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**ОТЧЕТ**

**UNIT 10**

«Computing Support Officer»

по дисциплине:

**Профессиональная подготовка на английском языке**

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Contents

[**Starter** 2](#_Toc25775576)

[1. Match the multimedia terms in Column A to the activities in Column B. More than one match is possible. 2](#_Toc25775577)

[2. Study this diagram which explains MP3. Answer these questions: 2](#_Toc25775578)

[3. Match these captions to the pictures in Fig 1. Consider again your answers to Task 2 2](#_Toc25775579)

[**Reading** 2](#_Toc25775580)

[4. Read this text to find the answers to these questions. 2](#_Toc25775581)

[5. Read the rest of this text to find the answers to these questions: 3](#_Toc25775582)

[**Language work** 3](#_Toc25775583)

[6. Match each cause and effect. Then link them with an –ing clause. 3](#_Toc25775584)

[7. Explain how each of these actions happen. The explanations are available in Tasks 2, 3 and 4. 4](#_Toc25775585)

[**Speaking** 5](#_Toc25775586)

[8. Work in pairs, A and B. With the help of the notes provided, explain to your partner one aspect of multimedia. Link your notes into a text describing one aspect of multimedia. Choose either the Student A or the Student B notes. 5](#_Toc25775587)

[9. Study the diagram, Fig 2, which illustrates how MIDI operates. Then link each set of sentences into one complex sentence to form a continuous paragraph. You may add, omit and change words. 5](#_Toc25775588)

[**Specialist reading** 6](#_Toc25775589)

[A. Find the answers to these questions in the following texts. 6](#_Toc25775590)

[B1. Mark the following statements as True or False: 7](#_Toc25775591)

[B2. Match the terms in Table A with the statements in Table B. 7](#_Toc25775592)

**Starter**

1. Study this screen display of Windows Explorer. Add these titles to the texts:

Watching movies – DVD, MPEG

Composing music on a PC - MIDI

Downloading music from the Internet - MP3

Using reference works like encyclopedias - MP3, MPEG

2. Study this diagram which explains MP3. Answer these questions:

|  |  |  |
| --- | --- | --- |
|  | To find | Answers |
| 1 | How does MP3 reduce the size of music files? | The MP3 technique to reduce the music file size is to decompose the sound signal into frequencies of various harmonics and to remove those of them that are less significant. |
| 2 | What can you obtain from www. mp3. com? | This website provides music of various genres for downloading. |
| 3 | How can you listen to MP3 files? | Most of the modern music players are supporting the MP3 format, therefore users can load music of this format into their devices and replay it. |

3. Match these captions to the pictures in Fig 1. Consider again your answers to Task 2

|  |  |  |
| --- | --- | --- |
| a | Once you've paid by credit card (unless it's one of the millions of free files), music is downloaded to your PC. | Picture 3 |
| b | The original music file is stripped of anything that is inaudible to the human ear. After MP3 has done its work, the file is reduced to roughly one twelfth that of the original recording. | Picture 1 |
| c | MP3 files can be listened to on your PC, a dedicated MP3 player, or your hi-fi. | Picture 4 |
| d | MP3 files are put on a website, where browsers can listen to samples and buy a single track or album... or even create their own compilation. | Picture 2 |

**Reading**

4. Read this text to find the answers to these questions.

1. What does MP3 stand for?

The MP3 sound file format stands for the Motion Picture Experts Group Audio Layer 3.

1. What is the difference between MP3 and WAV files?

MP3 files are much smaller then WAV files are. Each minute of sound can take only one megabyte within the MP3 file, whereas in the WAV file it takes 11 or 12 megabytes.

1. What kind of sound does MP3 strip out?

The MP3 format technique strips out the sound most people cannot hear. It is sound of frequency exceeded 16 kHz, quiet sound masked by noise.

1. What kind of information is included in the tag?

In the information block named ‘tag’ can be included information about the file itself, also the name of the performance, artist, a graphic such as an album cover, the song's lyrics, the musical genre, and a URL for more details.

5. Read the rest of this text to find the answers to these questions:

1. How do you play MP3 files?

For playing an MP3 file, I download it to my device or computer and tap or click by mouse cursor on it. A music player decodes it and routes the decoded sound signal to speakers.

1. What does the Windows Media Player file do with an MP3 file?

The Windows Media Player decodes the MP3 file and routes the decoded sound signal to speakers.

1. What is a standalone player?

A standalone player is a program for playing the music that has many features beyond the Windows Media Player has.

1. What special features can players offer?

Players let users group the songs into playlists and randomize their selections.

1. What information can you obtain by clicking on the track info button?

The track info button gives you the information written in the MP3 file tag.

1. What does a skin enable you to do?

Interchangeable skins - it is a feature that allows changing the player user interface appearance.

1. How do you play music from a CD-ROM on an MP3 player?

I insert a CD into the CD-ROM, open the CD file list, select the MP3 file, and click on it.

The operating system opens a music player, loads the MP3 file to it, and the player starts to play it.

1. What hardware and software do you need to make your own audio CDs?

For making my own audio CD I need a recorder software and a writable CD drive.

**Language work**

6. Match each cause and effect. Then link them with an –ing clause.

|  |  |  |
| --- | --- | --- |
|  | Cause | Effect |
| 1 | Computers with MIDI interface boards can be connected to MIDI instruments. | This allows the music being played to be stored by the computer and displayed on the monitor. |
| 2 | Each side of a DVD can have two layers. | This gives an enormous storage capacity. |
| 3 | MP3 removes sounds we can't hear. | This produces much smaller files. |
| 4 | You can download single tracks. | This allows you to sample a new group before buying their CD. |
| 5 | Each MP3 file has a tag. | This permits extra information to be stored on the performer and other track details. |
| 6 | MP3 players contain several devices. | These allow you to control the way the music sounds. |
| 7 | You can download a skin program. | This enables you to change the appearance of your player. |
| 8 | You can legally download some music. | You can create your own compilation. |

1. Computers with MIDI interface boards can be connected to MIDI instruments,

allowing the music being played to be stored by the computer and displayed on the monitor.

1. Each side of a DVD can have two layers, giving an enormous storage capacity.
2. MP3 removes sounds we can't hear, producing much smaller files.
3. You can download single tracks, allowing you to sample a new group before buying their CD.
4. Each MP3 file has a tag, permitting extra information to be stored on the performer and other track details.
5. MP3 players contain several devices, allowing you to control the way the music sounds.
6. You can download a skin program, enabling you to change the appearance of your player.
7. You can legally download some music, enabling to create your own compilation.

7. Explain how each of these actions happen. The explanations are available in Tasks 2, 3 and 4.

1. MP3 reduces the information stored.

The MP3 doesn’t store the sound most people cannot hear.

2. You can alter the look of your MP3 player.

It is possible due to the player feature called ‘interchangeable skins’. Each skin represents the player in a different appearance.

3. You can 'rip' the audio information from a CD.

For ripping the audio information from a CD serve special programs. They rip the sound information from a CD and convert it to the WAV file. Then an encoder that the ripper programs contain converts WAV into MP3.

1. You can convert a WAV file to MP3 format.

Special programs – converters can do that. They can convert the WAV files not only into MP3 but into files of other formats.

1. You can view the lyrics, notes and author data.

This information can be stored in an information block included in an MP3 file. This block called ‘tag’. Players can read this block and output the containing information on the user interface.

6. You can control how the music sounds.

MP3 players contain several devices, by means which you can control the music sounds.

7. You can access many free and legal music files for downloading.

Some websites contains free downloading music files. You can go there and download them.

8. You can play MP3 files through your sound system.A player decodes the MP3 file into the sound signal and routes it to the sound card and it, in turn, to speakers.

**Speaking**

8. Work in pairs, A and B. With the help of the notes provided, explain to your partner one aspect of multimedia. Link your notes into a text describing one aspect of multimedia. Choose either the Student A or the Student B notes.

DVD is an abbreviation of Digital Versatile Disk. The DVD is equal in its size to the CD. But unlike CD DVD has a capacity of 4.7 GD each side. It goes because of DVD drives use blue light lasers, whereas CD drives use red. The wavelength of blue light is shorter than red light has, therefore data on the DVD can be placed much denser. Moreover, the DVD can be double-layered. Each side of the disk contains two layers. Top one 4.7 GB incapacity, the bottom 3.8 GB. The total capacity of the side is roughly about 9.4GB. The data transfer rate of the DVD is doubled the CD rate.

9. Study the diagram, Fig 2, which illustrates how MIDI operates. Then link each set of sentences into one complex sentence to form a continuous paragraph. You may add, omit and change words.

1. Most modern music is mixed.

This uses computers.

Most modern music is mixed by using computers

2. Musicians record their music into a computer system.

This system is called a Musical Instrument Digital Interface (MIDI).

Musicians record their music into a computer system that called a Musical Instrument Digital Interface (MIDI).

3. MIDI was developed as a standard interface.

MIDI is for linking music synthesizers and instruments together.

MIDI was developed as a standard interface for linking music synthesizers and instruments together.

4. Computers can be connected to MIDI instruments.

These computers are fitted with MIDI interface boards.

This allows the music to be stored on computer.

This allows the music to be displayed on the monitor.

The music is being played.

Computers fitted with MIDI interface boards can be connected to MIDI instruments allow the music being played to be stored on computers and to be displayed on the monitor.

5. The music can be displayed as a musical score.

The music can be edited.

This uses all the features of a mixing desk.

The music can be displayed as a musical score and can be edited by using all the features of a mixing desk.

6. The music can also be printed out from the computer.

The music is being played.

The music being played can also be printed out from the computer.

7. MIDI doesn't transmit any sound.

It transmits simple binary information.

MIDI doesn't transmit any sound instead it transmits simple binary information

8. The information is called a MIDI message.

The message encodes sound as 8-bit bytes of digital information.

The information called a MIDI message encodes sound as 8-bit bytes of digital information.

9. The most common messages consist of instructions.

These instructions tell the receiving instrument to play a note for a specific duration of time.

The most common messages consist of instructions that tell the receiving instrument to play a note for a specific duration of time.

10. The instructions also contain details of how loud to play that note.

The instructions contain a number.

The number indicates which instrument to play.

Number 67 is a saxophone.

The instructions also contain details of how loud to play that note and a number that indicates which instrument to play, for instance, number 67 is a saxophone.

**Specialist reading**

A. Find the answers to these questions in the following texts.

|  |  |  |
| --- | --- | --- |
|  | Questions | Answers |
| 1 | Into what two components is the data stream split? | The data streams are split into audio and video components. |
| 2 | What information does an Intra frame contain? | The Intra frame contents full information about a picture. |
| 3 | What is stored in the P-frames following an I-frame? | In the P-frames stored the information that only describes the differences between this frame and previous I-frame. |
| 4 | What is stored in a P-frame in the case of a bouncing ball? | In the case of the bouncing ball in the P-frame changes of the position of the ball, form, and color are stored. |
| 5 | What gives the massive reduction in the amount of information needed to reproduce a video sequence? | The massive reduction in the amount of information needed to reproduce a video sequence is caused by the fact that P-frames contains only differences between frames, not a full picture. |
| 6 | Why is a new l-frame used after a few P-frames? | Each P-frame is based on the previous frame, therefore the errors once occurred, propagate on the next frames. Followed by a few P-frames, I-frame updates the picture content so errors are eliminated. |
| 7 | What is stored in a B-frame? | In a B-frame stored information of the differences between the previous I or P-frame and the B-frame and as the difference between the B-frame and the following I or P-frame. |
| 8 | Why do B-frames not propagate errors? | There are no frames based on a B-frame, so errors occurred in the B-frame cannot propagate to other frames. |

B1. Mark the following statements as True or False:

|  |  |  |
| --- | --- | --- |
| a | JPEG is the most common compression system used for video. | True |
| b | P-frames only store the changes in the image. | True |
| c | There is always at least one P-frame between two I-frames. | True |
| d | B-frames store the complete picture information. | False |
| e | There can only be one B-frame between each I and P-frame. | False |
| f | There are typically about four P-frames between each I-frame | True |

B2. Match the terms in Table A with the statements in Table B.

Table A

|  |  |
| --- | --- |
| a | Algorithm |
| b | I-frame |
| c | JPEG |
| d | P-frame |
| e | B-frame |
| f | MPEG |

Table B

|  |  |
| --- | --- |
| I | A common type of compression used for video data. |
| II | A compressed video frame known as a predicted frame. |
| III | A compressed video frame that stores changes between the frame before it and the frame after it. |
| IV | A formula used for decompressing components of a data stream. |
| V | A type of compression used for bitmap images. |
| VI | A compressed video frame that contains the complete image information |

Answers

|  |  |
| --- | --- |
| A common type of compression used for video data. | MPEG |
| A compressed video frame known as a predicted frame. | P-frame |
| A compressed video frame that stores changes between the frame before it and the frame after it. | B-frame |
| A formula used for decompressing components of a data stream. | Algorithm |
| A type of compression used for bitmap images. | JPEG |
| A compressed video frame that contains the complete image information | I-frame |