	COLLEGE OF COMPUTING AND INFORMATION SCIENCES		
	Mid-Term Assessment Fall 2020 Semester		
Class Id	104973, 104974, 104975, 104976	**Course Title**	Internet and Intranet Architecture.
Program	BSCS	**Campus / Shift**	Main Campus / Morning
Date	20th – October 2020	**Total Marks**	40
Duration	02 hours	**Faculty Name**	Kashif Bashir / Sanjay Kumar
Student Id	Asif Ali Bhutto	**Student Name**	8789

Instructions:

- Filling out Student-ID and Student-Name on exam header is mandatory.
- Do not remove or change any part of exam header or question paper.
- Write down your answers in given space or at the end of exam paper with proper title "Answer for Question# _ _".
- Answers should be formatted correctly (font size, alignment and etc.)
- Handwritten text or image should be on A4 size page with clear visibility of contents.
- Only PDF format is accepted (Student are advise to install necessary software)
- In case of CHEATING, COPIED material or any unfair means would result in negative marking or ZERO.
- A mandatory recorded viva session will be conducted to ascertain the quality of answer scripts where deemed necessary.

- **Caution:** Duration to perform Mid-Term Assessment is **02 hours only**. Extra 01 hour are given to cater all kinds of odds in submission of Answer-sheet. **Therefore, if you failed to upload answer sheet on LMS (in PDF format) within 03 hours limit, you would be considered as ABSENT/FAILED.**

Question 1. [10]

a) Configure E**IGRP** with unequal cost load balancing on router "Main Campus" of the internetwork shown in Figure 1.

b) When you type the command **"SHOW IP ROUTE"** on router "Main Campus", What do you see? Show all necessary calculation required.

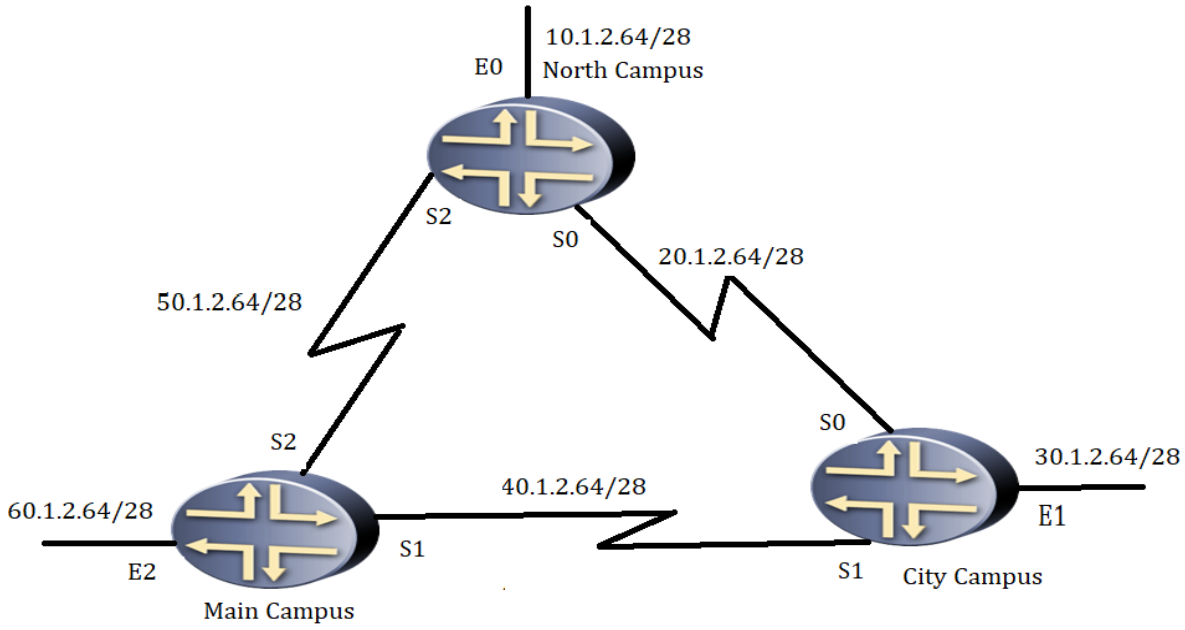


Figure 1

Media	Bandwidth	BW $_{IGRP}$	Delay	DLY $_{IGRP}$
100M ATM	100000K	100	100µS	10
Fast Ethernet	100000K	100	100µS	10
FDDI	100000K	100	100µS	10
HSSI	45045K	222	20000µS	2000
16M Token Ring	16000K	625	630µS	63
Ethernet	10000K	1000	1000µS	100
T1	1544K	6476	20000µS	2000
DS0	64K	156250	20000µS	2000
56K	56K	178571	20000µS	2000
Tunnel	9K	1111111	500000µS	50000

Questions 2: [10]

a) Configure **Simple static routes** for Main Campus router of the internetwork shown in Figure 2.

b) Configure **Floating Static Route** for North campus router of the internetwork shown in Figure 2 .

c) Configure **Equal load balancing** for Malir Campus router of the internetwork shown in Figure 2.

d) Configure **Recursive Table Lookup** for City Campus router of the internetwork shown in Figure 2 .

Write the routes so that every subnet of the internet has an individual entry

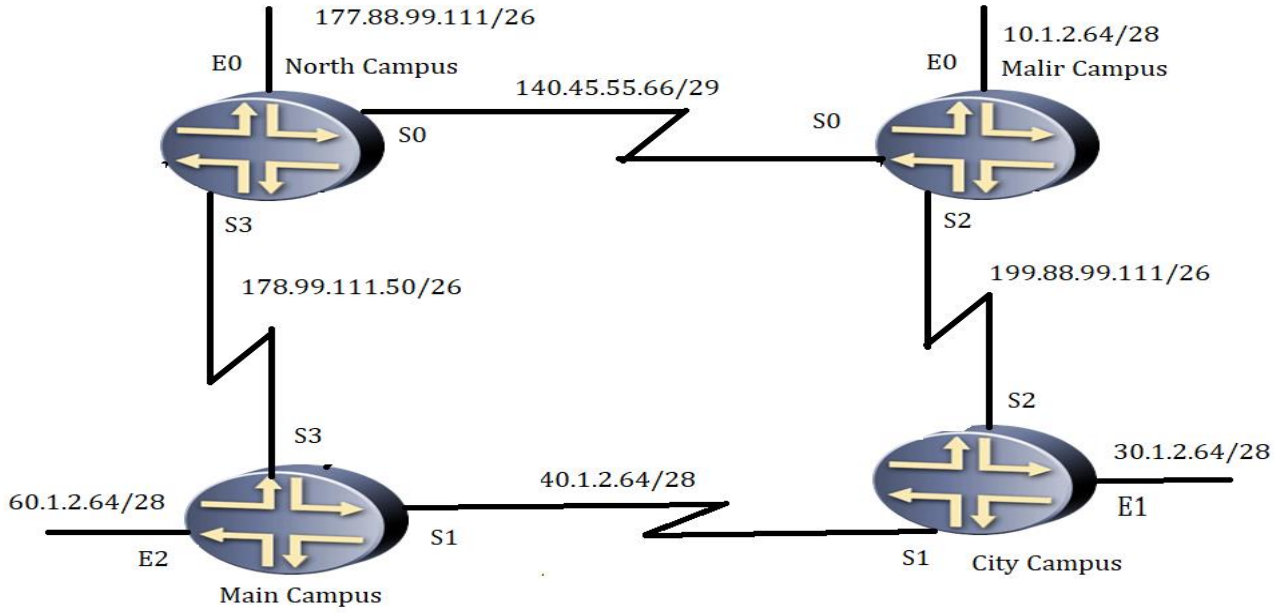

177.88.99.111/26
E0
North Campus
140.45.55.66/29
S0
E0
10.1.2.64/28
Malir Campus
S0
S3
S2
178.99.111.50/26
199.88.99.111/26
S2
S3
30.1.2.64/28
60.1.2.64/28
40.1.2.64/28
E1
S1
E2
S1
City Campus
Main Campus

Figure 2

Answer:

Asif Ali Bhutto (8789)

Q No 2

(a) Simple Static Route

→ ip route 177.88.99.64 255.255.255.192 178.99.111.50
→ ip route 140.45.55.64 255.255.255.248 178.99.111.50
→ ip route 10.1.2.64 255.255.255.240 178.99.111.50
→ ip route 199.88.99.64 255.255.255.192 40.1.2.66
→ ip route 30.1.2.64 255.255.255.240 40.1.2.66

(b) Floating Static Route

→ ip route 10.1.2.64 255.255.255.240 140.45.55.66 5
→ ip route 10.1.2.64 255.255.255.240 178.99.111.50 10

→ ip route 199.88.99.64 255.255.255.192 140.45.55.66 5
→ ip route 199.88.99.64 255.255.255.192 178.99.111.50 10

→ ip route 30.1.2.64 255.255.255.240 140.45.55.66 5
→ ip route 30.1.2.64 255.255.255.240 178.99.111.50 10

→ ip route 40.1.2.64 255.255.255.240 140.45.55.66 5
→ ip route 40.1.2.64 255.255.255.240 178.99.111.50 10

→ ip route 60.1.2.64 255.255.255.240 140.45.55.66 5
→ ip route 60.1.2.64 255.255.255.240 178.99.111.50 10

(c) Equal load balancing

ip route 177.88.99.64 255.255.255.192 140.45.55.65
ip route 177.88.99.64 255.255.255.192 199.88.99.111

ip route 178.99.111.0 255.255.255.192 140.45.55.65
ip route 178.99.111.0 255.255.255.192 199.88.99.111

ip route 60.1.2.64 255.255.255.240 140.45.55.65
ip route 60.1.2.64 255.255.255.240 199.88.99.111

ip route 40.1.2.64 255.255.255.240 140.45.55.65
ip route 40.1.2.64 255.255.255.240 199.88.99.111

ip route 30.1.2.64 255.255.255.240 140.45.55.65
ip route 30.1.2.64 255.255.255.240 199.88.99.111

(d) Recursive table lookup

ip route 10.1.2.64 255.255.255.240 199.88.99.111
ip route 140.45.55.64 255.255.255.248 199.88.99.111
ip route 177.88.99.64 255.255.255.192 140.45.55.65
ip route 178.99.111.0 255.255.255.192 40.1.2.65
ip route 60.1.2.64 255.255.255.240 40.1.2.65

(b)

Question 3. [10]

a. Configure RIP protocol on Routers Main and City Campus for the Figure 3. A policy has been established that dictates that network 177.88.99.64/26 should be unreachable from Main Campus and that network 10.1.2.64/28 should be unreachable from City campus.

b. In the Figure 3, No RIP updates should be exchanged between Main and North Campus, but both should exchange updates with other routers. The no-RIP policy between Main and North campus remains in place, but Malir and North campus, as well as Main and City, must exchange RIP advertisements.

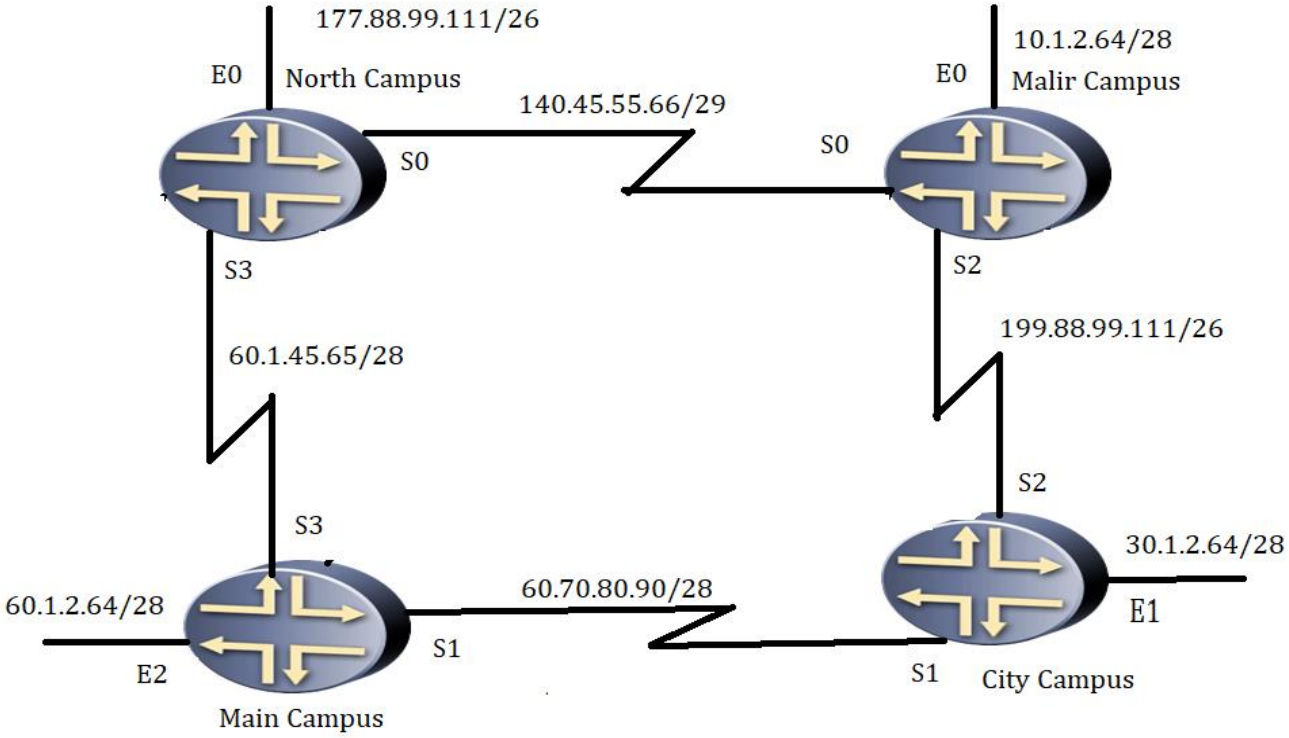


Figure 3

Q no 3

(a)

Main campus

→ Router Rip
→ Network 60.0.0.0

city campus

→ Router Rip
→ Network 60.0.0.0
→ Network 30.0.0.0
→ ~~199.88.99.0~~ Network 199.88.99.0

(b)

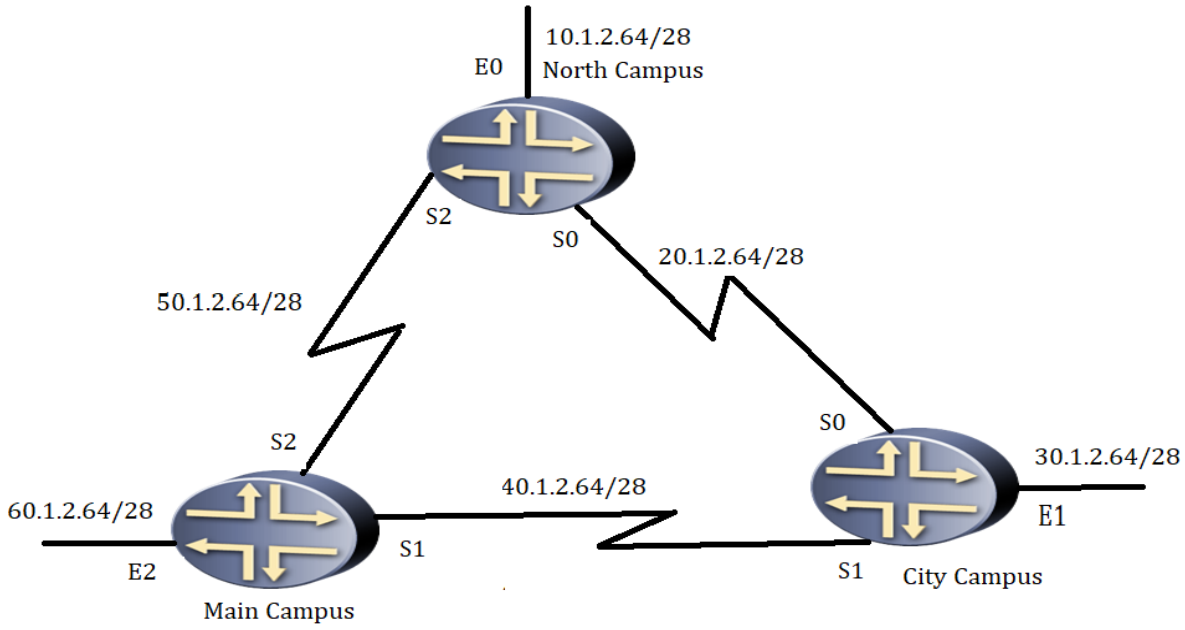
Main campus

→ ~~Router Rip~~
→ Network 60.0.0.0
→ Passive interface S3

Main campus
Router Rip
Passive interface S_3
Network 60.0.0.0
~~Neigbor 140.45.55.66~~

city campus
Router Rip
Passive interface S_2
Network 60.0.0.0
Network 30.0.0.0
Network 199.88.99.0
Neigbor 140.45.55.66

Question 4. In the figure 4, Show routing tables Distance vector protocols converge hop-by-hop. [10]



Answer:

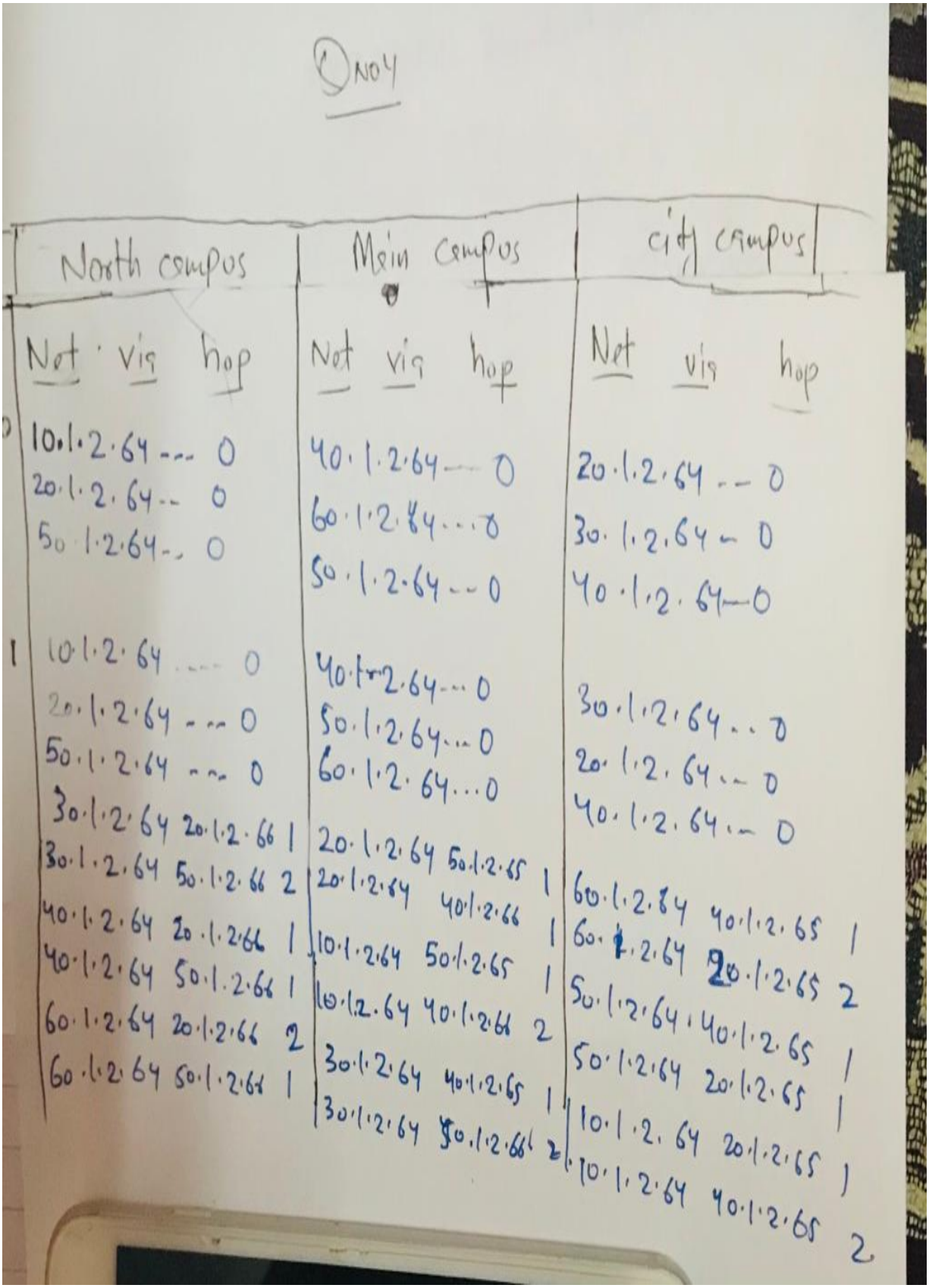

North campus
Main campus
city campus
Net vis hop
10.1.2.64 --- 0
20.1.2.64 -- 0
50.1.2.64 -- 0
10.1.2.64 --- 0
20.1.2.64 --- 0
50.1.2.64 --- 0
30.1.2.64 20.1.2.66 1
30.1.2.64 50.1.2.66 2
40.1.2.64 20.1.2.66 1
40.1.2.64 50.1.2.66 1
60.1.2.64 20.1.2.66 2
60.1.2.64 50.1.2.66 1
40.1.2.64 --- 0
60.1.2.64 --- 0
50.1.2.64 --- 0
40.1.2.64 --- 0
50.1.2.64 --- 0
60.1.2.64 --- 0
20.1.2.64 50.1.2.65 1
20.1.2.64 40.1.2.66 1
10.1.2.64 50.1.2.65 1
10.1.2.64 40.1.2.66 2
30.1.2.64 40.1.2.65 1
30.1.2.64 50.1.2.66 2
20.1.2.64 --- 0
30.1.2.64 --- 0
40.1.2.64 --- 0
30.1.2.64 --- 0
20.1.2.64 --- 0
40.1.2.64 --- 0
60.1.2.64 40.1.2.65 1
60.1.2.64 20.1.2.65 2
50.1.2.64 40.1.2.65 1
50.1.2.64 20.1.2.65 1
10.1.2.64 20.1.2.65 1
10.1.2.64 40.1.2.65 2

Figure 4