THE OPEN UNIVERSITY OF SRILANKA
DEPARTMENT OF COMPUTER SCIENCE
B.SC. (IT) DEGREE PROGRAMME 2026/2027
FINAL EXAMINATION
ITU5303 – MULTIMEDIA DESIGN AND TECHNOLOGY
DURATION: TWO HOURS ONLY (02 HOURS)

DATE: 25.06.2026 **TIME: 1.30 pm – 3.30 pm**

Answer **FOUR (04) Questions ONLY.** All questions carry equal marks. (25 Marks)

Q1.

i. Explain the concepts of amplitude, frequency, and pitch in sound waves. How do these properties affect the perception of sound?
ii. Compare analogue audio and digital audio. Discuss their main differences and typical applications.
iii. What is audio compression? Explain the difference between lossy and lossless compression techniques.
iv. Compare MP3, FLAC, AAC, and WAV audio file formats. Discuss suitable applications for each format.

Q2.

i. Explain the concept of chroma subsampling. How does reducing colour information contribute to file compression?
ii. Discuss the differences between image resolution requirements for print and digital media. Include the roles of DPI and PPI in your answer.
iii. Define pixels, bit depth, and bit rate in digital video. Explain how each factor influences video quality.
iv. Compare RAW and compressed video formats. Discuss the advantages and limitations of each in video production workflows.

Q3.

i. Compare the RGB and CMYK colour models. Explain why each model is used in different media environments.

ii. Discuss colour sampling and colour matching techniques. Why are they important for maintaining colour consistency across devices and outputs?

iii. Explain the RGB and YUV colour models used in video production. Discuss their primary applications.

iv. Discuss the relationship between bit depth, chroma subsampling, and colour accuracy in digital video.

Q4.

i. Discuss how the shift from traditional artistic mediums to digital technologies has influenced the creation and distribution of visual art and photography.

ii. Select one major art movement (Cubism, Surrealism, or Pop Art) and explain its key characteristics and influence on modern design practices.

iii. Explain the importance of frame and composition in photography. Discuss two compositional techniques that help improve visual storytelling.

iv. Compare natural light and artificial light in photography. How can each influence image quality and the mood of a photograph?

Q5.

i. Explain the Rule of Thirds and the Golden Ratio as compositional techniques. How do they contribute to creating visually balanced designs?

ii. Discuss the role of depth and perspective in visual design. Describe techniques that can be used to create a three-dimensional appearance in images.

iii. What is visual identity? Explain how design principles can be applied when creating brand elements such as logos, colours, and typography.

iv. Discuss the key considerations when designing visual content for print, web, and mobile platforms.

Q6.

i. Describe the historical development of audio-visual technology from analogue systems to digital systems. Highlight two major advantages of digital technology.

ii. Explain the three major phases of the audio-visual production workflow: pre-production, production, and post-production.

iii. Why is file management and media organisation important in audio-visual production software? Discuss common practices used to manage media assets effectively.

iv. Outline a basic video editing workflow from importing media to exporting the final project.

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