COM 313: Fundamentals of Multimedia and Animation Technology

GROUP 5: Network Communication & Social Media Trends

PART A: Research Notes

1. IP Telephony and Multimedia Communication

IP Telephony refers to the transmission of voice and multimedia content over Internet Protocol (IP) networks. Instead of using traditional circuit-switched telephone networks, IP telephony converts voice signals into digital data packets which are transmitted over the internet. It supports multimedia communication by integrating voice, video, and data services on a single network. Examples include VoIP services such as Skype, WhatsApp calls, Zoom, and SIP-based systems.

2. Mobile Multimedia Services

Mobile multimedia services enable users to access and share multimedia content using mobile devices. These services include Voice over IP (VoIP), video calling, live streaming, multimedia messaging, and on-demand video services. They rely on wireless technologies such as 4G and 5G to deliver high-quality audio and video content. Mobile multimedia services improve accessibility, real-time communication, and user interaction.

3. Social Media Trends: User Generated Content (UGC) and YouTube Formats

User Generated Content (UGC) refers to multimedia content created and shared by users rather than professionals. UGC includes videos, images, blogs, comments, and live streams. It plays a significant role in social media by increasing engagement, authenticity, and community participation. YouTube formats such as long-form videos, Shorts, and live streams enable creators to reach different audiences and deliver content in diverse ways.

4. Media Propagation Models in Social Networks

Media propagation refers to how multimedia content spreads across social networks. Propagation models explain the diffusion of content from one user to another through sharing, liking, and commenting. Factors such as network structure, influencer involvement, emotional appeal, and platform algorithms determine the speed and reach of content dissemination.

5. Viral Content and Multimedia Communication

Viral content is multimedia content that spreads rapidly across social media platforms. It often contains strong emotional appeal, relatability, simplicity, and high-quality presentation. Case studies such as viral TikTok challenges or trending YouTube videos demonstrate how multimedia communication can influence public opinion and user behavior on a large scale.

PART B: Exam-Oriented Questions and Answers

1. Explain the working principle of IP Telephony.

IP Telephony works by converting voice signals into digital data. The digital data is compressed and divided into packets which are transmitted over an IP network. At the receiving end, the packets are reassembled and converted back into audio. This technology allows voice and multimedia communication over the internet.

2. How do mobile multimedia services enhance user experience?

Mobile multimedia services enhance user experience by enabling communication anytime and anywhere. They support real-time audio and video communication, multimedia sharing, and interactive features. These services improve convenience, engagement, and the overall quality of digital communication.

3. Discuss the role of User Generated Content (UGC) in modern media.

UGC plays a major role in modern media by encouraging user participation and creativity. It increases authenticity and trust while reducing content production costs. UGC also drives engagement and viral trends on social media platforms.

4. Compare YouTube formats and their impact on content delivery.

Long-form videos on YouTube are suitable for detailed and educational content. YouTube Shorts provide short, engaging videos that promote quick consumption and virality. Live streams enable real-time interaction and audience engagement. Each format impacts content delivery differently based on audience needs.

5. What factors influence media propagation in social networks?

Media propagation is influenced by content quality, emotional appeal, platform algorithms, user interaction, influencer support, and timing. Highly engaging and shareable content is more likely to spread widely across social networks.