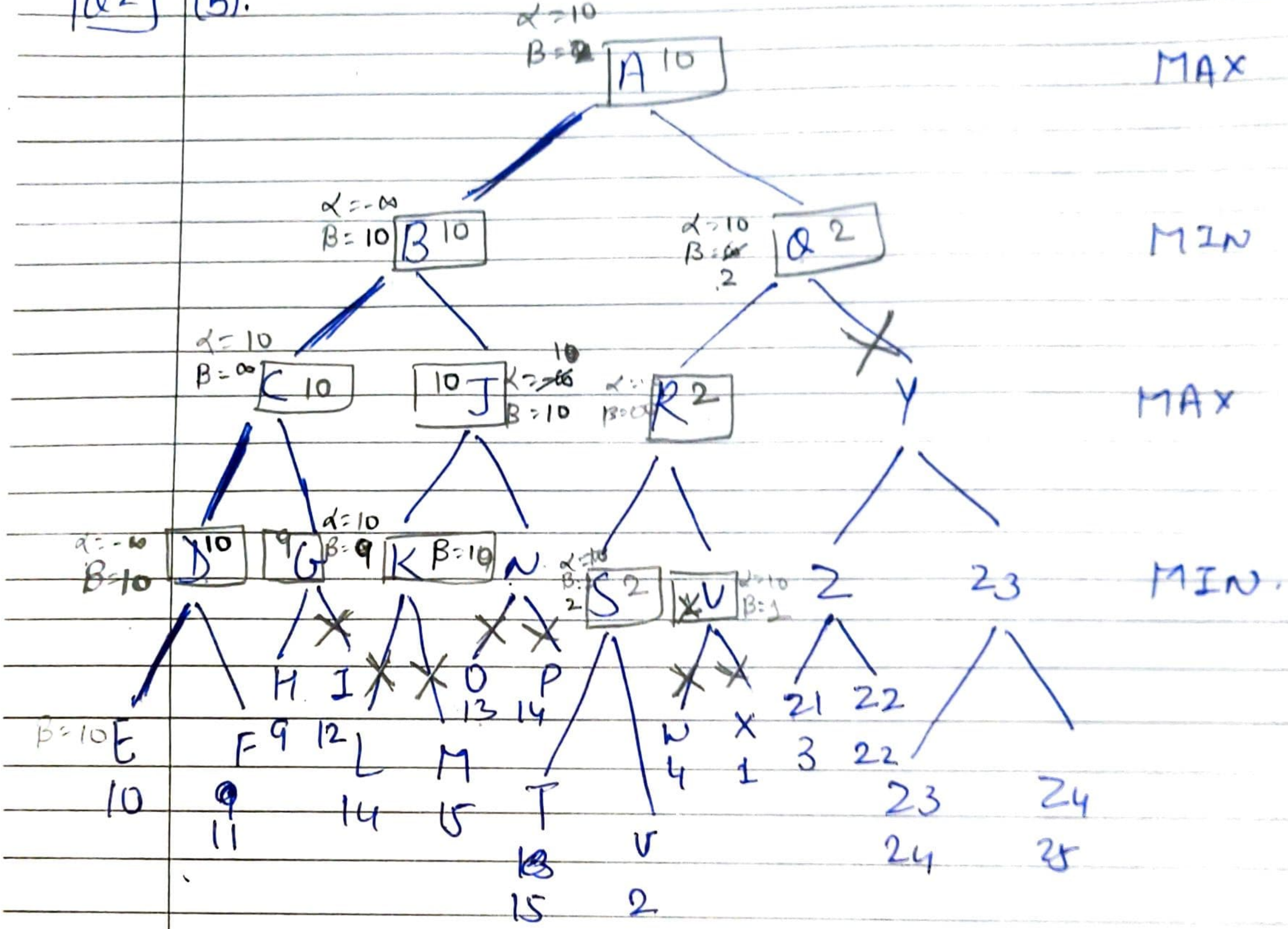
Name of the Subject: KNOWLEDGE SYSTEM Subject Code: IT-714

Seat No: IT076 Student ID: 18ITUBN116 Branch/Sem: IT-VII

Q2 (b).



— As the initial Stage α=-∞ & β=∞
& Condition is $\boxed{\beta <= \alpha}$

— So the Root node $\boxed{A = 10}$ & the. ths
the alpha cut

→ The path is. $\boxed{A \rightarrow B \rightarrow C \rightarrow D \rightarrow E}$

Q2 (C)

→ Cut Predicate.

- It removes all the alternatives & then forbid the values otherwise, it could be binding.
- The Symbol for cut predicate is "!".
- eg.,

```
a(x) :- b(x), !, c(x).
a(x) :- d(x).
b(1).
b(4).
c(1).
c(3)
d(4).
```

→ Fail Predicate.

- The whole Statement is going to be false. It will force the backtracking in an attempt to Unify another clause.

eg.,

```
a(x) :- b(x), c(x), fail.
a(x):-d(x).
b(1).
b(4).
c(1).
c(3).
d(4).
```

- Not Predicate.
- The negative predicate in prolog is \+ & therefor \+. return True.
- It is the negation Predicate. Symbol is <>. in Prolog.
- eg,

~~[illegible]~~

a(x):- (x <> 3), ~~print~~ write(x)

Name of the Subject: KS Subject Code: IT-714

Seat No: IT076 Student ID: 18ITUBN116 Branch/Sem: IT-VII

Q3 (a).

① For every mall, there is some Santa who is at mall.

~~$\forall x, \forall y$ $\exists x, \exists y$~~

$\forall x, \exists y$:- mall(x,y) → Santa(y).

② Every Child who visits anywhere talks with every Santa who is at the placed visited.

$\forall z$

$\forall x, \exists y \wedge$ (Child(x) → Visit(y) $\wedge$ Santa(z) → place(y))

③ Every child who is a child visit some mall

$\forall x, \exists y$:- ~~Visit(x,y) →~~ Child(x) → mall(x,y).

④ Every child who is good or who talks with some Santa get some toy.

$\forall x, \exists y\ \exists z$:- (Good(x) $\vee$ talks(y)) → gets(z)

Section – II Date: 11/09/2021 Signature of Student: