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Semester : 4th

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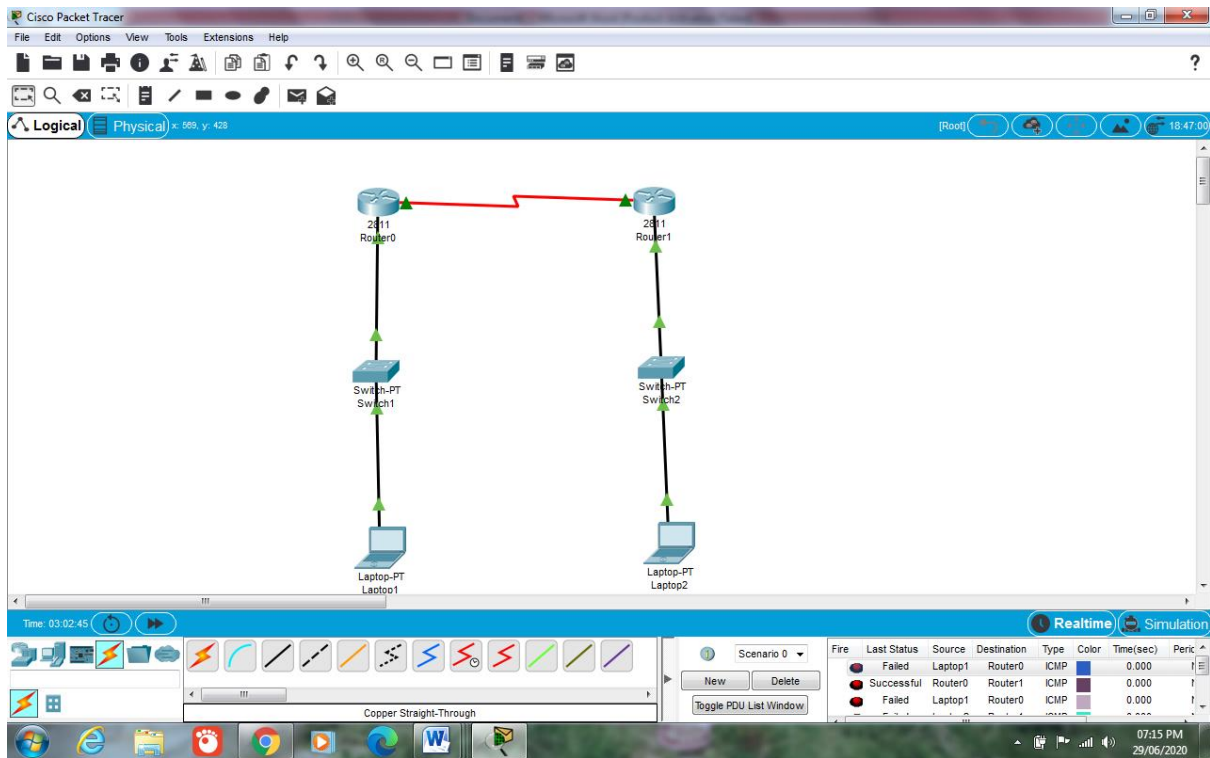
Examination : Final Term Exam

Paper Subject : Data Communication  
and Networks (Lab)

Submitted To : Engr. Ghassan Husnain Sir

Dated : 29th June 2020

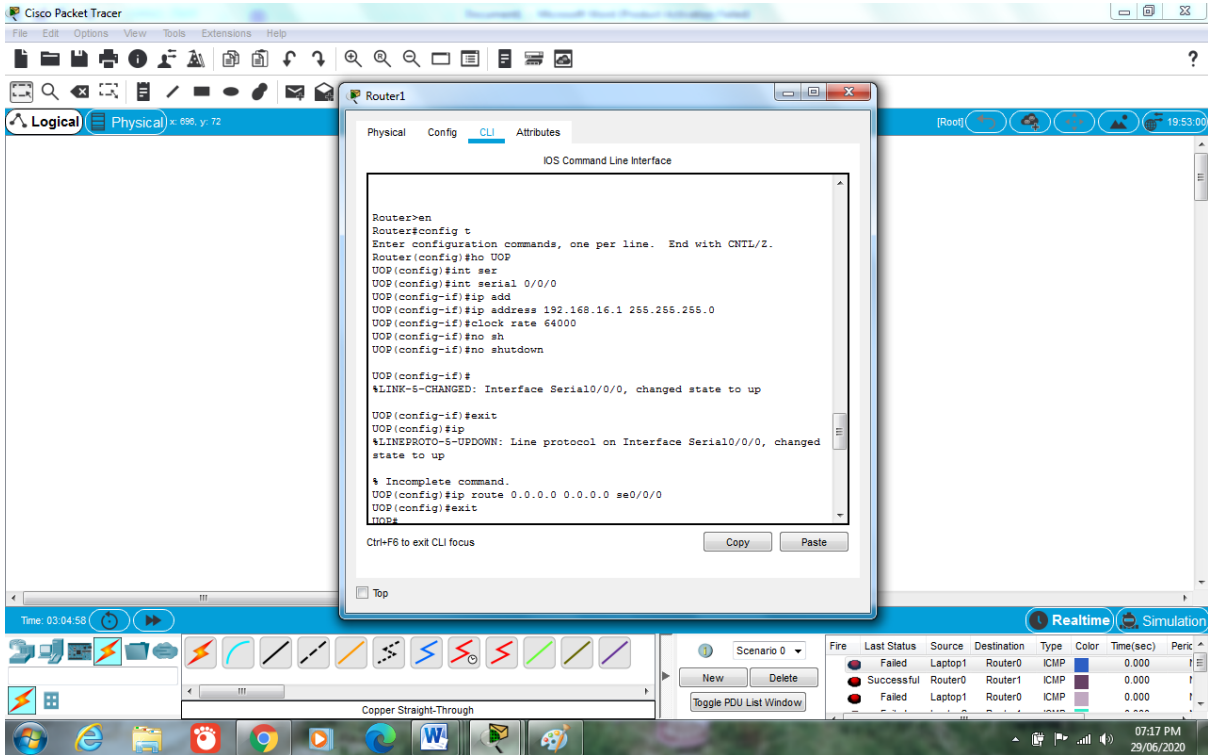
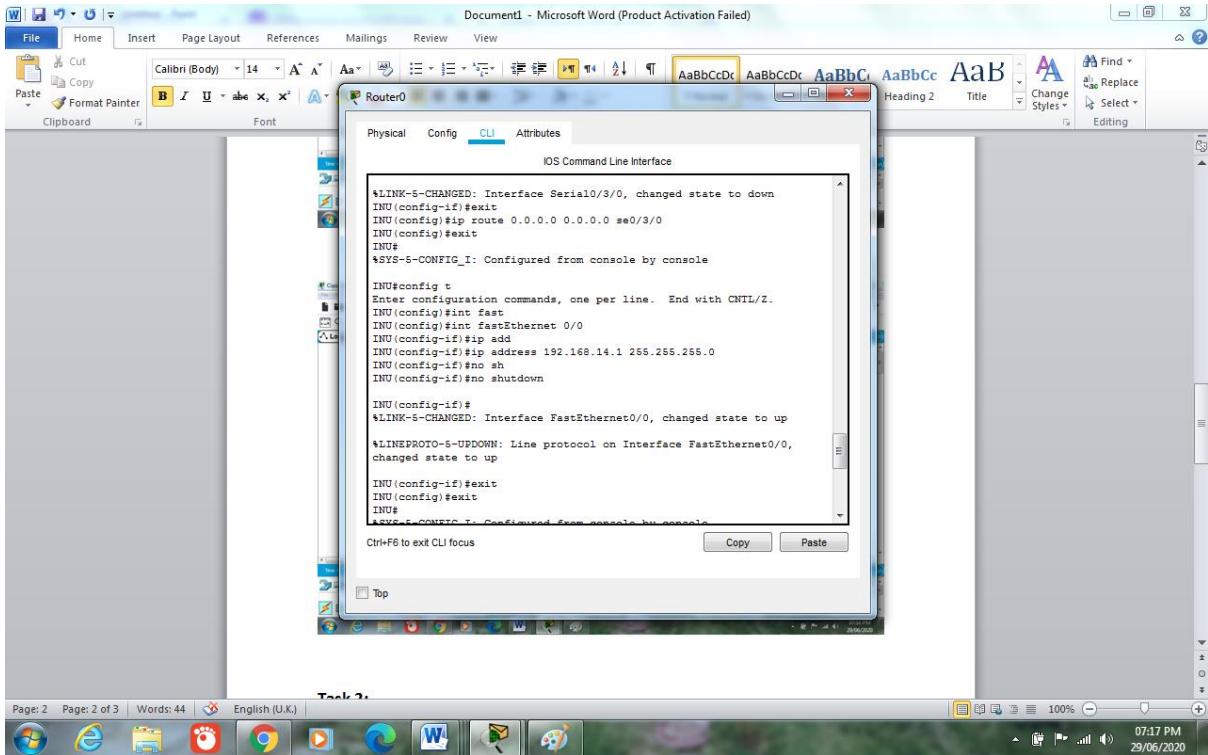
# Task 1:

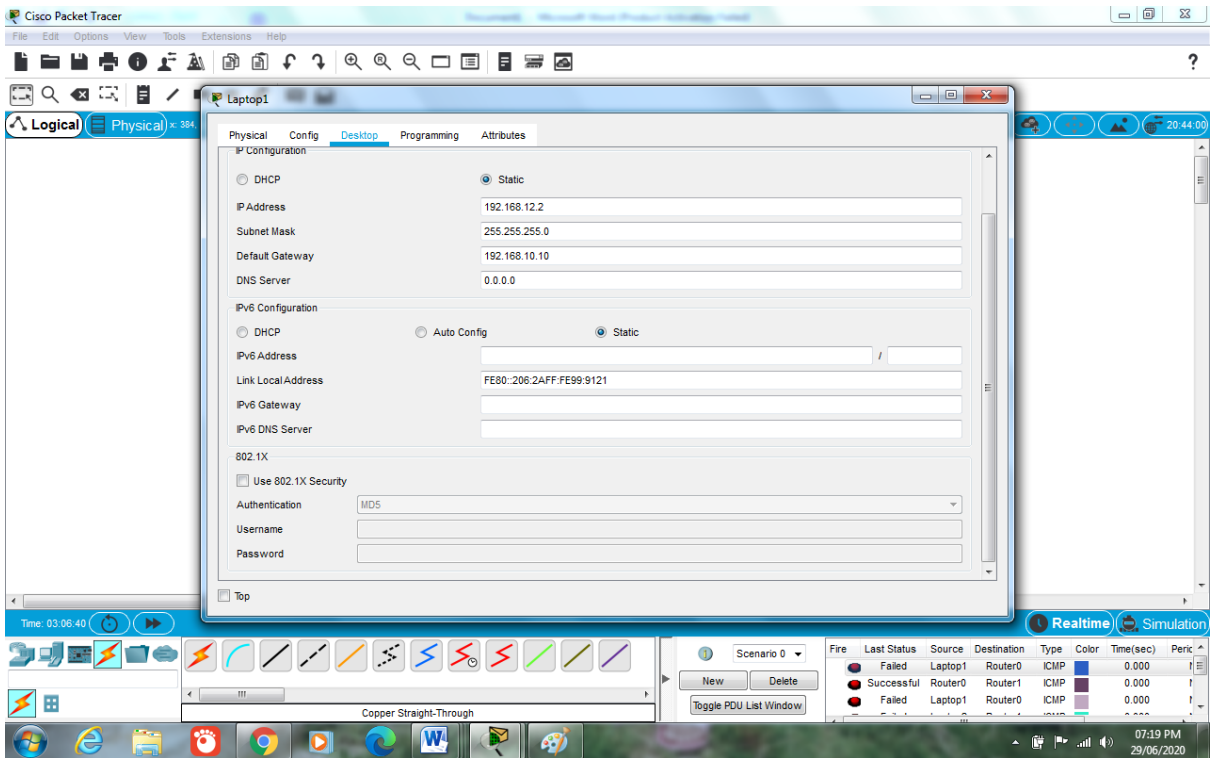
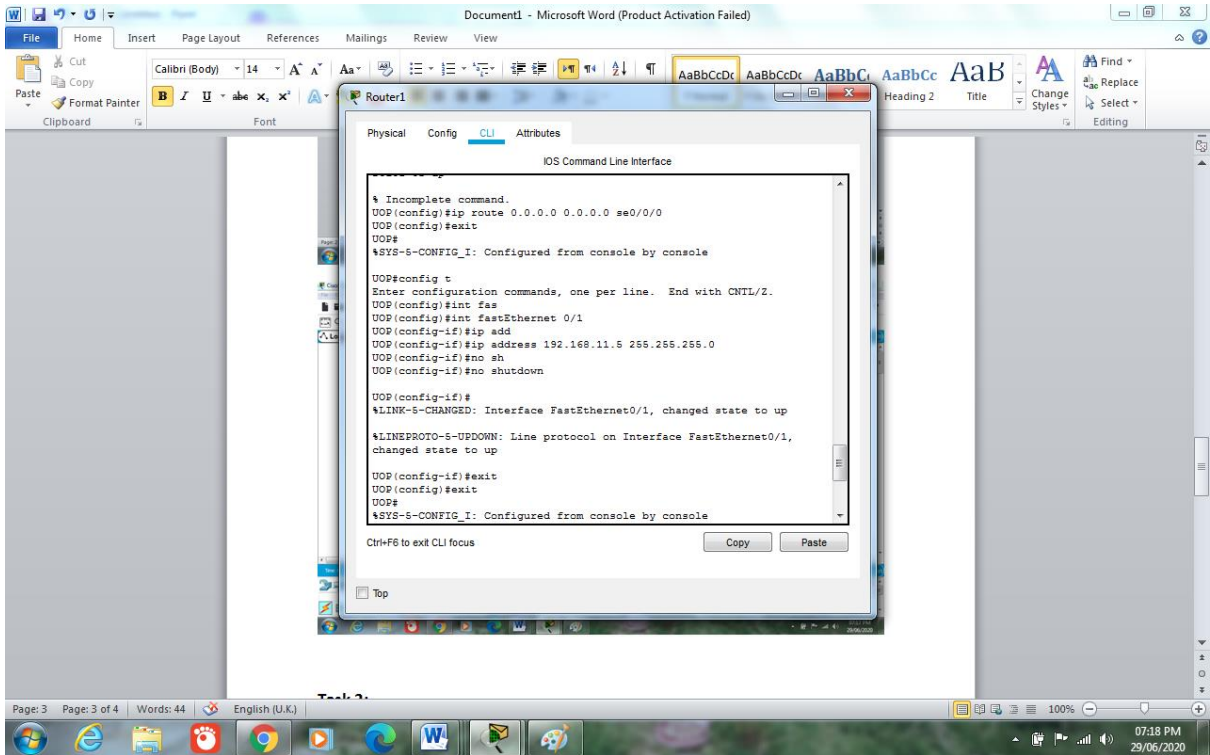


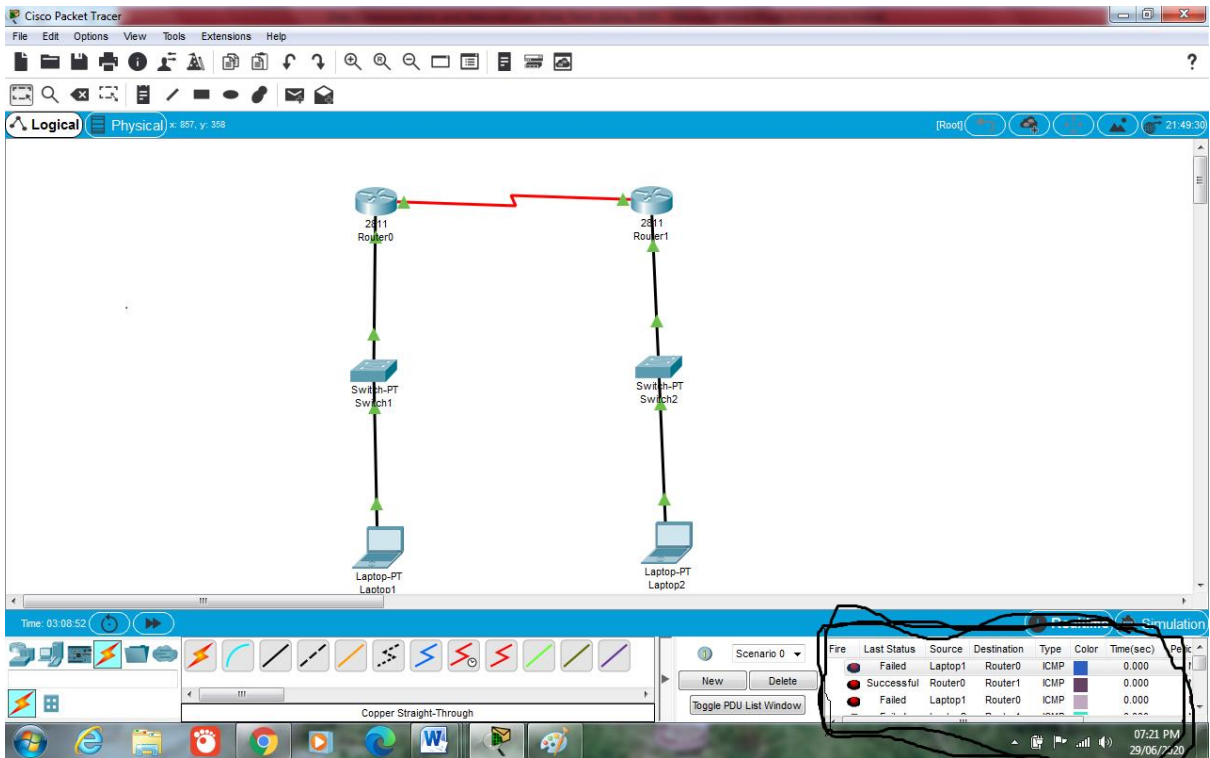
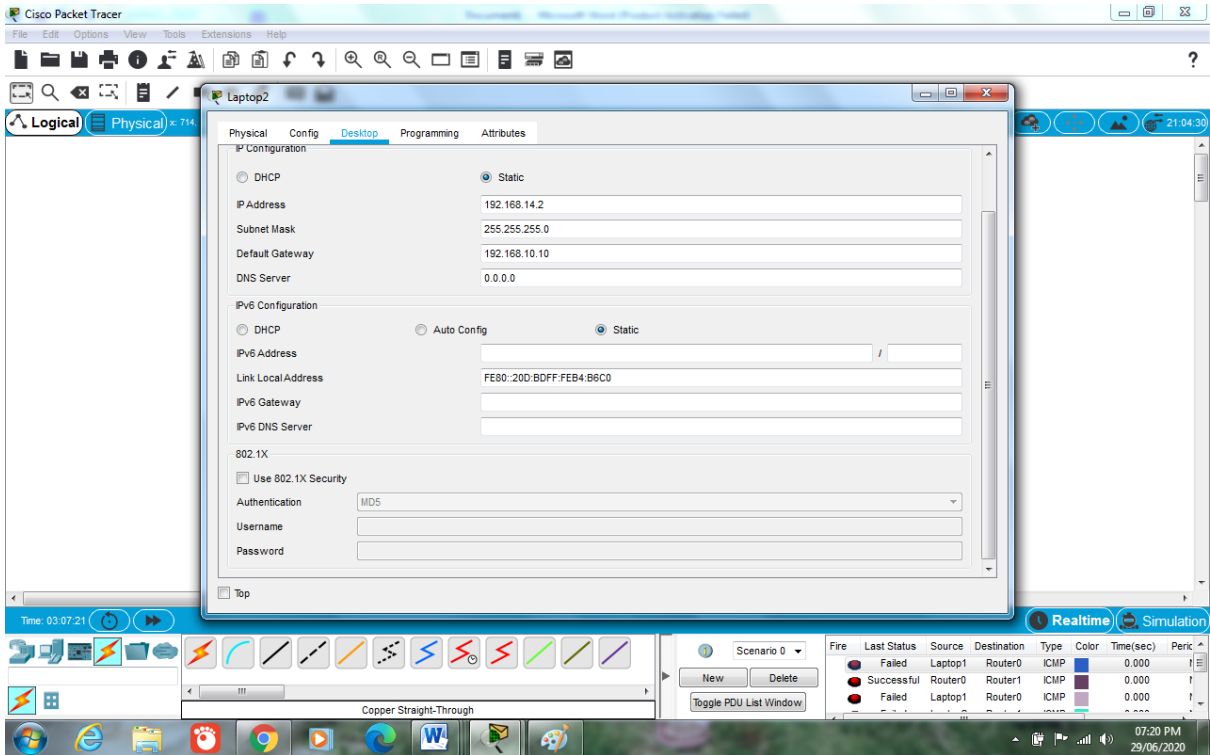
```
Router0
Physical Config CLI Attributes
IOS Command Line Interface
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#no 2811
INU(config)#int ser
INU(config)#int serial 0/3/0
INU(config-if)#ip add
INU(config-if)#ip address 192.168.10.1 255.255.255.0
INU(config-if)#clock rate 64000
This command applies only to DCE interfaces
INU(config-if)#no sh
INU(config-if)#no shutdown
%LINK-5-CHANGED: Interface Serial0/3/0, changed state to down
INU(config-if)#exit
INU(config)#ip route 0.0.0.0 0.0.0.0 se0/3/0
INU(config)#exit
INU#
%SYS-5-CONFIG_I: Configured from console by console

INU#config t
Enter configuration commands, one per line. End with CNTL/Z.
INU(config)#int fast
INU(config)#int fastEthernet 0/0
INU(config-if)#ip add
INU(config-if)#ip address 192.168.14.1 255.255.255.0
```

The screenshot shows the CLI window for Router0. The user has entered the following commands: `en`, `config t`, `no 2811`, `int ser`, `int serial 0/3/0`, `ip add`, `ip address 192.168.10.1 255.255.255.0`, `clock rate 64000`, `no sh`, `no shutdown`, `ip route 0.0.0.0 0.0.0.0 se0/3/0`, `exit`, `config t`, `int fast`, `int fastEthernet 0/0`, and `ip add`. The interface is currently in a down state.

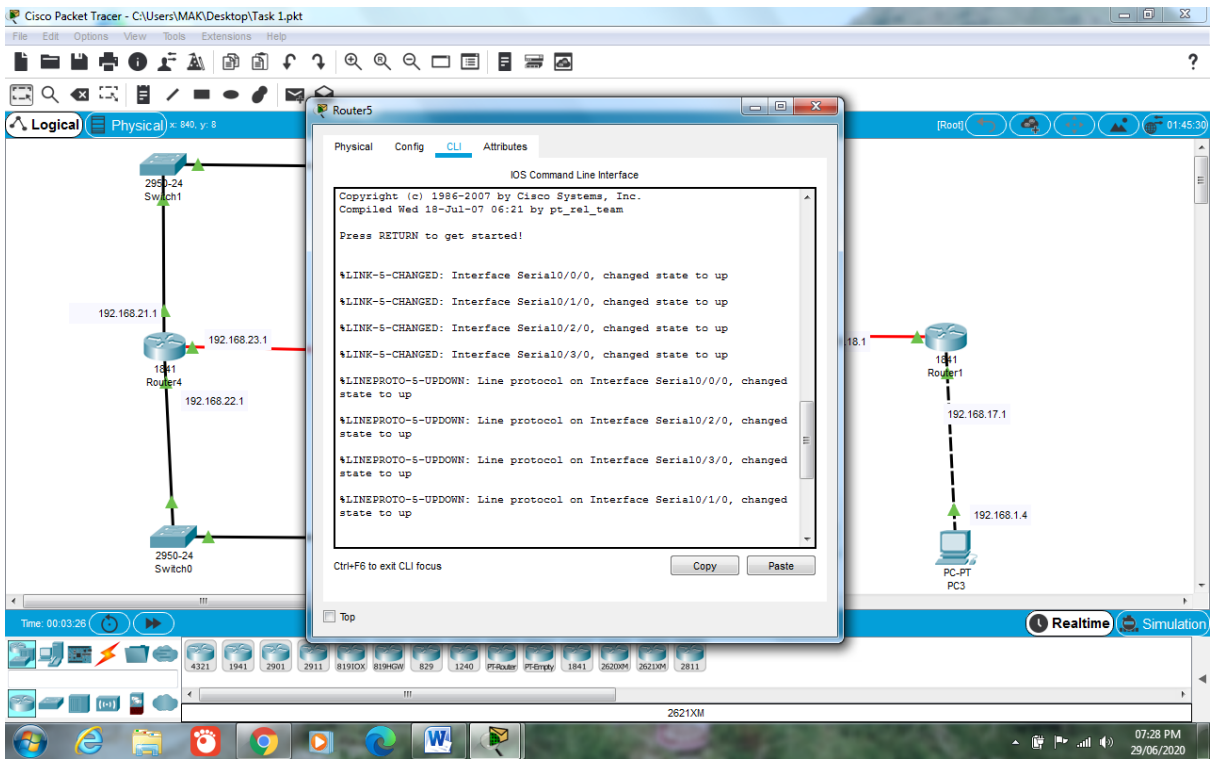
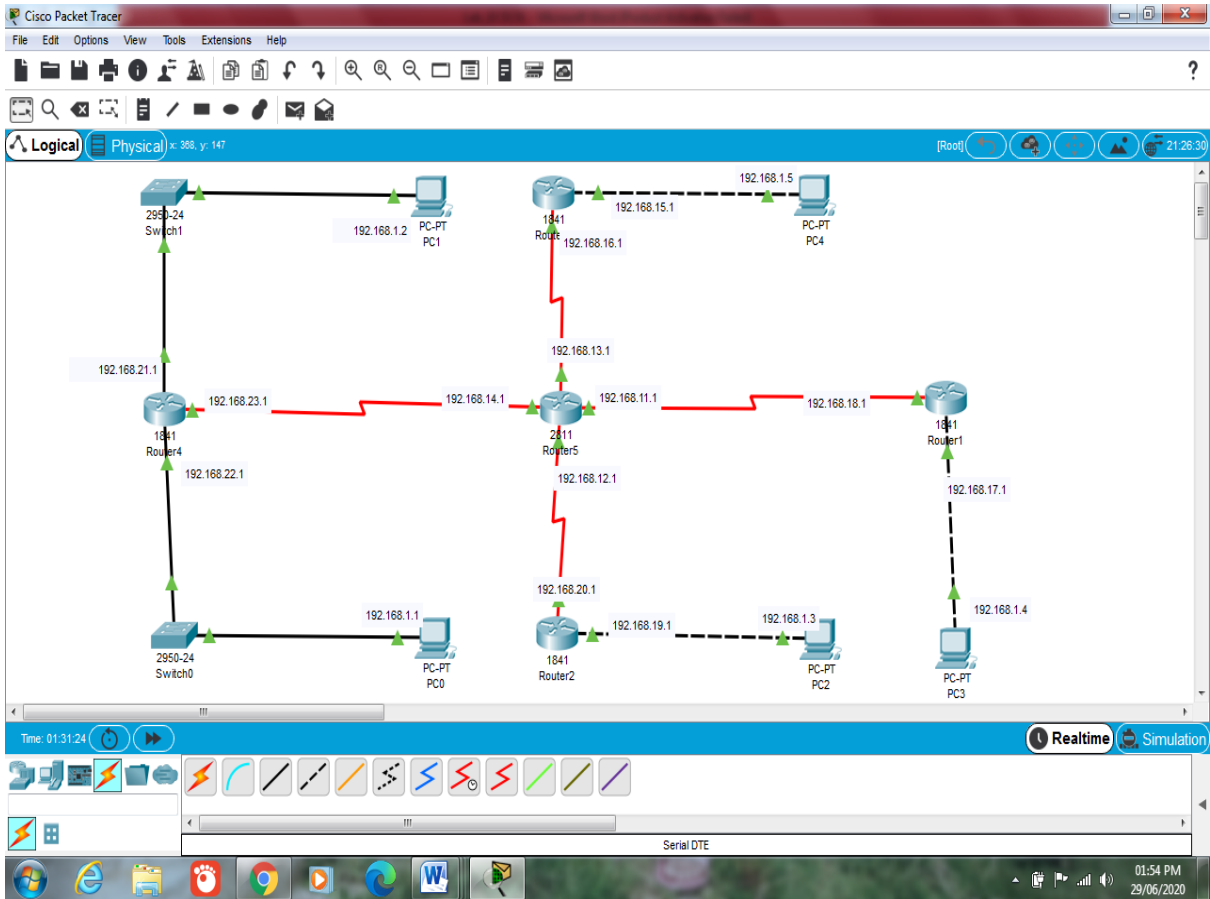






## Task 2:

## Construction:





Document1 - Microsoft Word (Product Activation Failed)

File Home Insert Page Layout References Mailings Review View

Calibri (Body) 14 A A

Router5

Physical Config CLI Attributes

IOS Command Line Interface

```

%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/2/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/3/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/1/0, changed state to up

Peshavar>en
Peshavar#config t
Enter configuration commands, one per line. End with CNTL/Z.
Peshavar(config)#int ser
Peshavar(config)#int serial 0/0/0
Peshavar(config-if)#ip add
Peshavar(config-if)#ip address 192.168.11.1 255.255.255.0
Peshavar(config-if)#clock rate 56000
Peshavar(config-if)#no shut
Peshavar(config-if)#no shutdown
Peshavar(config-if)#exit
Peshavar(config)#ip route 0.0.0.0 0.0.0.0 se0/0/0
Peshavar(config)#exit
Peshavar#
%SYS-5-CONFIG_I: Configured from console by console

Peshavar#
  
```

Ctrl+F6 to exit CLI focus

Copy Paste

Page: 6 Page: 6 of 6 Words: 44 English (U.K.) 100% 07:28 PM 29/06/2020

Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

Router4

Physical Config CLI Attributes

IOS Command Line Interface

```

Processor board ID FX0947Z185
M560 processor: part number 0, mask 49
2 FastEthernet/IEEE 802.3 interface(s)
1 Low-speed serial(sync/async) network interface(s)
191K bytes of NVRAM.
63488K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version 12.4(15)T1, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/1, changed state to up
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed state to up
  
```

Ctrl+F6 to exit CLI focus

Copy Paste

Time: 00:04:33 Realtime Simulation

Router-PT

07:29 PM 29/06/2020

Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

Router3

Physical Config CLI Attributes

IOS Command Line Interface

```

Cisco 1841 (revision 5.0) with 114698K/16384K bytes of memory.
Processor board ID FTX0947218E
M860 processor: part number 0, mask 49
2 FastEthernet/IEEE 802.3 interface(s)
1 Low-speed serial(sync/async) network interface(s)
191K bytes of NVRAM.
63488K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version
12.4(15)T1, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed
state to up
  
```

Ctrl+F6 to exit CLI focus

Copy Paste

Time: 00:05:01

Realtime Simulation

Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

Router2

Physical Config CLI Attributes

IOS Command Line Interface

```

Cisco 1841 (revision 5.0) with 114698K/16384K bytes of memory.
Processor board ID FTX0947218E
M860 processor: part number 0, mask 49
2 FastEthernet/IEEE 802.3 interface(s)
1 Low-speed serial(sync/async) network interface(s)
191K bytes of NVRAM.
63488K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version
12.4(15)T1, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed
state to up
  
```

Ctrl+F6 to exit CLI focus

Copy Paste

Time: 00:05:45

Realtime Simulation

CGR1240



Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

Router1

Physical Config CLI Attributes

IOS Command Line Interface

```

Cisco 1841 (revision 5.0) with 114698K/16384K bytes of memory.
Processor board ID FTX0947218E
M860 processor: part number 0, mask 49
2 FastEthernet/IEEE 802.3 interface(s)
1 Low-speed serial (sync/async) network interface(s)
191K bytes of NVRAM.
63488K bytes of ATA CompactFlash (Read/Write)
Cisco IOS Software, 1841 Software (C1841-ADVIPSERVICESK9-M), Version
12.4(15)T1, RELEASE SOFTWARE (fc2)
Technical Support: http://www.cisco.com/techsupport
Copyright (c) 1986-2007 by Cisco Systems, Inc.
Compiled Wed 18-Jul-07 04:52 by pt_team

Press RETURN to get started!

%LINEPROTO-5-UPDOWN: Line protocol on Interface FastEthernet0/0,
changed state to up
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed
state to up
  
```

Ctrl+F6 to exit CLI focus

Copy Paste

Time: 00:06:20

Realtime Simulation

Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

PC0

Physical Config Desktop Programming Attributes

IP Configuration

DHCP  Static

IP Address: 192.168.1.1

Subnet Mask: 255.255.255.0

Default Gateway: 192.168.1.10

DNS Server: 0.0.0.0

IPv6 Configuration

DHCP  Auto Config  Static

IPv6 Address: /

Link Local Address: FE80::209:7CFF:FE19:8550

IPv6 Gateway:

IPv6 DNS Server:

802.1X

Use 802.1X Security

Authentication: MDS

Username:

Password:

Time: 00:06:53

Realtime Simulation

Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

Logical Physical x 450

PC1

Physical Config Desktop Programming Attributes

IP Configuration

- DHCP
- Static

IP Address: 192.168.1.2  
Subnet Mask: 255.255.255.0  
Default Gateway: 192.168.1.0  
DNS Server: 0.0.0.0

IPv6 Configuration

- DHCP
- Auto Config
- Static

IPv6 Address: /  
Link Local Address: FE80::2E0:A3FF:FE97:E16E  
IPv6 Gateway:  
IPv6 DNS Server:

802.1X

- Use 802.1X Security

Authentication: MD5  
Username:  
Password:

Time: 00:07:15

819HG-4G-JOX

07:32 PM 29/06/2020

Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

Logical Physical x 600

PC2

Physical Config Desktop Programming Attributes

IP Configuration

- DHCP
- Static

IP Address: 192.168.1.3  
Subnet Mask: 255.255.255.0  
Default Gateway: 192.168.1.10  
DNS Server: 0.0.0.0

IPv6 Configuration

- DHCP
- Auto Config
- Static

IPv6 Address: /  
Link Local Address: FE80::20A:41FF:FEA1:1DE  
IPv6 Gateway:  
IPv6 DNS Server:

802.1X

- Use 802.1X Security

Authentication: MD5  
Username:  
Password:

Time: 00:07:47

CGR1240

07:32 PM 29/06/2020

Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

Logical Physical x 1016

PC3

Physical Config Desktop Programming Attributes

IP Configuration

- DHCP
- Static

IP Address: 192.168.1.4  
Subnet Mask: 255.255.255.0  
Default Gateway: 192.168.1.10  
DNS Server: 0.0.0.0

IPv6 Configuration

- DHCP
- Auto Config
- Static

IPv6 Address: /  
Link Local Address: FE80::202:16FF:FE50:B20A  
IPv6 Gateway:  
IPv6 DNS Server:

802.1X

- Use 802.1X Security

Authentication: MDS  
Username:  
Password:

Time: 00:08:18

Router-PT-Empty

07:33 PM 29/06/2020

Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

Logical Physical x 887

PC4

Physical Config Desktop Programming Attributes

IP Configuration

- DHCP
- Static

IP Address: 192.168.1.5  
Subnet Mask: 255.255.255.0  
Default Gateway: 192.168.1.10  
DNS Server: 0.0.0.0

IPv6 Configuration

- DHCP
- Auto Config
- Static

IPv6 Address: /  
Link Local Address: FE80::2D0:BCFF:FE19:2126  
IPv6 Gateway:  
IPv6 DNS Server:

802.1X

- Use 802.1X Security

Authentication: MDS  
Username:  
Password:

Time: 00:08:44

2911

07:33 PM 29/06/2020

Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

Logical Physical x: 746, y: 461

Router1

Physical Config CLI Attributes

IOS Command Line Interface

```

changed state to up
%LINK-5-CHANGED: Interface Serial0/0/0, changed state to up
%LINEPROTO-5-UPDOWN: Line protocol on Interface Serial0/0/0, changed
state to up

Karachi>en
Karachi#config t
Enter configuration commands, one per line. End with CNTL/Z.
Karachi(config)#int ser
Karachi(config)#int serial 0/0/0
Karachi(config-if)#ip add
Karachi(config-if)#ip address 192.168.18.1 255.255.255.0
Karachi(config-if)#clock rate 56000
Unknown clock rate
Karachi(config-if)#clock rate 56000
This command applies only to DCE interfaces
Karachi(config-if)#no shu
Karachi(config-if)#no shutdown
Karachi(config-if)#exit
Karachi(config)#ip route 0.0.0.0 0.0.0.0 se0/0/0
Karachi(config)#exit
Karachi#
%SYS-5-CONFIG_I: Configured from console by console
  
```

Ctrl+F6 to exit CLI focus

Copy Paste

Time: 00:17:03

Scenario 0

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Period
	Failed	Router5	Router1	ICMP		0.000	N

07:42 PM 29/06/2020

Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

Logical Physical x: 590, y: 424

Router2

Physical Config CLI Attributes

IOS Command Line Interface

```

Islamabad>en
Islamabad#config t
Enter configuration commands, one per line. End with CNTL/Z.
Islamabad(config)#int ser
Islamabad(config)#int serial 0/0/0
Islamabad(config-if)#ip add
Islamabad(config-if)#ip address 192.168.20.1
% Incomplete command.
Islamabad(config-if)#ip add
Islamabad(config-if)#ip address 192.168.20.1 255.255.255.0
Islamabad(config-if)#clock rate 56000
This command applies only to DCE interfaces
Islamabad(config-if)#no shut
Islamabad(config-if)#no shutdown
% Invalid input detected at '^' marker.

Islamabad(config-if)#no shut
Islamabad(config-if)#no shutdown
Islamabad(config-if)#exit
Islamabad(config)#ip route 0.0.0.0 0.0.0.0 se0/0/0
Islamabad(config)#exit
Islamabad#
%SYS-5-CONFIG_I: Configured from console by console
  
```

Ctrl+F6 to exit CLI focus

Copy Paste

Time: 00:19:53

Scenario 0

Fire	Last Status	Source	Destination	Type	Color	Time(sec)	Period
	Failed	Router5	Router1	ICMP		0.000	N

07:45 PM 29/06/2020

Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

Logical Physical x: 584, y: 35 [Root] 11:02:00

Router3

Physical Config CLI Attributes

IOS Command Line Interface

```

changed state to up
%LINK-S-CHANGED: Interface Serial10/0/0, changed state to up
%LINEPROTO-S-UPDOWN: Line protocol on Interface Serial10/0/0, changed state to up
Lahore>en
Lahore#config t
Enter configuration commands, one per line. End with CNTL/Z.
Lahore(config)#int ser
Lahore(config)#int serial 0/0/0
Lahore(config-if)#ip add
Lahore(config-if)#ip address 192.168.16.1 255.255.255.0
Lahore(config-if)#no shut
Lahore(config-if)#no shutdown
Lahore(config-if)#exit
Lahore(config)#ip route 0.0.0.0 0.0.0.0 se0/0/0
Lahore(config)#exit
Lahore#
%SYS-5-CONFIG_I: Configured from console by console
  
```

Ctrl+F6 to exit CLI focus

Copy Paste

Time: 00:22:03

819HGW

Toggle PDU List Window

Realtime Simulation

Last Status	Source	Destination	Type	Color	Time(sec)	Period
Failed	Router5	Router1	ICMP		0.000	N

07:47 PM 29/06/2020

Cisco Packet Tracer - C:\Users\MAK\Desktop\Task 1.pkt

File Edit Options View Tools Extensions Help

Logical Physical x: 345, y: 358 [Root] 11:47:30

Router4

Physical Config CLI Attributes

IOS Command Line Interface

```

changed state to up
%LINK-S-CHANGED: Interface Serial10/0/0, changed state to up
%LINEPROTO-S-UPDOWN: Line protocol on Interface Serial10/0/0, changed state to up
Swabi>en
Swabi#config t
Enter configuration commands, one per line. End with CNTL/Z.
Swabi(config)#int ser
Swabi(config)#int serial 0/0/0
Swabi(config-if)#ip add
Swabi(config-if)#ip address 192.168.23.1 255.255.255.0
Swabi(config-if)#no sh
Swabi(config-if)#no shutdown
Swabi(config-if)#exit
Swabi(config)#ip route 0.0.0.0 0.0.0.0 se0/0/0
^
^ Invalid input detected at '^' marker.
Swabi(config)#ip route 0.0.0.0 0.0.0.0 se0/0/0
Swabi(config)#exit
Swabi#
%SYS-5-CONFIG_I: Configured from console by console
  
```

Ctrl+F6 to exit CLI focus

Copy Paste

Time: 00:23:34

819HGW

Scenario 0

New Delete

Toggle PDU List Window

Realtime Simulation

Last Status	Source	Destination	Type	Color	Time(sec)	Period
Failed	Router5	Router1	ICMP		0.000	N

07:48 PM 29/06/2020