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Question Paper Code: R8507

B.E./B.Tech. DEGREE EXAMINATION, NOV 2025

Professional Elective

R21ITV507 – DIGITAL AUDIO AND VIDEO DESIGN

Computer Science and Design

(Regulations R2021)

Duration: Three hours

Maximum: 100 Marks

Answer All Questions

PART – B (5 x 20= 100 Marks)

1. (a) Write a program to implement filter effects in audio files. CO2- App (20)
Or
(b) Apply the concept of sampling by creating a project that demonstrates how different sampling rates affect the quality and fidelity of audio recordings. Include examples and compare the results across various sampling methods. CO2- App (20)
2. (a) Write a program to implement masking effects in audio files. CO2- App (20)
Or
(b) Develop a comprehensive audio processing application that implements masking effects, allowing users to blend multiple audio tracks while demonstrating how different masking techniques affect the perception of sound. Include features for users to adjust parameters like volume, frequency range, and panning, and provide examples to illustrate the effects in various audio scenarios. CO2- App (20)
3. (a) Write notes on the principles of Loudspeaker Stereo. CO1- U (20)
Or
(b) Explain any two surround sound recording techniques in detail. CO1- U (20)
4. (a) Explain analog to digital conversion in detail. CO1- U (20)
Or
(b) Describe Chroma subsampling in detail. CO1- U (20)

5. (a) Discuss audio compression techniques in detail. CO1- U (20)

Or

(b) Write notes on real-time video compression. CO1- U (20)