ENGLAND GCSE COMPUTER SCIENCE EDEXCEL · UNIT 2 · 25 QUESTIONS

Data Representation — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A printer prints a photo. What does resolution mean for the photo?**

- A The number of colours in the photo
- B The number of pixels in the photo
- C The number of bytes in the photo file
- D The number of bits used for each pixel

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2 **A smartwatch shows a colour code in hexadecimal. Why is hexadecimal used instead of binary?**

- A It is shorter and easier for people to read
- B It can hold larger numbers than binary can
- C It uses less memory than binary to store data
- D It runs faster than binary on a computer

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3 **A server stores error codes in hexadecimal. What is the hexadecimal number 10 in denary?**

- A 15
- B 10
- C 160
- D 16

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4 **Headphones play a sound recording. What does bit depth mean for the recording?**

- A The number of seconds the recording lasts
- B The number of bits used for each sample
- C The number of samples taken each second
- D The number of sound channels in the recording

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5 **A router sends a text message. The text is stored with Huffman coding. What does Huffman coding do?**

- A It removes every second character from a file to shrink it, in some situations
- B It replaces runs of the same character with a count
- C It gives shorter codes to characters that appear most often
- D It gives the same code to every character in a file

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6 **A drone sends a photo back to its controller. Why is the photo compressed first?**

- A So it takes more storage and is slower to send, in some situations
- B So it can never lose any quality at all
- C So it no longer needs to be backed up
- D So it takes less storage and is quicker to send

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7 **What is 9 shifted 1 place to the left in binary?**

- A 4
- B 36
- C 18
- D 180

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8 **How many colours can a colour depth of 8 bits per pixel show?**

- A 2560
- B 255
- C 128
- D 256

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9 **What is the denary value of the two's complement number 10000001?**

A -128

B -126

C -1270

D -127

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10 **What is an advantage of Huffman coding?**

A It works just as well on any type of file

B It can shrink photos without losing any quality

C It can shrink text files without losing any data

D It needs no extra data stored with the coded file

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11 **How many bytes are in 8 kilobytes?**

A 819

B 81,920

C 8,000

D 8,192

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12 **What happens to the file size if the sample rate of a recording increases?**

A The file size decreases

B The file size becomes zero

C The file size stays the same

D The file size increases

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13 **What does shifting a binary number one place to the left do?**

- A It takes 1 away from the number
- B It adds 1 to the number
- C It multiplies the number by 2
- D It divides the number by 2

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14 **A sound recording has a sample rate of 22050 samples per second, a bit depth of 16 bits and lasts 5 seconds. How many bytes is the sound file?**

- A 2,205,000
- B 220,500
- C 22,050
- D 1,764,000

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15 **What is ASCII?**

- **A** A way of checking text for errors as it is sent
- **B** A character set that gives each character a 7-bit binary code
- **C** A way of compressing text to make it smaller
- **D** A character set that gives each character a 16-bit binary code

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16 **What is 42 in 8-bit binary?**

- **A** 110100100
- **B** 00101011
- **C** 00101010
- **D** 00101001

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17 What is the denary value of the binary number 101?

- A 6
- B 50
- C 5
- D 4

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18 What is the denary value of the binary number 0110?

- A 5
- B 6
- C 60
- D 7

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19 **What is 200 in hexadecimal?**

A C9

B C7

C C8

D D2

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20 **What is the smallest number that 8-bit two's complement can hold?**

A Minus 127

B 0

C Minus 1280

D Minus 128

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21 **What is the denary value of the hexadecimal number E2?**

- A 225
- B 227
- C 226
- D 2,260

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22 **What is the hexadecimal digit A in denary?**

- A 11
- B 100
- C 9
- D 10

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23 **What is a byte?**

- **A** A single binary digit, 0 or 1
- **B** A group of 1024 bits
- **C** A group of 8 bits
- **D** A group of 4 bits

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24 **What is lossy compression?**

- **A** The file is split into parts that cannot be joined
- **B** The file is made larger so it is easier to read
- **C** Some data is lost and the original cannot be fully restored
- **D** No data is lost and the original can be fully restored, in some situations

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25

A photo is 320 pixels wide and 240 pixels high, with a colour depth of 16 bits per pixel. How many bytes is the photo file?

A 1,536,000

B 1,228,800

C 15,360

D 153,600

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Flag a mistake

ANSWER KEY

1.	B	**10.**	C	**19.**	C
2.	A	**11.**	D	**20.**	D
3.	D	**12.**	D	**21.**	C
4.	B	**13.**	C	**22.**	D
5.	C	**14.**	B	**23.**	C
6.	D	**15.**	B	**24.**	C
7.	C	**16.**	C	**25.**	D
8.	D	**17.**	C		
9.	D	**18.**	B		

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