ENGLAND GCSE COMPUTER SCIENCE AQA · UNIT 3 · 25 QUESTIONS

Data Representation and Computer Systems — 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 laptop stores the number 13 in binary. What is the binary number?**

- A 00001011
- B 00001110
- C 00001101
- D 00001001

Understand It with Pulse | Flag a mistake

2 **A tablet adds the binary numbers 00001101 and 00000011. What is the result?**

- A 00010001
- B 00001000
- C 00010000
- D 00001111

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3 **A games console shows a memory address in hexadecimal. How many binary digits does one hexadecimal digit represent?**

- A 4
- B 2
- C 16
- D 8

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4 **A robot stores its program in ROM. What happens to the program when the robot is switched off?**

- A It is lost
- B It stays there
- C It is deleted by the operating system
- D It is copied into RAM for later use

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5 **A keyboard types a document that is saved to the cloud. What is an advantage of cloud storage?**

- A Files can be reached with no internet access at all, in some situations
- B Files take up no storage space anywhere
- C Files are stored on the computer itself
- D Files can be reached from any device with internet access

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6 **A smartphone stores a photo. What is the number of pixels in the photo called?**

- A Colour depth
- B Resolution
- C Bit depth used for sound
- D Sample rate

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7 **What is cache memory?**

- A Slow memory on a hard disk that holds files
- B Memory that is only used when the computer is off
- C Memory that stores the programs that start the computer, in some situations
- D Very fast memory inside or near the CPU that holds data used often

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8 **What is the denary value of 00000110 after a left shift of 1 place?**

- A 6
- B 120
- C 12
- D 13

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9 **Which of these is an embedded system?**

- A A washing machine controller
- B A desktop computer in an office
- C A laptop used for school work
- D A tablet used for browsing the web

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10 **What is the binary number for denary 13?**

- A 00011010
- B 00001100
- C 00001110
- D 00001101

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11 **What is bit depth in sound?**

- A How long the sound file lasts in seconds, in some situations
- B How many samples are taken each second
- C How many bits are used to store each sample
- D How many channels the sound file has

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12 **What is character encoding?**

- **A** Checking that text has no spelling errors
- **B** Giving each character a binary code so a computer can store it
- **C** Compressing a text file to make it smaller
- **D** Changing text from one language to another, which can happen in some cases

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13 **What is the denary value of the hexadecimal number 1A?**

- **A** 27
- **B** 25
- **C** 260
- **D** 26

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14 **What is 00010101 + 00000110 in binary?**

A 00011100

B 00011011

C 00011010

D 01010001

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15 **What is the range of numbers that can be stored in 8 bits using two's complement?**

A -255 to 255

B -127 to 128

C -128 to 127

D 0 to 255

Understand It with Pulse | Flag a mistake

16 **An image is 800 pixels wide and 300 pixels high with a colour depth of 24 bits. How many bytes does the image take up before compression?**

- A 7,200,000
- B 360,000
- C 1,440,000
- D 720,000

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17 **What is the denary value of the hexadecimal number 2F?**

- A 32
- B 25
- C 47
- D 215

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18 What is lossless compression?

- A Compression where some data is lost to make the file much smaller, in some situations
- B Compression where the file cannot be opened again
- C Compression where no data is lost and the file can be fully restored
- D Compression where only text files can be made smaller

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19 What does a left binary shift do to a number?

- A It adds 1 to the number for each place shifted
- B It multiplies the number by 2 for each place shifted
- C It changes the sign of the number
- D It divides the number by 2 for each place shifted, in some situations

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20 **What is a byte?**

- A A single binary digit
- B A group of 4 bits
- C A group of 8 bits
- D A group of 1000 bits

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21 **How does a solid state drive store data?**

- A On a server reached over the internet, in some situations
- B On magnetic disks that spin
- C On a disc read by a laser
- D On flash memory chips with no moving parts

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22 **What does the accumulator hold?**

- **A** The address of the memory location being used
- **B** The address of the next instruction to be carried out, in some situations
- **C** The result of a calculation carried out by the arithmetic logic unit
- **D** The data being read from or written to memory

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23 **A sound file has a sample rate of 44100 samples per second, a bit depth of 16 bits and a duration of 60 seconds. How many bytes does the sound file take up before compression?**

- **A** 52,920,000
- **B** 5,292,000
- **C** 2,646,000
- **D** 10,584,000

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24 **What is the denary value of the binary number 01010101?**

- A 86
- B 850
- C 85
- D 84

Understand It with Pulse | Flag a mistake

25 **What is RAM used for?**

- A Storing data on a removable disk
- B Storing the programs that start the computer, in some situations
- C Storing data and programs that are being used now
- D Storing files for a long time

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ANSWER KEY

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

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