

CS 5/7-344
Computer Networks & Distributed Systems
Fall 2023
Practice Mid-term Exam

Student Name:

SMU ID:

Exam instructions

You are allowed the following resources for this exam:

- One sheet of notes (A4 – both sides)

Please put away all laptops and cell phones. You must use your own resources for this exam – sharing of resources is **not** allowed.

WHEN YOU HAVE COMPLETED THE EXAM, PLEASE SUBMIT YOUR EXAM AND NOTE SHEET. PLEASE PUT YOUR NAME ON BOTH ITEMS.

For instructor use only

Student Name:

SMU ID:

Problem	Points	Score
1	20	
2	20	
3	20	
4	20	
5	20	
Total	100	

TIME: 1 hour

1)

A. (10 points) Define PAN and LAN? Can you provide a diagram for each?

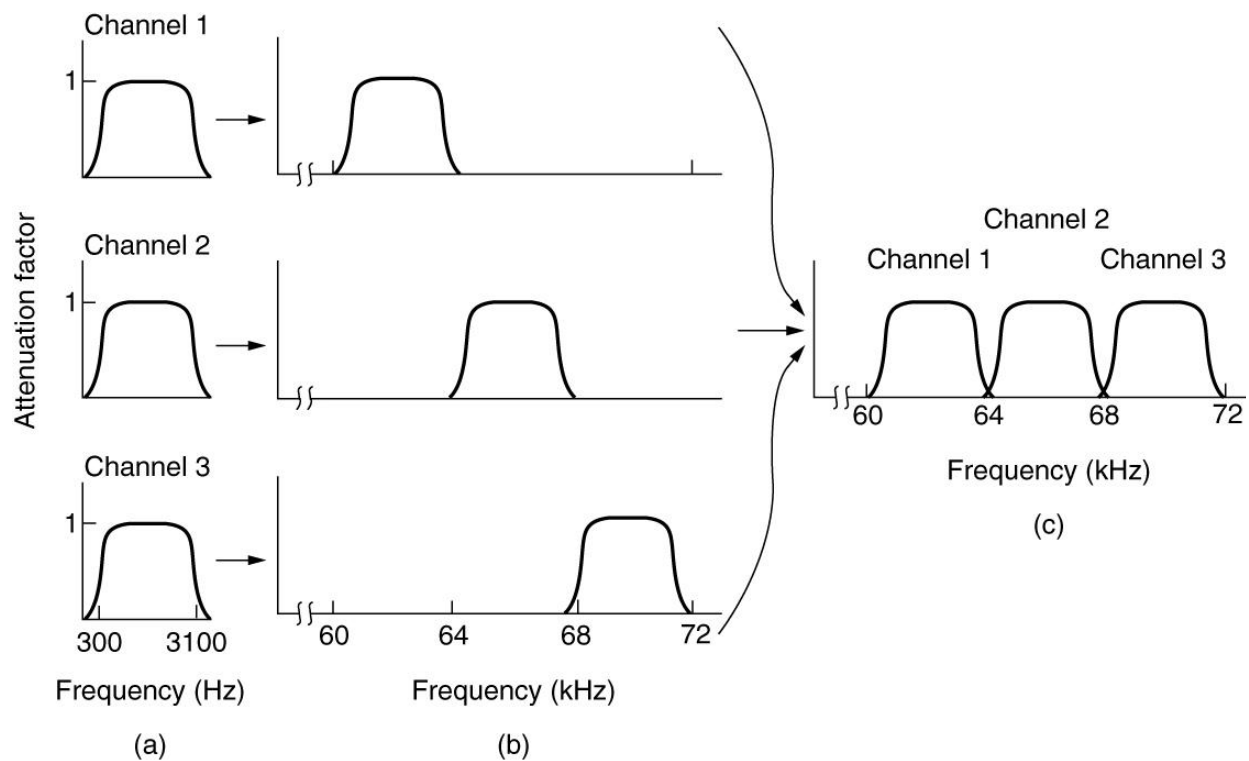
B. (5 points) Write three major flaws of TCP/IP model.

C. (5 points) Security is one of the major concerns that are now affecting a range of areas in Internet technology, and **Phishing** has become a serious problem for us. Can you explain how Phishing can be harmful?

2)

A. (5 points) Write three advantages of Fiber over Coper.

B. (15 points) Can you explain the following diagram?

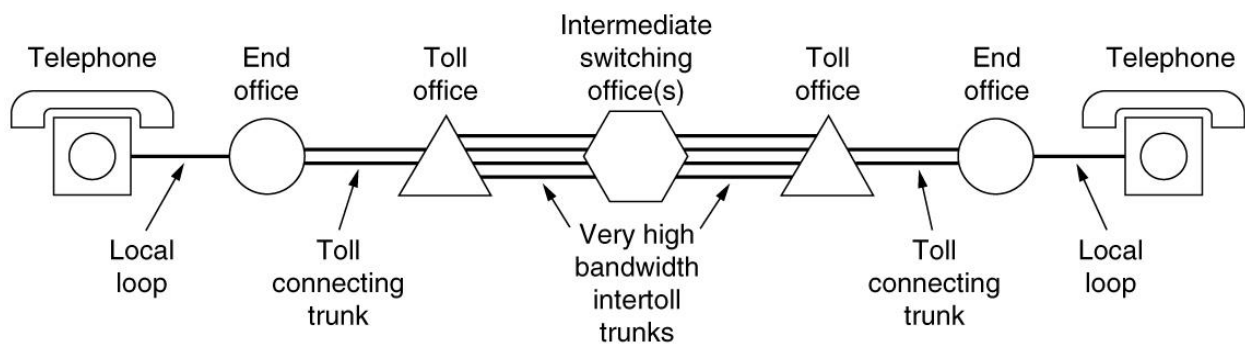


(a) The original bandwidths. (b) The bandwidths raised in frequency. (c) The multiplexed channel

3)

A. (5 points) Briefly explain the Cell concept.

B. (15 points) Can you explain the following diagram?



A typical circuit route for a long-distance call.

4)

A. (10 points) What is Piggybacking? What are the advantages of Piggybacking?

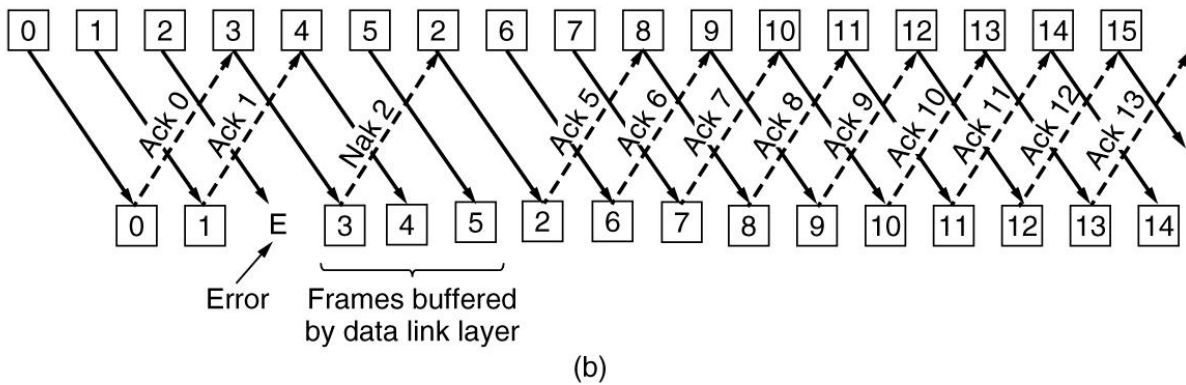
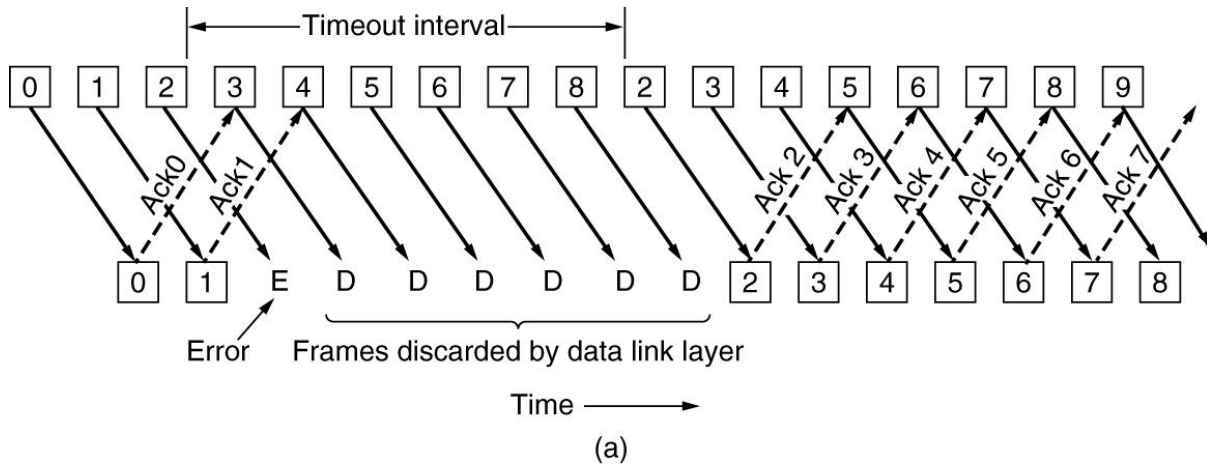
B. (10 points) Can you explain the following code with a few sentences? Which model does this code belong to?

```
void receiver1(void)
{
    frame r;
    event_type event;    /* filled in by wait, but not used here */

    while (true) {
        wait_for_event(&event); /* only possibility is frame_arrival */
        from_physical_layer(&r); /* go get the inbound frame */
        to_network_layer(&r.info); /* pass the data to the network layer */
    }
}
```


5)

A. (20 points) Briefly explain go-back-n and selective repeat based on the following diagram.



(a) go-back-n (b) selective repeat

