## RADHIKA PATWARI 18CS 10062

PAGE NO ... DATE: 25/9/2021

## Class Test-2 [CS60045][AI]

1.

(a) Variables = {1,2,3,4,5,6,7,8}

Donuaire (Di jar ith variable)

D, = & style, stain, onset, apple, store, stone, entry, after, other, others

De = { style, Stain, onset, apple, store, entry, after, other)

D3 = { exit, rare, dart, need, stay, stan antes

Dy = 2 steperit, ran, dart, nerd, stay, star, antez

Dr = Dy

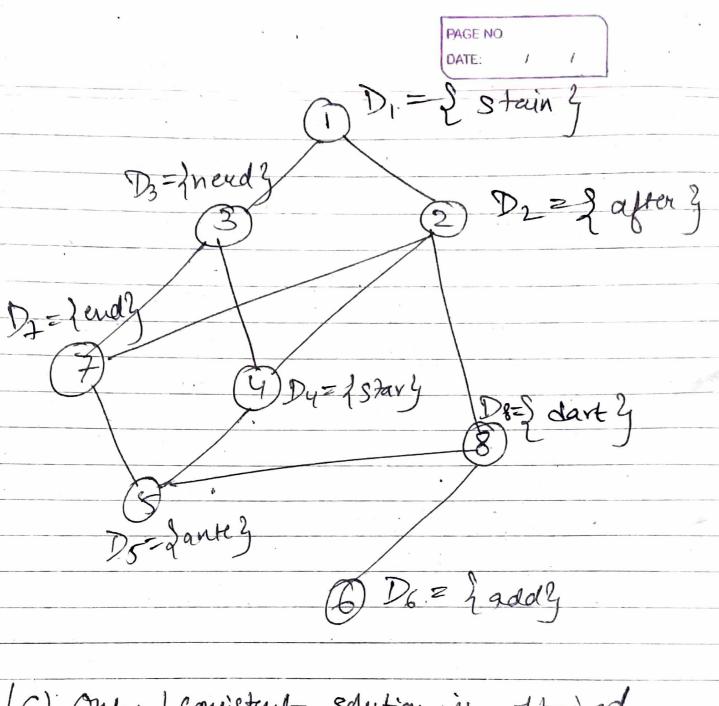
Do := & are, end, art, add, rod 3

 $\mathcal{D}_{\mathcal{F}} = \mathcal{D}_{\mathcal{E}}$ 

D8 = Dy

CSP Graph Arc Consistency onset, apple, Store Lare, end, got add, node

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C) Only I consistent—solution is obtained

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2.	DATE:
gy	play (x,y): x play for theorem y
	teantel e a aire o trails
	captain(x,y): x is captain of my
,	friend (x, y): x is friend of y
	distille (xey): x distilles y
	betray (x,y): x betrays y
b)	Fi: play (Pritam, Big Lean) North and Big Teans
•	F2: Captain (Mahan, Big (earr)
	Fy: $\forall x (play(x, Bigream) \rightarrow (friend(x, Mahan) V distille(x, Mahan) Fy: \forall x \forall y (friend(x, y) \rightarrow betray(x, y))$
	Fu: Markan) Mahan)
	F5: \tx \ty (betray (x,y) \rightarrow \tag{niend(x,y)}
	F6: betray (Pritan, Mahan)
	57: Vn Vy play (Pritam, x) 1 distilu (Pritam, y) 1

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Captain (y, x)

(C) C1 = play | Pritam, Big Team)

(2 = Captain (Mahan, Big Team)

Eg & Vx (-1play (n, Bijteam) V friend (x, Mahan)

V distile (x, Mahan)

Cz = -1play(x, Bigteam) V friend (x, Mahan) V distile (x, Mahan)

= Yx Yy ( poiend (x,y) > 7 betray (x,y))
= Yx Yy ( 7 friend (x,y) V 7 betray (x,y)

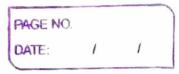
Cy = 7 friend (x,y) V 7 betray (x,y)

= +x+y ( berray (x,y) -> 7 friend (x1y))
= +x+y (-betray (x1y) V -> friend (x1y))

Cos = 7 betray (N14) V 7 friend (x14)

(6 = berray ( Pritary, Mahan)

767 = C7 = 7play(Pritain, X) V dielike (Pritain, y).



C1, C2... Cy are the clauses Tom = (CINCON CBACYA C516AC) (d) Goal councit be logically concluded (s & C6 -) C8 -) 7 friend (Portany, Mohan) (8 & (3 ) Cg ) Tplay (Britain, Big Team) V distilu (fritain, Meshan) Cg & C, > Cw - distille (Pritaux, Mahan) (10 l Cy - C11 - 7 play (Portaur, x) V Captain ( Aluhan, 2) C2 (aplain) Mohan, Bigream)

Now this cannot be firther occherced. Hence Cannot be solved