

الإسم الرقم

أجب عن جميع الأسئلة

ورقة الإمتحان تشتمل على 5 صفحات

Question (1) (10 Marks):

For the following: place a tick (✓) for the True statement and an (X) for the False statement.

(You will get [+1] for the correct answer and[-0.5] for the wrong answer “Do not guess”):

No	Statement	✓ or X
1	Smartphone are wireless hosts	
2	EM waves usually travel slowest in solids and fastest in gases.	
3	Using radio waves repeaters are needed periodically	
4	Using Indirect routing mobility, changing foreign networks transparent ongoing connections can be maintained.	
5	802.15.1 networks there are network infrastructure	
6	Switches were designed to support highly mobile users who want to maintain TCP connections while moving between BSSs.	
7	Microwave suffers from multipath fading problem	
8	wireless hosts are typically connected to wired network	
9	802.15.1 Networks operate in the 2.4 GHz unlicensed radio band in a TDM manner, with time slots of 625 microseconds.	
10	Handoff goal is to route call via new base station (without interruption)	

Question (2) (15 Marks):

Write the missing words for the below statements in the following table

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15

1. In _____ host may have to relay through several wireless nodes to connect to larger Internet.
2. A changing magnetic field creates a changing _____ field.
3. As frequency increases, wavelength becomes _____ .
4. The distance between two consecutive maxima (or minima) is called the _____
5. The amount of information that a signal such as an electromagnetic wave can carry depends on the received power and is proportional to its _____ .
6. The remote controls used on televisions, VCRs, and stereos all use _____ communication.
7. Satellite receives on one frequency, _____ signal and transmits on another frequency.
8. In IEEE 802.11 it is difficult to receive (sense collisions) when transmitting due to _____ received signals.
9. In IEEE 802.11 CSMA/CA Protocol if frame received OK return ACK after _____.
10. The acronym WiMAX stands for “Worldwide _____ for Microwave Access”.
11. In practical terms, WiMAX would operate similar to WiFi but at _____ speeds.
12. A WiMAX system consists of two parts WiMAX tower and _____
13. First generation (1G) Cellular Network systems were _____ FDMA systems designed exclusively for voice-only communication.
14. _____ is the entity that will perform mobility functions on behalf of mobile, when mobile is remote.
15. GSM doesn't mandate why to perform handoff (policy), only how (_____)

Question (3) (10 Marks):

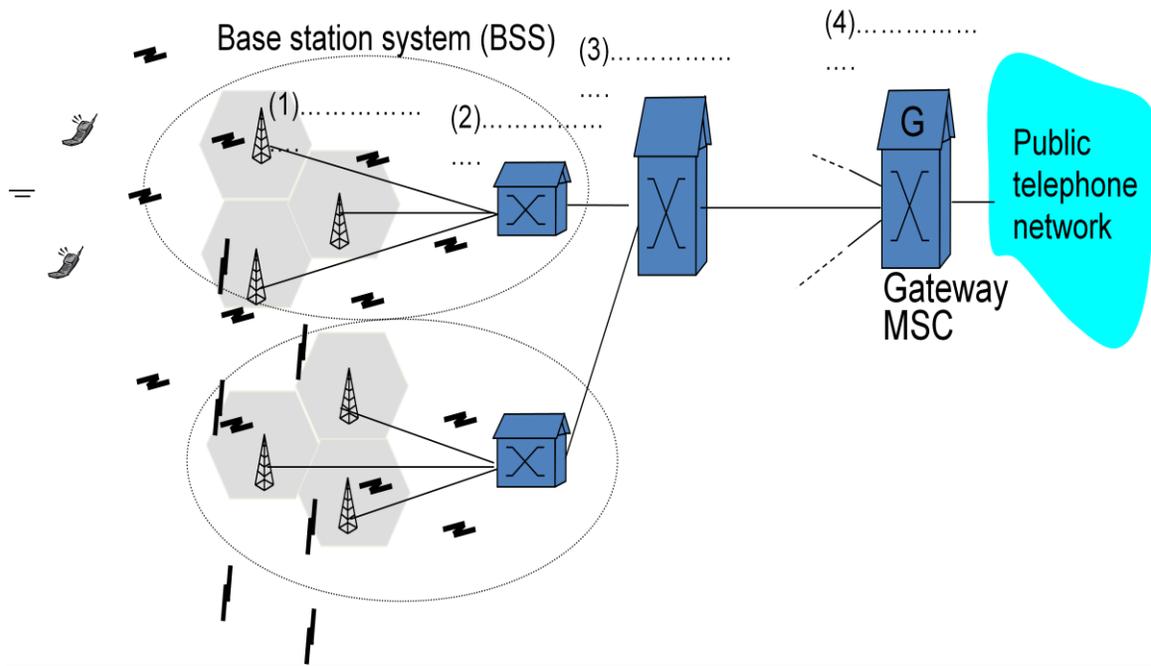
Fill the following table by writing the numbers of items in B that match items in A:

A	1	2	3	4	5	6	7	8	9	10
B										

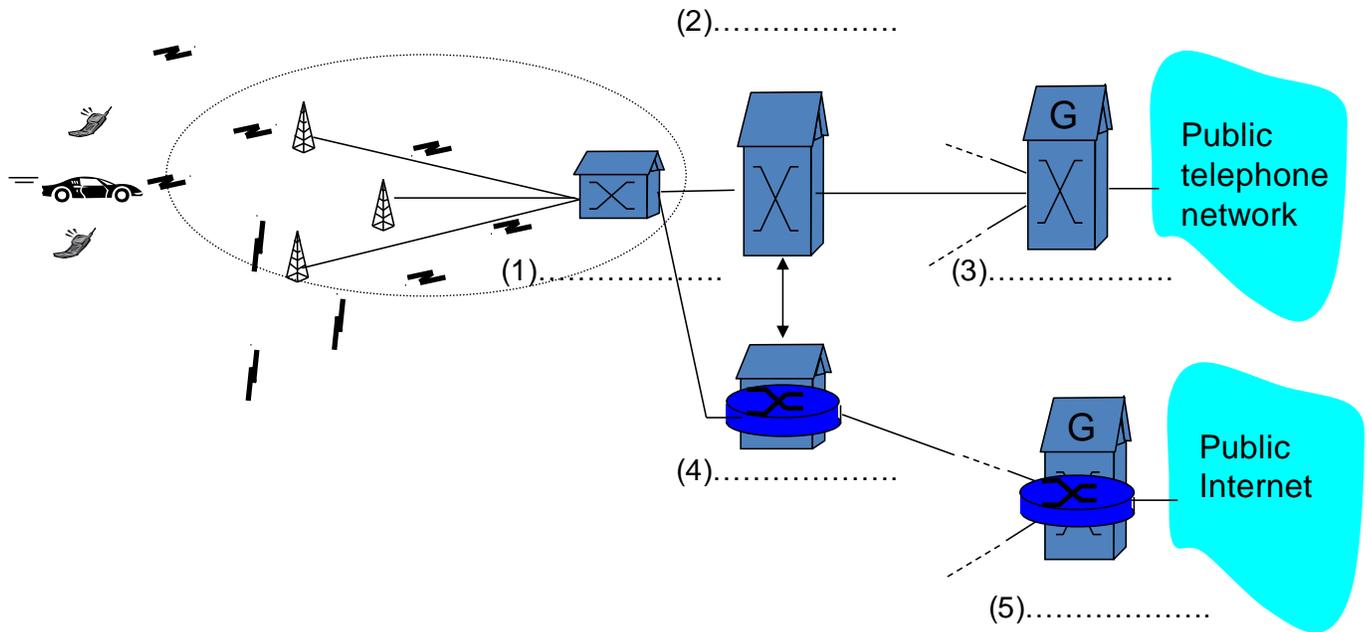
A	B
(1) Nodes can only transmit to other nodes within link coverage.	(1) Wireless Networks
(2) waves are guided along a physical path	(2) active scanning
(3) Host connects to base station.	(3) Microwave
(4) Probe Request frame broadcast from host	(4) Radio waves
(5) beacon frames sent from APs	(5) Ad Hoc Mode
(6) Easy to generate, can travel long distance, and penetrate buildings easily.	(6) Infrared and Millimeter
(7) low-power, short-range, low-rate	(7) Wired Networks
(8) Means for transmitting but not guiding electromagnetic waves.	(8) Bluetooth
(9) relatively directional, cheap	(9) infrastructure Mode
(10) Concentrating all the energy into a small beam using a parabolic antenna gives a much higher signal to noise ratio.	(10) passive scanning

Question (4) (20 Marks)

1. Complete the following figure that describes 2G (voice) network architecture

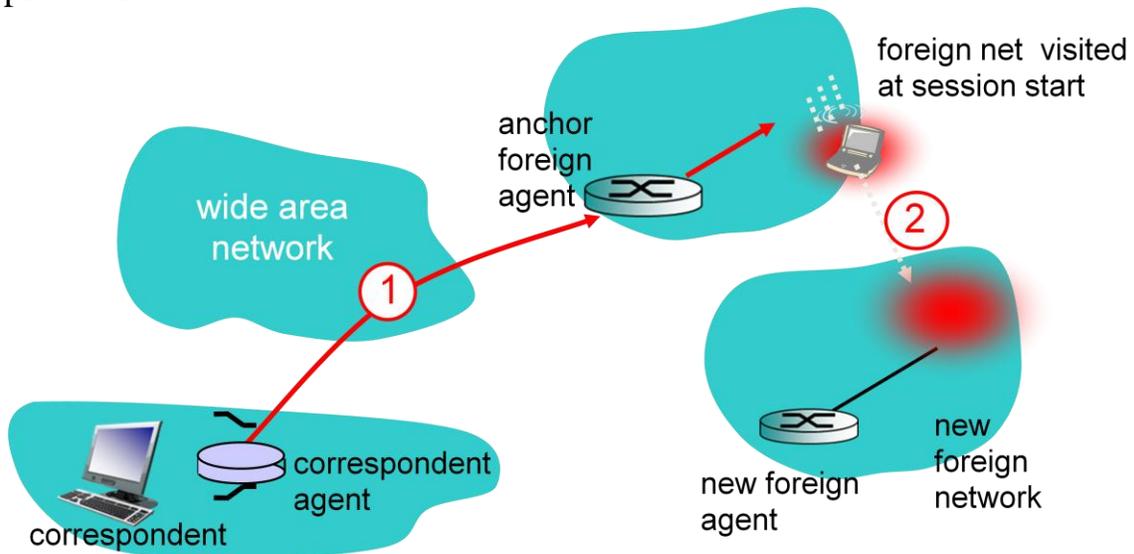


2. Complete the following figure that describes 3G (voice + data) network architecture



Question (5) (15 Marks)

1. Complete the following scenario that describe what is going to happen to the ongoing TCP connection when the mobile move to a new visited network using direct routing protocols.



2. Mention the three components of Mobile IP.

.....
.....
.....

3. Discuss the wireless and mobility impact on higher layer protocols.

.....
.....
.....
.....
.....

Good Luck