

9/6/21

19160041

IT/RIG CBC Sem VI

WN Shadhar

①

Q3B) i) Mifi (Hotspot) describes a wireless router that acts as a mobile WiFi hotspot.

ii) It comprises of a built in modem that acts as a wireless router.

iii) Mifi creates a wireless adhoc network allowing devices like mobile smartphones, laptops, tablets etc to be connected to share cellular networks.

iv) At a time 10 devices can be connected to a MIFI network.

v) The size of MIFI is little bigger than a mobile broadband USB modem (dongle).

vi) It is portable and light in weight.

vii) Their operations are similar to that of dongle.

viii) Advantages of MIFI:

a] No web port

b] Multi device support

c] High speed

d] Battery operated

e] No software download

f] data storage

LiFi (Light fidelity)

i) LiFi stands for light fidelity and it transmits signals wirelessly through visible light.

ii) It is approx 100 times faster than WiFi.

iii) It has very high speed.

iv) LiFi uses normal LEDs for transferring data at high speeds upto 224 Gb.

9/6/21

19160041

IT/R16 CBC Sem VI

WN

Adhar

(2)

v) The data transmission of LIFI technology is through illumination of LEDs.

vi) At the receiver there is light received by photoreceptors and are converted into ~~an~~ digital signals.

vii) Advantages?

a) speed is very high

b) security - data cannot be hacked or stolen

c) Risk free - light waves arent harmful

d) Use less power

e) easily installed.

9/6/21

19T60041

IT/R16 CBC Sem VI

Q/H Aadhar

3

- 8c)
- i) A virtual private network (VPN) connects the components and resources of one network over another network.
 - ii) It is a group of 2 or more computer systems connected to a private network which is built and maintained by the organization for its own with limited public network access.

9/6/21

19160041

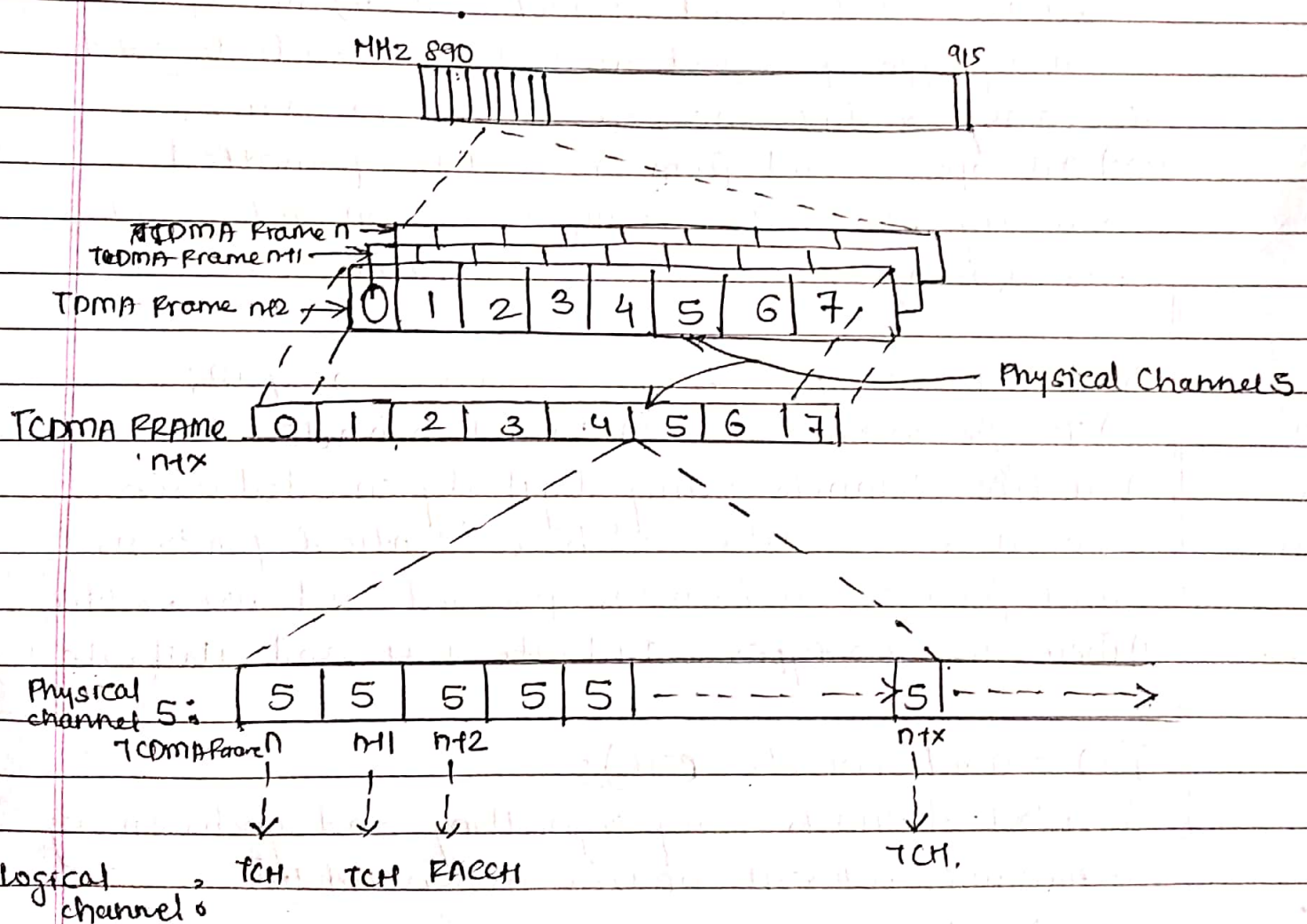
IT/R16 CBC Sem VI

WN

Shadhar

(4)

- Q3) ii) i) Each time slot on a TDMA frame is called a physical channel.
- ii) There are 8 physical channels per carrier frequency in GSM.
- iii) Physical channels can be used to transmit speech data or signaling information.



- IV) A physical channel may carry different messages, depending on information that is to be sent
- V) These messages are called logical channels
- VI) For example, on one of the physical channels used for traffic, the traffic itself is transmitting using a TCH - Traffic channel.
- VII) While handover instructions transmitted using the Fast Associated Control Channel (FACH) message
- VIII) Many type of logical channels exist each designed to carry a diff message to or from an MS.
- IX) All info to and from MS must be formatted correctly, so that receiving device can understand the meaning of different bits in the message

There are two types of logical channels in GSM:

- 1) Traffic channels & 2) Control channels
- i) Traffic channels carry digitally encoded user speech or user data and have identical functions and formats on both the forward and reverse link.
- ii) There are two types: Full rate TCH and Half rate TCH

GSM control channels (TCH):

- i) Control channels carry signalling and synchronizing commands between the base station and the mobile station
- ii) certain types of control channels are defined just for the forward or reverse link.

9/6/21

(6)

19I60041

IT/R16 CBC Sem VI

WH Radhar

(iv) There are 3 main control channels in the GSM system.

i) Broadcast channel (BCCH).

ii) The common control channel (CCCH)

iii) Dedicated control channel (DCCH)