



*Republic of Rwanda  
City of Kigali*



**GASABO DISTRICT**

**DISTRICT COMPREHENSIVE ASSESSMENT, RTQF LEVEL 4, 2022-2023**

**SECTOR: ICT**

**TRADE: NETWORKING**

**MODULE: NEWWI401: SETUP WIRELESS NETWORK INDOOR**

**DATE OF EXAM: Monday 2/7/2023      Duration: 3hrs**

**ACADEMIC YEAR: 2022-2023**

**INSTRUCTIONS:**

- Read carefully the exams before answering.
- It is illegal for candidate to write anything on question paper.
- A candidate should answer in the language in which the examination is set.
- The paper is composed of three (3) sections as follows:
  - Section A: Attempt all the eleven (11) questions      55marks
  - Section B: Attempt any three (3) questions out of five (5)      30 marks.
  - Section C: Attempt only one (1) question out of two (2)      15marks

**Note:**

Every candidate is required to carefully comply with the provided assessment instructions.

**Section A: Attempt all the eleven (11) questions. Each question in this section has 5 marks. Total is 55marks.**

1. I. An Ethernet card is necessary for a wireless connectivity through a Wireless Access Point.  
II. The devices that are connected using a Wireless Access Point communicate using radio signals or Infrared waves.

Which of the following is true with respect to above statements?

- A. Both I and II are true.
- B. Only I is true.
- C. Only II is true.
- D. Both I and II are false.

2. Which of the following open standards is associated with WPA2?

1. IEEE 802
2. IEEE 802.15
3. IEEE 802.11i
4. IEEE 802.1

Which of the following is necessary to establish a wireless connection to an enterprise wireless network? (Choose three)

1. Pre-shared key
2. 802.1X/EAP credentials
3. IP address
4. RF signal
5. Digital certificate
6. SSID

2. You are using a wireless scanner that reports the basic SSID (BSSID) of each of the wireless networks. What does the BSSID represent?

- A. The media access control (MAC) address of the AP
- B. The name of the wireless network
- C. The channel of the wireless network
- D. The IP address of the AP

3. Which wireless standard runs at 54 Mbps?

- A. 11ac
- B. 11n
- C. 11g
- D. 11b

4. Which of the following is the encryption algorithm used by Wi-Fi Protected Access 2 (WPA2) with a pre-shared key?
- A. Rivest Cipher 4 (RC4)
  - B. Advanced Encryption Standard (AES)
  - C. Temporal Key Integrity Protocol (TKIP) with RC4
  - D. TKIP with Wired Equivalent Privacy (WEP)
5. Your manager is wondering why you have purchased a WLAN controller (WLC). Which of the following would you use to describe the benefit of a WLC?
- A. It can be used with autonomous and lightweight access point (LAPs)
  - B. It requires the use of a Remote Authentication Dial in User Service server.
  - C. It enables you to centrally manage all APs.
  - D. It allows configuration only via a console port.
6. The radio communication spectrum is divided into bands based on \_\_\_\_\_.
- A. Amplitude
  - B. Frequency
  - C. Cost and Hardware
  - D. Transmission media
7. A \_\_\_\_\_ infrared transmission must have a clear, unobstructed transmission path between the transmitter and receiver.
- A. Directed
  - B. Diffused
  - C. Frequency hopping
  - D. Direct sequence
8. In a wired network, security \_\_\_\_\_ access matter
- (5marks)**
- A. A RF Signal
  - B. Physical
  - C. Range
  - D. Logical
9. This spread spectrum signal structuring technique uses amplitude modulation to combine the waveforms of the data and carrier signals.
10. \_\_\_\_\_ Wireless networks transmit using RF signals, which require a \_\_\_\_\_ to receive and transmit signals through the air.
- A. Antenna

- B. Repeater
- C. Router
- D. Remote

11. Which one of the following devices rebroadcasts the signals it receives after conditioning them for increased strength and clarity?

- A. Router
- B. Repeater
- C. Gateway
- D. Bridge

12. The \_\_\_\_\_ of a network refers to the network's capability to change as needed to meet the expanding needs of an organization or home.

13. Which one of the following is not a consideration when deciding between a WLAN and a wired LAN beyond the network medium?

- A. RF Interference
- B. Ease of installation
- C. Flexibility
- D. Scalability

14. Which of the following is the initial stage of wireless design phase?

- A. Analyze construction materials.
- B. Site survey
- C. Identify the number of users.
- D. Identify the intended use of wireless network.

15.

**Section B: Attempt any three (3) questions out of five (5) 30 marks.**

12. (10marks)

Describe the network security requirements (Authentication, Confidentiality and Auditing).

13. (10marks)

Differentiate an Active survey from Passive survey. Describe the wireless site survey planning process steps.

14. (10marks)

Provide any six expectations of why site surveying is done before anything else.

**15. (10marks)**

Identify tools, equipment and materials used in Wireless local area Network. Differentiate Protocol analysis software from Spectrum analyzer.

**16. (10marks)**

What are the WLAN testing considerations?

**Section C: Attempt only one (1) question out of two (2) 15marks**

- 17.** Provide various steps for installing, configuring, and managing the following  
WLAN devices: Access points, WLAN bridges, WLAN mesh routers and Enterprise WLAN switches **(15marks)**
- 18.** Identifying any four WLAN Security attacks and provide the way of preventing each one. **(15marks)**
- 19.** Provide the way to pass through by troubleshooting wireless station connection to AP?  
Provide the way of handling issues and troubleshooting AP Connection to wired LAN. **(15marks)**

***Enjoy and Success is the fruit of one's effort!!!!!!!***