



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NNAMDI AZIKIWE EXPRESSWAY, JABI-ABUJA
FACULTY OF COMPUTING
DEPARTMENT OF COMPUTER SCIENCE
2025_2 EXAMINATIONS.

COURSE CODE: CIT463

COURSE TITLE: Introduction to Multimedia Technology

CREDIT: 3 Units

TIME ALLOWED: 3 Hours

INSTRUCTION: Question ONE is compulsory. Answer Question ONE and any Three (3) Others

Question 1

1a. Microsoft DirectX is a collection of application programming interfaces (APIs) for handling tasks related to multimedia, especially game programming and video, on Microsoft platforms. Identify what the following DirectX components are used for. **(4 Marks)**

- i. DirectDraw
- ii. Direct3D (D3D)
- iii. DXGI
- iv. Direct2D

1b. While nearly any personal computer is capable of acting as a network server, a dedicated server will contain features making it more suitable for production environments. Identify these features. **(3 Marks)**

1c. Identify four (4) functions of Software. **(4 Marks)**

1d. Discuss four (4) features desirable for a multimedia system. **(6 Marks)**

1e. Describe Network Topology? **(2 Marks)**

1f. List three (3) Advantages and three (3) Disadvantages each of Bus Topology. **(6 Marks)**

Question 2

2a. Describe four (4) components required for a videoconferencing system. **(6 Marks)**

2b. Hearing is not a purely mechanical phenomenon of wave propagation, but is also a sensory and perceptual event. Explain why this statement is true and why it is important in acoustics. **(3 Marks)**

2c. There are basically two types of videoconferencing systems: Dedicated and Desktop systems. Compare and contrast them. **(6 Marks)**

Question 3

3a. Discuss Peer-to-Peer Architecture in six (6) sentences. **(6 Marks)**

3b. Discuss VIDEO as a multimedia format. **(5 Marks)**

3c. Multimedia compression algorithms, traditionally known as codecs, work in a lossy fashion and the entire process is known as transform coding. Briefly discuss the term Transform Coding. **(4 Marks)**

Question 4

4a. What is an Authoring System? **(2 Marks)**

4b. Describe four (4) types of Authoring Tools you know. **(10 Marks)**

4c. In computer networking, explain the idea of IntServ or Integrated Services. **(3 Marks)**

Question 5

5a. Write short notes on Differentiated Services. **(8 Marks)**

5b. Discuss the following protocols:

- i. Real-Time Transfer Protocol (RTP) **(3 Marks)**
- ii. Session Control Protocol (SCP) **(4 Marks)**

Question 6

6a. Discuss four (4) Applications of Multicast. **(10 Marks)**

6b. In the field of computer networking, describe what you understand by the abbreviation; MBONE. **(2 Marks)**

6c. Routing is often confused with bridging, which performs a similar function. What is the principal difference between the two? **(3 Marks)**