

Roll No. 6361680031

Total No. of Questions : 10]
(1049)

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**B.C.A. (CBCS) RUSA VIth Semester
Examination**

4397

MULTIMEDIA TECHNOLOGY

Paper : BCA-0603

Time : 3 Hours]

[Maximum Marks : 70

Note :- The question paper contains *five* Parts. All questions in Part A are compulsory. Part B, C, D and E each has *two* questions. The candidates are required to attempt *one* question each from each of these four Parts.

Part-A

1. (i) Before audio or video signals can be sent on internet, they need to be :

(a) Channelized

(b) Managed

(c) Digitized

(d) Organized

CH-723

(1)

Turn Over

(ii) RTCP stands for :-

- (a) Real-time Transport Control Program
- (b) Real-time Transport Control Packet
- (c) Real-time Transport Control Protocol
- (d) Real-time Transport Control Path

(iii) A video consists of a sequence of :-

- (a) Frames
- (b) Signals
- (c) Packets
- (d) Slots

(iv) JPEG is used to compress :-

- (a) Music
- (b) Pictures
- (c) Images
- (d) Frames

(v) Which one of these is a video file :-

- (a) abc.avi
- (b) abc.jpg
- (c) abc.mp3
- (d) all of these

(vi) According to the Nyquist theorem, we need to sample an analog signal times the highest frequency.

- (a) Three
- (b) Two
- (c) Four
- (d) None of these

(vii) In Voice Over IP (VoIP), term SIP stands for :-

- (a) Session Initiation Protocol
- (b) Session Initiation Port
- (c) Session Initiation Path
- (d) Session Initiation Packet

✓(viii) What is the full form of PNG ?

- (a) Printer network graphics
- (b) Project network graphics
- (c) Portable network graphics
- (d) None of these

(ix) Which type of file is highly flexible and platform independent format ?

- (a) Tagged image file format
- (b) Portable network graphic
- (c) Bitmap image
- (d) Photoshop image

(x) fps stands for

- (a) File per second
- (b) Frames per second
- (c) File per signal
- (d) None of these

1×10=10

CH-723

(4)

2. (i) Briefly explain four key properties of a multimedia system.

(ii) Explain the use of the following hardware components in multimedia :

- (a) Graphics accelerator
- (b) Frame grabber

✓(iii) For multimedia stream transport, RTP on top of UDP is the commonly preferred method to send media data. Explain Why ?

(iv) Explain the application of multimedia in education.

(v) Differentiate between scalar and vector quantization.

4×5=20

Part-B

10 each

3. Explain data redundancy. What are different forms of redundancies exploited in multimedia data compression ?

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(5)

Turn Over

4. What is meant by the terms frequency and temporal masking of two or more audio signals ? What is the cause of this masking ?

Part-C

10 each

5. Differentiate between MP3 and wave audio files. Which format is more prone to security threats ?
6. Explain the key differences between I-frames, P-frames and B-frames in MPEG video compression. Describe the advantages and disadvantage of using B-frames.

Part-D

10 each

7. Explain GIF format. List the pros and cons of GIF as a Web image format.
8. What is the CMYK colour model ? Give an application in which this colour model is mostly used. Explain the reason.

Part-E

10 each

9. Why is data compression necessary for multimedia activities ? What is the distinction between lossless and lossy compression ? Explain advantage and disadvantages of each.
10. How does the human eye sense colour ? What characteristics of the colour sensory operators of human visual system can be exploited for the compression of colour images and video ?