CENG 424 - Assignment None: Al Alper Yousou Student 10: 2036390

1) Answer for Q1 (Splitting)

KB is:

MASA (TIESE A TESC)

2) FSA (705B1 705C)

3) BSLA = (7BRSB / 7BRSC)

4) BRSA (LTGSLB A TESLC)

5) 705C 6) 705D

7) 7FSA 817FSO (A A A A A)

- 11) (DSA AFSBABSLL ABRSO) V(DSA AFSBABSLD ABRSC)V (DSA A FSCABSLB ABRESO) V (OSA A FSC ABSLOABRESB) V (OSA A FSO ABSUR A BRSC) V LOSAN FSO ABSUCABRIB) V (DSB A FSA ABSLICA BSLD) V (DSB A FSA A BSLDA BRSC) V (DSBAFSCABSLAABRSD) U (DSBAFSCABSLOABRSA)V (DSB A FSO ABSLA ABRSC) V COSBA FSO A BSLC A BRSA) V (DSCAFSAABSLBABRSD) V (OSCAFSAA BSLDABRSB) V LOSC A FSBA BSLANBRSD) V (OSC A FSB A BSLOA BRSA) V (DSCAFSDABSLANERSE) V LOSCAFSDABSLBABRSA) V LOSO A FSANBSLBABRS () V (DSPA FSANBSLC A BRSR) V LOSD A FSB A ESLCABRSA) V (OSDA FSB ABSLA A BRSC) V (OSDA FSC ABSLAABRSB) V LOSOAFSCABSLE ABRSAJ
 - 12) (OSA A 705B A 705C A 7050) V (DSBA 705AA 705CA 705D) V (DSCA 705A A 705BA 705D) VI (DSOA 705AA 705B A 705C) V (FSA A TESE A TESCA TESO) V (FSB A TESA TESO) V LESCH TESA A TESB ATESA) V (FSDA TESA ATESC) V (BSLAN 7BSLB MBSLCA 7BSLD) Y LBSLB A7BSLAN 7BSLCA 7BSLD) V (RSLC ATRSLA ATRSLBATRSLD) U (BSLO ATRSLA ATASLBATRSLE)V (BRSANTBRSBNTBRSCATBRSD) V (BRSBNTBRSANTBRSCATBRSD) V (BRSC ATBRESA ATBRESS ATBRESO) V (BRSO ATBRESA TRRESATBRESC)

DSCE1 050E1 FSA C1 FSO C 1

DSC 60, 05060 FSAGO, FSOGO

(on rext page.)

D) (FSR A TESC) V (FSC A TESB)

10) (OSAN70SB) V (OSBN70SA)

- 1) OSA (TESE ATESC)
- 2) DSB
- 3) BSLA (1BRSB ATAKSC)
- 4) BRSA (CTBSLB ATRSLC)
- 5) (FSB A TESC) V (FSC ATESB)
- 6) (DSA 1 705R) V (DSB 1705A)
- 7) (DSANFSBABSLCARRSD) V (DSANFSCALSLDARRSC) V (OSANFSCABSLBARRSD) V (OSANFSCALSLDARRSR) V (OSBAFSCABSLANBRSD) V (DSRAFSCABSLOABRSA)
- E) (DIA A TOSE) V LOSE ATOSA) V (FSR A TESC) V (FSC A TESE) V

 (BSLA A TESEBATESLE ATESLO) V (BSLR A TESLA A TESLA ATESLO) V.

 (BSLC A TESLA A TESLO A TESLO A TESLA A TESLA A TESLO A TESLO) V

 (BRSA A TERSBA TERSC ATERSO) V (BRSBATESSA ATERSC A TERSO) V

 (BRSC A TERSA A TERSE ATERSO) V (BRSD A TERSA A TERSBATERSC)

DSB & S

DSBE 1

- 1) OSA ((7FSR 17FSC)
- 2) ESCA () (IBASE ATRRSC)
- 31 BRSA () (1BSLB A 7 BSLC)
- 4) (FSB MIFSC) V (FSC MIFSB)
- 5) 7ASA
- 6) (OSA NESBABSCC ABRSO) U (DSANESBABSCOABRSC) V (DSANESCABSLB NBRSD) U (DSANESCABSCOABRSB) U (FSC ABSLA ABRSO) U (FSC ABSLOABRSA)
- (Rest is some with (8th sentence on the upper port, please give nercy.)

DSA EI

OSAED

(on rext poge)

- 1) FSB VFSC
- 2) BSCACO (TBRSBATBRSC)
- 3) BRSA (TOSLB ATBSLC)
- 4) (FSB MTFSC) V (FSCMTFSB)
- 5) (FSC ABSLAARRSD) V (FSC ABSLOARRSA) ,
- (BSCA TERSANTERSON V (FSC A TESS) V

 (BSCA A TESCE A TESCE A TESCO) V (ESCE A TESCANTESCONTESCO) V

 (BSCC ATBSCAA TESCE ATESCO) V (ESCO A TESCANTESCONTESCO) V

 (BRSO ATBRSO A TERSON V (BRSO A TERSANTERSCATERSO) V

 (BRSCATERSANTERSON TERSON V (BRSO A TERSANTERSCATERSO) V

FSCEO /

J FSCE1

- 1) BSLA (TORSBATERSC)
- 2) BRSA (TBSLB A WSLC)
- 3) 7FSB
- 41 (BSLA MERSO) V (BSLD MARSA)
- 5) 7FSBV __ (Rest is some with 6th sentence on the upper part)

FSB = 1

JF5BC0

(on the rext page.)

1) BSLA () (TENSE A TERSC) 21 BRSA (CTOSLBA TOSLC) 3) (BSLA ABRESD) V (BSLDABRSA) 4) (BSLA A TBSLBA TRSLCA TBSLO) V (BSLBATBSLAATRSLCATRSLO) V (BSICA 7BSIA A BSIG A ABSID) Y (BSID A 7BSIA A 7BSIBA ABSIC) V (BRSAN TBRSEN TBRSCN TBRSO) V (BRSEN TBRSANTBASON TORSO) V (BRSCA TERSANTERSE ATGRSO) V (BRSONTBRSANTERSC) BSLA C- 1

- 1) TORSON TORSC
- 2) BRSA (=) (TRSCBATBSUC)
- 3) BRSO V (BSLO ABRSA)
- 4) (TBSCB NTBSCCNTBSLO) V (BRIST NTBRISB NTBRIC NTBRID) V - (rest it some with 4th sentence! rest port of upper port.)

BRSBE! BRECEI

RRSBER BRSCEO

1) ORSA (BSLBA7BSLC)

- 1) BRSD V (BSLOABRSA)
- 3) (TESLA A TESLO A TESLO) V

(BRSANTERSO) V (BRSDNTBRSA)

BSCRED BSICED DSLOED C

1) DRSA 2) BRSOVBLSA

3) TBRSD

BRSAEI BRSDEOK

(SATISFIABLE)

Any interpretation I St. I(OSB)=1, I(FSC)=1, I(BSW)=1, I(BRSD)=1, I (OSA) = D, I (OSC) = 0, 1 (OSO) = 0. I (FSA)=0, I (FSB)=0, I(FSO)=0. I(BRSB)=0, I(BRSC)=0, I (BSIB) = ond I (BSIC) = 0 a model of this

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2) Answer For Q2 (CNF)

(p \rightarrow r) \vee (q \leftrightarrow r) \vee \gamma (\omega \rightarrow p)
= (p \rightarrow r) \vee ((\tau_q \vee r) \wedge (\tau_r \vee q)) \vee \tau (\omega \rightarrow p)
= (p \rightarrow r) \vee ((\tau_q \vee r) \wedge (\tau_r \vee q)) \vee \tau (\tau_w \vee p)
= (p \rightarrow r) \vee ((\tau_q \vee r) \wedge (\tau_r \vee q)) \vee (\omega \wedge \tau_p)
= (\tau_p \vee r) \vee ((\tau_q \vee r) \wedge (\tau_r \vee q)) \vee (\omega \wedge \tau_p)
= (\tau_p \vee r) \vee (\omega \wedge \tau_p) \vee ((\tau_q \vee r) \wedge (\tau_r \vee q)) \vee ((\tau_q \vee r) \wedge (\tau_r \vee q))
= ((\tau_p \vee r \vee \omega) \wedge (\tau_p \vee \omega)) \vee ((\tau_q \vee r) \wedge (\tau_r \vee q))
= ((\tau_p \vee r \vee \omega) \wedge (\tau_q \vee r) \wedge (\tau_r \vee q)) \wedge ((\tau_p \vee \omega) \vee ((\tau_q \vee r) \wedge (\tau_r \vee q)))
= ((\tau_p \vee r \vee \omega) \vee ((\tau_q \vee r) \wedge (\tau_r \vee q)) \wedge ((\tau_p \vee \omega) \vee ((\tau_q \vee r) \wedge (\tau_r \vee q)))
= ((\tau_p \vee r \vee \omega) \wedge (\tau_p \vee \omega \vee q)) \wedge ((\tau_p \vee \omega \vee \tau_q \vee r) \wedge (\tau_p \vee \omega \vee \tau_r \vee q))
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