
- People who are not fully vaccinated cannot be part of any function

Rahul is your friend, You invited him in the celebration, But you got the news that, his neighbor is tested positive for COVID-19 today. Due to this, his entire colony is identified as containment zone. Represent the given knowledge using FOL. Prove using resolution that Rahul will not attend the celebration.

OR

Q.3 (a) Consider the following knowledge base. Represent it using FOL and Prove "If every child who is not a city child is good, then every child gets some toy" using Forward or Backward chaining. **[8]**

For every mall, there is some Santa who is at the mall.
Every child who visits anywhere talks with every Santa who is at the place visited.
Every child who is a city child visits some mall.
Every child who is good or who talks with some Santa gets some toy.