

Surname : Pendyala
Firstname : Praveen Kumar
Matrikel # : 2919474

Some of the answers were arrived at while working in group with:
Lokesh Kumar Jamjoor Ramachandran - 2596208
Dhanasekar Boopalan - 2863180

Problem 6.1

A. Routing tables of each nodes after Route Reply arrived at Node A :

Node A			
Req-ID : 3		Loc. Seq. # : 6	
Dest.	Link	Hops	Seq.#
B	B	1	8
C	C	1	3
D	C	3	12

Node B			
Req-ID : 5		Loc. Seq. # : 8	
Dest.	Link	Hops	Seq.#
A	A	1	6
C	C	1	3
D	C	3	12

Node C			
Req-ID : 1		Loc. Seq. # : 3	
Dest.	Link	Hops	Seq.#
A	A	1	6
B	B	1	8
E	E	1	4
D	E	2	12

Node D			
Req-ID : 6		Loc. Seq. # : 12	
Dest.	Link	Hops	Seq.#
E	E	1	4
F	F	1	7

Node E			
Req-ID : 2		Loc. Seq. # : 5	
Dest.	Link	Hops	Seq.#
C	C	1	3
D	D	1	12
F	F	1	7

Node F			
Req-ID : 3		Loc. Seq. # : 7	
Dest.	Link	Hops	Seq.#
D	D	1	12
E	E	1	4

B. Routing tables of each nodes after Route Reply arrived at Node B : (this is after A)

Node A			
Req-ID : 3		Loc. Seq. # : 6	
Dest.	Link	Hops	Seq.#
B	B	1	9
C	C	1	3
D	C	3	12

Node B			
Req-ID : 6		Loc. Seq. # : 9	
Dest.	Link	Hops	Seq.#
A	A	1	6
C	C	1	3
D	C	3	12

Node C			
Req-ID : 1		Loc. Seq. # : 3	
Dest.	Link	Hops	Seq.#
A	A	1	6
B	B	1	9
E	E	1	4
D	E	2	12

Node D			
Req-ID : 6		Loc. Seq. # : 12	
Dest.	Link	Hops	Seq.#
E	E	1	4
F	F	1	7

Node E			
Req-ID : 2		Loc. Seq. # : 6	
Dest.	Link	Hops	Seq.#
C	C	1	3
D	D	1	12
F	F	1	7

Node F			
Req-ID : 3		Loc. Seq. # : 7	
Dest.	Link	Hops	Seq.#
D	D	1	12
E	E	1	4

Problem 6.2

- A. Landmark nodes in network : (75A1 | 8), (87A0 | 25) and (B379 | 128)
- B. Relevant entries for Node :
- 75A1 - (76B2 | 12)
 - 87A0 - (88B1 | 53)
 - B379 - (B123 | 18)

Problem 6.3

A. Barter Trade :

- Disadvantages
 - i. Only immediate & bilateral trading
 - ii. Exchanged goods must be of equal value
- Advantages
 - i. Low transaction costs

Bond based patterns :

- Disadvantages
 - i. Forgery
 - ii. Double-spending
 - iii. High transaction costs
- Advantages
 - i. Flexibility: deferred & multilateral trading

B. Pricing :

- Maps a service onto a value (price) -- Price determination
- Communicates price to other peers -- Price dissemination

Accounting :

- Aggregates the service value

Charging :

- Maps the aggregated value onto a monetary charge

Problem 6.4

A. Prisoner's Dilemma with $U_F = 5$ and $C_F = 2$:

a. Payoff matrix

Peer2		Cooperate	Defect
Peer1	Cooperate	R = 3 R = 3	T = 5 S = -2
Defect		S = -2 T = 5	P = 0 P = 0

- b. Defection would be the dominant strategy.

B. $U_F = 2$ and $C_F = -1$:

- a. Payoff Matrix

Peer2		Cooperate	Defect
Peer1	Cooperate	R = 3 R = 3	T = 2 S = 1
	Defect	S = 1 T = 2	P = 0 P = 0

- b. Cooperation would be the dominant strategy

- c. No! The inequality here is : $R > T > S > P$

To be classified as Prisoner's Dilemma, in a strong sense, we need :
 $T > R > P > S$