

FINAL EXAMINATION

Faculty : Computer Science and Multimedia

Course : Bachelor of Computer Science (Hons) (Network and Cyber security)

Module Title : Wireless Communication

Date : 22 – 12 – 2020

Time Allowed : THREE HOURS

Start : 9:30am **Finish** : 12:30pm

Instruction to candidates

1. This question paper has TWO (2) SECTIONS.
2. SECTION A, MCQ. Answer all thirty questions.
3. SECTION B, MSAQ. Answer any 7 questions out of 15.
4. No scripts or answer sheets are to be taken out of the Examination Hall.
5. For SECTION A, answer in the OMR form provided.

Do not open this question paper until instructed

Section A**Answer ALL questions****(30 X 1 = 30)**

1. involves the transmission of information over a distance without the help of physical connections.
 - a) Database communication
 - b) Wired communication
 - c) Logical gates
 - d) Wireless communication
2. Wireless communication can be used for the followings except
 - a) Cellular telephony
 - b) Wireless access to the internet
 - c) Swimming
 - d) Wireless home networking
3. Examples of application that uses radio wireless technology include the following except.....
 - a) GPS units
 - b) Land line
 - c) Garage door openers
 - d) Wireless computer mice
4. Wireless communication has the following advantages except
 - a) Amble
 - b) Cost effectiveness
 - c) Flexibility
 - d) Convenience
5. WLL is an acronym for
 - a) Wired Location Loop
 - b) Wireless Local Loop
 - c) Wireless Linker Loop
 - d) Wireless Local Location
6.is a generic term for an access system that uses wireless links rather than conventional copper wires to connect subscribers to the local telephone company's switch.

- a) Wireless WAN
 - b) Wireless MAN
 - c) Wireless local loop
 - d) Wired PAN
- 7. The following are standard terminal devices except.....**
- a) Telephone
 - b) Answering machine
 - c) Fax
 - d) Fibre optics
- 8. The following features can be found in 1G technology devices except.....**
- a) Mobile IP
 - b) Voice Signals
 - c) Analogue Cellular Phones
 - d) NMT
- 9.is a wireless distribution method for two or more devices that use high-frequency radio waves and often include an access point to the Internet.**
- a) Intranet
 - b) WLAN
 - c) Packet Switching
 - d) Circuit Switching
- 10.is a computer network that enables communication between computer devices near a person.**
- a) WAN
 - b) LAN
 - c) PAN
 - d) MAN
- 11.communicates the information with the user and modifies it to the transmission protocols of the air interface to communicate with the BSS.**
- a) Mobile Equipment
 - b) Subscriber Identity Module
 - c) Cell
 - d) Mobile Station

12.is a piece of hardware that the customer purchases from the equipment manufacturer.
- a) ME
 - b) SIM
 - c) Cell
 - d) MS
13.is a smart card issued to identify the specifications of a user such as address and type of service
- a) ME
 - b) SIM
 - c) Cell
 - d) MS
14.transmits and receives user data.
- a) Mobile Equipment
 - b) Subscriber Identity Module
 - c) Base Station
 - d) Cell
15.is a range of frequency allotted to particular service or systems.
- a) Intranet
 - b) WLAN
 - c) Channels
 - d) Circuit Switching
16.is defined as the transferring of a call from the channel or base station to another base station.
- a) Garage door openers
 - b) Wireless computer mice
 - c) Extranet
 - d) Handoff
17.is the process of regulating the use of electromagnetic spectrum and dividing it among various and sometimes competing organizations and interests.
- a) Spectrum allocation
 - b) Spectrum deletion

- c) Space rocketing
- d) Wi-Fi

18. The following are standardization organizations working on spectrum allocation and regulation except.....

- a) European Conference of Postal and Telecommunications Administrations (CEPT)
- b) Education Malaysia Global Services (EMGS)
- c) International Telecommunication Union (ITU)
- d) Inter-American Telecommunication Commission (CITEL)

19. There are types of power control.

- a) 3
- b) 4
- c) 2
- d) 1

20. FDMA is an acronym for.....

- a) Frequent Denomination Multiple Access
- b) Frequency Division Multiple Allocation
- c) Forwarded Division Multiple Access
- d) Frequency Division Multiple Access

21. A typical cellular network consists of the following except.....

- a) Handoff
- b) Radio Access Network (RAN)
- c) Core Network (CN)
- d) Services Network

22.are arranged so that antennas in a coverage area are in a hexagonal pattern.

- a) LANs
- b) Cells
- c) WLANs
- d) Li-Fi

23.is the process of using the same radio frequencies on base stations and other radio transmitter sites within a geographic area that are separated by sufficient distance to cause minimal interference with each other.

- a) Radio Access Network (RAN)

- b) Core Network (CN)
 - c) Frequency reuse
 - d) Services Network
- 24.is the process of subdividing a congested cell into smaller cells such that each smaller cell has its own base station.**
- a) Spectrum deletion
 - b) Space rocketing
 - c) Wi-Fi
 - d) Cell splitting
- 25.modifies a signal in a disruptive manner as it travels along a channel between its source and receiver.**
- a) Interference
 - b) Telephone
 - c) Answering machine
 - d) Fax
- 26. The following are sources of interference except.....**
- a) Another mobile in the same cell
 - b) Football pitch
 - c) A call in progress in the neighboring cell
 - d) Other Base Station operating in the same frequency band
- 27. Interference resulting from signals which are adjacent in frequencies to the desired signal is called.....**
- a) Co-Channel Interference
 - b) Parallel Interference
 - c) Adjacent Channel Interference
 - d) Wi-Fi Signal
- 28. The followings can improve wireless coverage and capacity except**
- a) Adding Cell Sites
 - b) Adding Sectors
 - c) Improved Air Interface Capabilities
 - d) Shutdown the Base Station

29. The following are the most important characteristics of wireless channel except

.....

- a) Hacking
- b) Fading
- c) Interference
- d) Doppler shift

30.refers to the fluctuations in signal strength when received at the receiver

- a) Fax
- b) Fading
- c) Telephone
- d) Answering machine

Section B**Write down the answers for the following questions****7 X 10 = 70**

- 1. Highlight 5 advantages of wireless communication.**
- 2. Discuss the following terms in mobile telephony:**
 - a. Mobile Station**
 - b. Mobile Equipment**
 - c. Base Station**
 - d. Mobile Switching Center**
 - e. Voice Channel**
- 3. What is Spectrum Allocation?**
- 4. Highlight the categories of spectrum allocation.**
- 5. Discuss packet switching system and its modes.**
- 6. Discuss multiple access techniques.**
- 7. What is Cellular Handover?**
- 8. Discuss the two channel assignment strategies in a cellular system.**
- 9. Highlight 5 measures to improve wireless coverage and capacity.**
- 10. List the advantages and disadvantages of IoT.**
- 11. What is packet delivery ratio?**
- 12. Highlight the layers in OSI and TCP/IP Suites.**
- 13. Discuss wireless networking and the types.**
- 14. Describe wireless operating modes that you know.**
- 15. Highlight the differences between wireless and fixed telephone networks.**