M4.2-R4: INTRODUCTION TO MULTIMEDIA

NOTE:

1.	There are **TWO PARTS** in this Module/Paper. **PART ONE** contains **FOUR** questions and **PART TWO** contains **FIVE** questions.
2.	**PART ONE** is to be answered in the **TEAR-OFF ANSWER SHEET** only, attached to the question paper, as per the instructions contained therein. **PART ONE** is **NOT** to be answered in the answer book.
3.	Maximum time allotted for **PART ONE** is **ONE HOUR**. Answer book for **PART TWO** will be supplied at the table when the answer sheet for **PART ONE** is returned. However, candidates, who complete **PART ONE** earlier than one hour, can collect the answer book for **PART TWO** immediately after handing over the answer sheet for **PART ONE**.

TOTAL TIME: 3 HOURS   **TOTAL MARKS: 100**
                                                                                   (PART ONE – 40; PART TWO – 60)

PART ONE
(Answer all the questions)

1.   Each question below gives a multiple choice of answers. Choose the most appropriate one and enter in the "tear-off" answer sheet attached to the question paper, following instructions therein.   (1x10)

1.1   What is Multimedia?
A)   Multimedia is the combination of text and graphics
B)   Multimedia is the presentation of information
C)   Multimedia is the use of video
D)   Multimedia is the combination of audio and video

1.2   Multimedia is used in which three main areas?
A)   Television, Movies and Newspapers
B)   Education, Television and Radio
C)   Education, Information and Entertainment
D)   All of the above

1.3   What is a Pixel?
A)   A speck
B)   A type of picture
C)   A pixel is a single point in a graphic image
D)   A molecule

1.4   Which picture file format can display more colors?
A)   MP3
B)   JPEG
C)   GIF
D)   All of the above

1.5   What does MPEG stand for?
A)   Motion Picture Experts Gang
B)   Modern Picture Experts Group
C)   Motion Picture Experts Group
D)   Modern Picture Experts Gang

1.6   When an MP3 stores a file what does it get rid of?
A)   deletes the frequencies the human ear cannot hear
B)   deletes the song information
C)   deletes the bits on the end of a song that has no music
D)   deletes the bytes on the end of a song that has no music

1.7   Which is the biggest audio file format?
A)   WMA
B)   MP3
C)   WAV
D)   SWF

1.8   What is Animation?
A)   A cartoon
B)   The apparent movement of an object
C)   A file format
D)   All of the above

1.9   What are the two types of animation?
A)   2D and 3D
B)   Fast and slow
C)   Path-based and cell-based
D)   Clay animation and Pastel animation

1.10   Which image file format can be animated?
A)   GIF
B)   JPEG
C)   CDR
D)   TIFF

2. **Each statement below is either TRUE or FALSE. Choose the most appropriate one and ENTER in the "tear-off" sheet attached to the question paper, following instructions therein.** **(1x10)**

2.1   Touch screen is basically a monitor that allows user to interact with computer by touching the display screen.

2.2   GIF is a format commonly used on MS-DOS and MS-Windows computers.

2.3   MIDI data is digitized sound.

2.4   Most commonly used format for graphics is .bmp or bitmap pictures.

2.5   Window extensions of multimedia provide a standard platform for Multimedia programs.

2.6   Object linking and embedding in window does not allow to combine video and audio clips.

2.7   The file size for bitmap images is similar to the file size for vector images.

2.8   Morphing and Warping are two special effects which can be performed with bit mapped images only.

2.9   Multimedia production process involves not only the production of individual components but also integration of those components using an authoring tool.

2.10   PNG is a standard used for compression of audio in multimedia.

3. **Match words and phrases in column X with the closest related meaning/ word(s)/phrase(s) in column Y. Enter your selection in the "tear-off" answer sheet attached to the question paper, following instructions therein.** **(1x10)**

	X		Y
3.1	Process used to remove jagged edges in computerized graphics	**A.**	Shareware
3.2	Small programs, called by application programs that produce various special effects.	**B.**	Copyright
3.3	Server-side programs, running at the request of the client that typically perform interactive web actions	**C.**	Pixels
3.4	Process for reducing file size	**D.**	Download
3.5	Exclusive ownership of a created work	**E.**	Resolution
3.6	Process of transferring a file from one system to another	**F.**	Anti-aliasing
3.7	The set of language rules web users must follow to communicate with each other	**G.**	Video conferencing
3.8	The tiny dots comprising a picture	**H.**	JavaScript
3.9	The clarity of the displayed/printed image	**I.**	CGI
3.10	Transporting real-time voice and video over telecommunications services	**J.**	HTML
		K.	Compression
		L.	HTTP
		M.	Applets

4. **Each statement below has a blank space to fit one of the word(s) or phrase(s) in the list below. Enter your choice in the "tear-off" answer sheet attached to the question paper, following instructions therein.** **(1x10)**

A.	SGML	B.	MPEG	C.	Portal
D.	AVI	E.	FTP	F.	MIDI
G.	Browser	H.	Bandwidth	I.	Authoring Tool
J.	Multimedia	K.	Bitmap graphic	L.	Quick Time
M.	TIFF				

4.1   An _____ is a program that enables a multimedia author to create a multimedia product.

4.2   _____ is a sound and video file format developed for the Microsoft Windows platform.

4.3   _____ is a physical constraint on the amount of data that can be transferred through a specific medium.

4.4   A _____ is a pixel-based model for displaying images on display units such as computer and TV screens.

4.5   A _____ is a software program that interprets mark document (such as HTML) and renders them visually on computer screens.

4.6   _____ is an image file format system used in graphics programs.

4.7   _____ is an international standard for the transport of documents in a format independent of the device, system or application.

4.8   _____ is a system containing music related commands for a synthesizer.

4.9   _____ are ISO standards for moving images.

4.10   _____ is a file format for storing and playing back movies with sound.

PART TWO
(Answer any **FOUR** questions)

5.
a) Explain the use of following input/output devices in multimedia applications
   i) Scanner
   ii) Soundcard
   iii) Touch screen
b) What is the mechanism of digitized sound? How does the computer reconstruct sound wave from a sample data?
c) What is the advantage of MIDI over digitized sound?

(6+5+4)

6.
a) Explain the concept of video in multimedia.
b) Why is data compression desirable for multimedia activities? What is the distinction between lossy and lossless data compression?
c) What are the main differences between the target media for JPEG and GIF compression?

(5+5+5)

7.
a) What is a multimedia authoring system? Explain.
b) List and briefly explain any five applications of multimedia in our day to day life.
c) Differentiate between bitmapped fonts and vector fonts.

(5+5+5)

8.
a) What are key issues that need to be addressed for designing web based multimedia applications?
b) What is morphing? Explain.
c) What is frame by frame animation and how is this animation converted to a continuous presentation?

(5+5+5)

9. Differentiate between **any three** of the following:
   i) Hypermedia and Hypertext
   ii) Raster Graphics and Vector Graphics
   iii) Animation and Multimedia
   iv) JPEG and MPEG

(3x5)