

PART B - (5X16 = 80 marks)

11. (i) Apply arithmetic coding algorithm to encode the message DCFBS as per the following details: **(06)**

Symbol	Probability
A	0.2
B	0.1
C	0.2
D	0.05
E	0.3
F	0.05
S	0.1

(ii) Explain the fundamentals involved in acquiring audio in a PC through microphone. **(04)**

(iii) What is the need for MIDI systems? Explain the schematic of a MIDI system. **(06)**

12. (a)(i) Explain the schematic of coding for B-frame in MPEG-1. **(04)**

(ii) How MPEG-2 support scalable video? List and explain five strategies for scalability in MPEG-2 coded video. **(12)**

Or

(b)(i) Sketch and explain the JPEG coding and decoding algorithm. **(12)**

(ii) Compare JPEG and PNG. **(04)**

13. (a) Explain the following interface in java with example code

- (i)** ImageProducer
- (ii)** ImageConsumer
- (iii)** ImageFilter
- (iv)** RGBImageFilter

Or

(b)(i) List and explain the design issues of an authoring system.

(ii) Draw and explain the simplified pipeline process in OpenGL.

14. (a) What is the difficulty in handling multimedia data using traditional DBMS? List and explain different characteristics of multimedia DBMS.

Or

(b) (i) Draw and explain the CD-ROM layout according to the "Yellow Book" in mode-1 and mode-2 operation. Calculate the capacity and data rate in both modes.

(ii) Present and explain the class hierarchy of MHEG.

15. (a) Explain the following protocols

(i) RTP

(ii) RTCP

(iii) RTSP

(iv) SIP

Or

(b) Explain the following with respect to the video-on-demand.

(i) Staggered broadcasting

(ii) Pyramidal Broadcasting

(iii) Harmonic broadcasting

(iv) Stream merging
