CHAPTER -1

MULTIMEDIA AND DESKTOP PUBLISHING

Choose the Correct Answers

1. _____ refers to any type of application that involves more than one type of media such as text, graphics video animation and sound

    a) An executable files b) desktop publishing **c) multimedia** d) hypertext

2. One of the disadvantages of the multimedia is its __

    a) Cost b) adaptability c) usability d) relativity

3. Expand JPEG

    a) Joint photo experts gross
    b) Joint photographic experts group
    c) Joint processor experts group
    d) Joint photographic expression group

4. You need hardware, software and __ to make multimedia

    a) Network b) compact disk drive **c) good idea** d) programming knowledge

5. Match the following by choosing the right one

    1. Text – TGA
    2. Image – MIDI
    3. Sound – MPEG
    4. Video – RTF

    a. 1, 2, 3, 4   **b. 2, 3, 4, 1**   c. 4, 1, 2, 3   d. 3, 4, 1, 2

6. Find the odd one on the following which is not an image format

    a) TIFF   b) BMP   **c) RTF**   d) JPEG

7. ___ is the process displaying still images they give continuous movement

    a) Text formats b) Sound c) MP3 **d) Animation**

8. The live telecasting of real time program through Internet is known as ____

    a) Web casting b) web hosting   c) data manipulation d) none of the above

9. GIF use _____ color look up table .

    a) 8 bit b) 8 KB c) 8 MB d) 8 GB   **e) 13bit**

10. RTF file format was introduced by _____

    a) TCS b) Microsoft   c) Apple d) IBM

Short Answers

1. Define Multimedia and their features.

Multimedia is an integration of many types of media like text, graphics, images, audio, animation, video etc., on a single medium in the same information unit.
Features:
- Latest enriching experience in the field of information sector.
- Multimedia plays vital role in terms of presenting information to the users.

2. List out Multimedia Components

Multimedia has five major components .They are

        Text
        Images
        Sound
        Video
        Animation.

3. Classify the text component in multimedia.

    The two important text component in multimedia are

    Static Text

Hypertext

4. Classify the IMAGE component in multimedia.

The two important image component in multimedia are

Raster or Bitmap Images
Vector Images

5. Define Animation and their features.

Animation is the process displaying still images so quickly so that they give the impression of continuous movement.

Features:
- Animations may be in two or three dimensional.
- Animation tools are very powerful and effective.

6. List out image file formats

TIFF (Tagged Image File Format)
BMP (Bitmap)
DIB (Device Independent Bitmap)
GIF (Graphics Interchange Format)
JPEG (Joint Photographic Experts Group)
TGA (Tagra)
PNG (Portable Network Graphics)

7. List out audio file formats
WAV (Waveform Audio File Format)
MP3 (MPEG Layer-3 Format)
OGG
AIFF (Audio Interchange File Format)
WMA (Windows Media Audio)
RA (Real Audio Format)

8. List out video file formats

AVI (Audio/Video Interleave)
MPEG (Moving Picture Experts Group)
WMV (Windows Media Video)
FLV (Flash Video)
MKV (Matroska Video)

9. Define Multimedia Production

In basic terms, multimedia production is any sort of production that uses imagery and a combination of text, audio, and graphics to tell a story.

10. List out Multimedia Production team members

Production Manager
Content Specialist
Script Writer
Text Editor
Multimedia Architect
Computer Graphic Artist
Audio and Video Specialist
Computer Programmer
Web Master

PART III

Brief Answer

1. Briefly explain about Multimedia Components

Multimedia has five major components like text, images, sound, video and animation.
(i) Text:
Text is the basic components of multimedia and most common ways of communicating information to other person.
(ii) Image

Images acts as a vital component in multimedia. These images are generated by the computer in two ways, as bitmap or raster images and as vector images.

(iii) Animation

Animation is the process displaying still images so quickly so that they give the impression of continuous movement.

(iv) Sound

Sound is a meaningful speech in any language and is the most serious element in multimedia, providing the pleasure of music, special effects and so on.

(v) Video

Video is defined as the display of recorded event, scene etc.

2. Describe the features and techniques of animation

- Using numerical transformations the movement of that image along its paths is calculated for their defining coordinates.
- Animations may be in two or three dimensional.
- Animation tools are very powerful and effective.
- The two basic types of animations are Path animation and Frame animation.
- Path animation involves moving an object on a screen that has a constant background
- In frame animations, multiple objects are allowed to travel simultaneously

3. Write roles and responsibilities of Production team members

Production team comprises of members playing various roles and responsibilities like

- Script writer
- Production manager
- Editor
- Graphics Architect
- Multimedia Architect
- Web Master.

It is for a high end multimedia project requires team efforts.

4. Describe the various file formats in multimedia

i) Text Formats

RTF : Rich Text Format is the primary file format introduced by Microsoft .

ii) Image Formats
GIF (Graphics Interchange Format): It is a compressed image format.
JPEG(Joint Photographic Experts Group): It was designed to attain
        maximum image compression.

iii) Audio File Formats

WAV (Waveform Audio File Format): It is the audio file format in windows
MP3 (MPEG Layer-3 Format): MPEG Layer-3 format for storing and
                                    downloading music.

iv) Video File Formats

AVI (Audio/Video Interleave): It is the video file format for Windows.
MPEG (Moving Picture Experts Group): It is a standard for generating
digital video and audio compression.

5. Explain animation industry and their scope

- The animation industry encompasses traditional 2D animation, 3D animation
and visual effects for feature films.
- The animation industry is expected to grow at a pace faster than the IT
industries.
- Work opportunities for quality animators and related professionals like
graphic designer, multimedia developer and game developer, character designers,
key frame animators, 3D modelers, layout artists etc exists in following sectors at
large
    - Advertising
    - Online and Print News Media
    - Film & Television
    - Cartoon production
    - Theater
    - Video Gaming
    - E-learning

PART IV

Detail Answer

1. Explain in detail Process of Multimedia

The process of Multimedia includes**:**

(i)Conceptual Analysis and Planning

Conceptual analysis identifies an appropriate theme, budget and content availability on that selected theme. Copyright issues also are considered in this phase.

(ii)Project design

Goals, Objectives are contribute to the Project design phase.

(iii)Pre-production

Based on the planning and design, it is necessary to develop the project.

(iv)Budgeting

Budgeting for each phases like consultants, hardware, software, travel, communication and publishing is estimated for all the multimedia projects.

(v) Multimedia Production Team

Script writer, Production manager, Editor, Graphics Architect, Multimedia Architect and Web Master are there in Multimedia Production Team.

(vi)Hardware/Software Selection

Hardware includes the selection of fastest CPU, RAM and huge monitors, sufficient disc for storing the records.

(vii)Defining the Content

Content is the "stuff" provided by content specialist to the multimedia architect

(viii) Preparing the structure

This structure defines the activities, responsible person for each activity and the start/end time for each activity.

(ix) Production

In the multimedia application, after the pre-production activities, the production phase starts. This phase includes the activities like background music selection, sound recording and so on.

(x) Testing

The complete testing of the pilot product is done before the mass production to ensure that everything is in place, thereby avoiding the failure after launch.

(xi)Documentation

The documentation has all the valuable information's starting from the system requirement till the completion of testing.

(xii)Delivering the Multimedia Product

Multimedia applications are best delivered on CD/ DVD or in the website.

2. Explain in detail Techniques of Animation.

Animation is the process displaying still images so quickly so that they give the impression of continuous movement. In animation the screen object is a vector image in animation. Using numerical transformations the movement of that image along its paths is calculated for their defining coordinates.
The least frame rate of at least 16 frames per second gives the impression of smoothness and for natural looking it should be at least 25 frames per second. Animations may be in two or three dimensional. The two dimensional animation, bring an image alive, that occur on the flat X and Y axis of the screen.

While in three dimensional animation it occurs along the three axis X, Y and Z. The two basic types of animations are Path animation and Frame animation. **Path Animation**

Path animation involves moving an object on a screen that has a constant background.

Frame Animation

In frame animations, multiple objects are allowed to travel simultaneously and the background or the objects also changes.

3. Explore the opportunities Animation filed movie industry.

3D Modellers: 3D modellers create computer models of a particular object from all angles, so that the viewers can understand the object better. A 3D modeller is required in all sorts of industries including film & video production studios, game design companies, advertising & graphic design firms, software firms, medical animation, and product design firms.

Character Animators: A character animator develops characters and appropriate body movements to tell a story, be it for films, television, mobile applications or video games. In short, character animation is the process of bringing a character to life through software such as Flash, Maya, Light wave and other available programs.

Motion Graphics Artists: Motion graphics artists are responsible for the creative process at different stages. He/she creates animated 2D & 3D images to portray motion. Motion graphics artist works in various mediums of media like internet, movies, commercial ads, movie trailers, broadcast titles, music videos, signage and content for mobile devices.

Texture Artists: A texture artist's job is to create and apply texture, colour and three dimensional effects to animated characters, environment and props surrounding the character or the artwork. A texture artist needs to be a detail-

oriented person as this process involves working on the finer nuances of the artwork such as wrinkles, fur, scales etc. Some of the most common software and rendering platform used by a texture artist are Photoshop, 3D Paint, UV Layout/Editing, Render Man, Mental Ray, Maya, Shaders, and Houdini.

Lighting Artists: A lighting artist works with lighting department to create the correct light and shadow effects to make a scene realistic & flawless. Lighting artists work for animation studios, gaming companies, production studios, advertising agencies, graphic and web design firms.

Rigging Artists: A rigging artist needs precision & an eye for detail. He/she is responsible for adding bones and skins to an animated character. He/she has to work in sync with modelers and animators to develop new technique to solve production challenges and make believe character movements possible.

Storyboard Artists: Storyboard artists provide a visual representation of a sequence/film by drawing frame by frame sketches by hand or on a computer. He/she has to present the action in a series of scenes, which allows filmmakers, advertisers and producers to evaluate the project before the start of production. Storyboard artists work with films, television commercials, animation studios, gaming studios and in the advertising industry.

Compositing Artists: A compositing artist is one of the most important players for the post production process, who gives finishing touches to the project. Their job is to creatively combine all the elements received from various teams in to the final output. Compositing artists may use software such as Adobe After Effects, Nuke, Motion, Combustion or others to provide the final output.

4. Explain in detail about production team Roles and Responsibilities .

   1. Production Manager

The production manager should be an expertise in the technology expert, good at proposal writing, good communication skills, budget management skills, human resource management and act as an efficient team leader.

2. Content Specialist

Content specialist is responsible for performing all research activities concerned with the proposed application's content.

3. Script Writer

The script writer visualizes the concepts in three dimensional environments and if needed uses the virtual reality integration into the program.

4. Text Editor

The content of a multimedia production always must flow logically and the text should always be structured and correct grammatically.

5. Multimedia Architect

The multimedia architect integrates all the multimedia building blocks like graphics, text, audio, music, video, photos and animation by using authoring software.

6. Computer Graphic Artist

The role of Computer Graphic Artist is to deal with the graphic elements of the programs like backgrounds, bullets, buttons, pictures editing, 3-D objects, animation, and logos etc.

7. Audio and Video Specialist

The roles of these specialists are needed for dealing with narration and digitized videos to be added in a multimedia presentation. They are responsible for recording, editing sound effects and digitizing.

8. Computer Programmer

The computer programmer writes the lines of code or scripts in the appropriate language.

9. Web Master

The responsibility of the web master is to create and maintain an Internet web page. They convert a multimedia presentation into a web page.

5. Explain about different file formats in multimedia files.

a) Text Formats

RTF: Rich Text Format is the primary file format introduced in 1987 by Microsoft

b) Image Formats

GIF (Graphics Interchange Format): GIF is a compressed image format. Most of the computer color images and backgrounds are GIF files.

JPEG (Joint Photographic Experts Group) :JPEG was designed to attain maximum image compression. It uses lossy compression technique,

c) Audio File Formats

WAV (Waveform Audio File Format) : It is the most popular audio file format in windows for storing uncompressed sound files.

MP3 (MPEG Layer-3 Format): MPEG Layer-3 format is the most popular format for storing and downloading music.

d) Digital Video File Formats

AVI (Audio/Video Interleave) :AVI is the video file format for Windows. Here sound and picture elements are stored in alternate interleaved chunks in the file.

MPEG (Moving Picture Experts Group) : MPEG is a standard for generating digital video and audio compression under the International Standards Organization (ISO) by the group of people.

A.BASEERA NASHRIN , M.Sc., B.Ed.,

nashrinbaseera@gmail.com