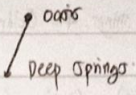
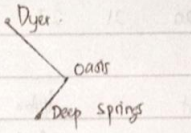
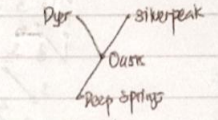
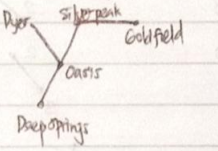
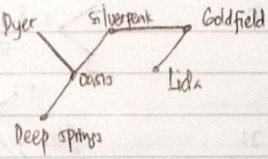
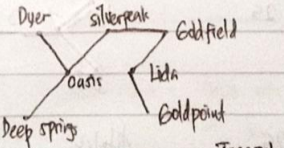
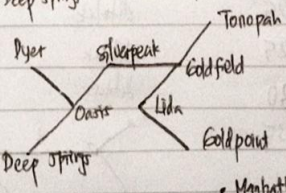
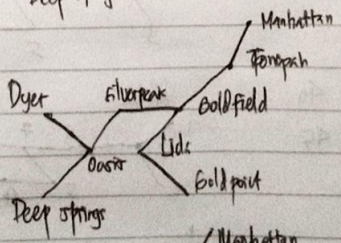
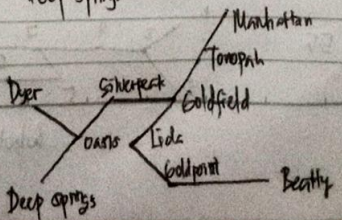
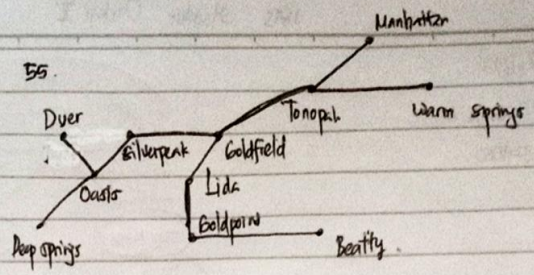
UAS Struktur Diskrit I — Kamis, 3 Desember 2020

Nama : Feza Reyaldi
Kelas : 3 TI REGULER A
NIM : D9D212819249060

1. - Algoritma Prim

langkah	Sisi	Bobot	Pohon rentang
1.	(Oasis, Deep Springs)	10	
2.	(Oasis, Dyer)	21	
3.	(Oasis, Silverpeak)	23	
4.	(Silverpeak, Goldfield)	20	
5.	(Goldfield, Lida)	20	
6.	(Lida, Goldpoint)	12	
7.	(Goldfield, Tonopah)	35	
8.	(Tonopah, Manhattan)	25	
9.	(Goldpoint, Beatty)	45	

10. (Tonopah - Warm springs) 55.

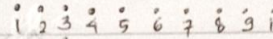
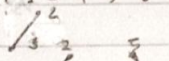
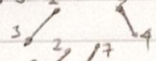
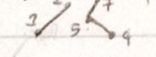
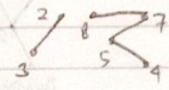
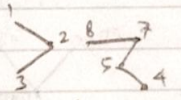
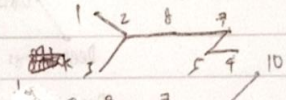
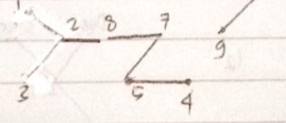
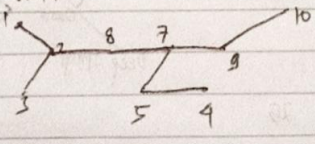
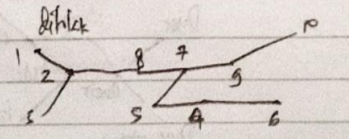
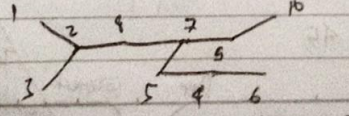


Bobot = 10+21+23+20+20+12+35+25+45+55

misalkan: 1 = Dyer, 2 = Oasis, 3 = Deep springs, 4 = Goldpoint, 5 = Lida, 6 = Beatty, 7 = Goldfield, 8 = Silverpeak, 9 = Tonopah, 10 = manhattan, 11 = warm springs

- Algoritma Kruskal.

Sisi	(2,3)	(5,4)	(5,7)	(7,8)	(1,2)	(2,8)	(1,8)	(2,5)	(9,10)	(3,4)	(7,9)	(8,9)	(4,6)	(9,11)	(10,11)	(6,7)	(1,10)
Bobot	10	12	20	20	21	23	25	25	25	30	35	40	45	55	60	70	80

Langkah	Sisi	bobot	hubung/merentang
0			
1	(2,3)	10	
2	(5,4)	12	
3.	(5,7)	20	
4.	(7,8)	20	
5.	(1,2)	21	
6.	(2,8)	23	
7	(9,10)	25	
8	(2,5)	25	ditolak
9.	(5,8)	25	ditolak
10.	(3,4)	30	ditolak
11.	(7,9)	35	
12.	(8,9)	40	ditolak
13.	(4,6)	45	
14.	(9,11)	55	

Bobot = 10+12+20+20+21+23+25+35+45+55 = 266 //

2. (a) $xy\bar{z} + x\bar{y}\bar{z} + \bar{x}yz + \bar{x}\bar{y}\bar{z}$

x \ yz	00	01	11	10
0	1		1	
1	1			1

Bentuk sederhana = $\bar{y}\bar{z} + x\bar{z} + \bar{x}yz$.

(b) $x\bar{y}z + x\bar{y}\bar{z} + \bar{x}yz + \bar{x}\bar{y}z + \bar{x}\bar{y}\bar{z}$

x \ yz	00	01	11	10
0	1	1	1	
1	1	1		

bentuk sederhana = $\bar{y} + \bar{x}z$.

(c) $xyz + xy\bar{z} + x\bar{y}z + x\bar{y}\bar{z} + \bar{x}yz + \bar{x}\bar{y}z + \bar{x}\bar{y}\bar{z}$

x \ yz	00	01	11	10
0	1	1	1	
1	1	1	1	1

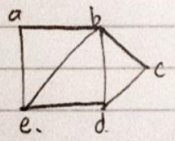
bentuk sederhana = $x + y' + z$.

(d) $xy\bar{z} + x\bar{y}\bar{z} + \bar{x}\bar{y}\bar{z} + \bar{x}\bar{y}z$

x \ yz	00	01	11	10
0	1	1		
1	1			1

bentuk sederhana = $\bar{x}\bar{y} + x\bar{z}$

3. (a)



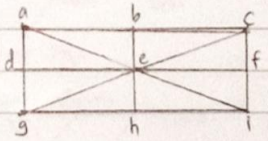
Sirkuit Euler : tidak ada, karena simpul d dan e berderajat ganjil.

Lintasan Euler : d-b-c-d-e-b-a-e

Sirkuit Hamilton : a-b-c-d-e-a

Lintasan Hamilton : c-d-e-b-a

(b)



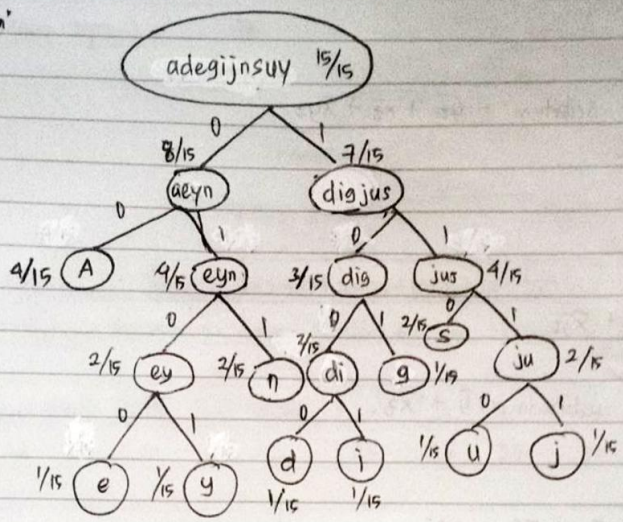
Sirkuit Euler : tidak ada, karena semua simpul kecuali e berderajat ganjil.

Lintasan Euler : Tidak ada, karena simpul yang berderajat ganjil lebih dari 2.

Sirkuit Hamilton : a-e-b-c-f-i-h-g-d-a.

Lintasan Hamilton : e-c-b-a-d-g-h-i-f

4. "saya sedang ujian"



a = 00
d = 1000
e = 0100
g = 101
j = 1001
j = 1111
n = 011
s = 110
u = 1110
y = 0101

Representasi biner : 1100001010 1101010010000011101 1110111100100011