MOCK EXAM INFORMATION

FOR PUPILS

COMPUTER SCIENCE

The Studley DNA

Which paper will I sit for the mock ?

Paper 1 (Full paper): Systems Architecture, Memory, Storage, Wired and wireless networks, Network topologies, protocols and layers, System security, System software, Ethical, legal, cultural and environmental concerns

Paper 2 - (Adapted for content covered): Algorithms, Data representation, Programming techniques

How long is the exam? Paper 1 - 1 hour, Paper 2 - 1 hour

What do I need to revise?
Paper 1:
• 1.1 Systems Architecture
• 1.2 Memory
• 1.3 Storage
• 1.4 Wired and Wireless Networks
• 1.5 Network Topologies, Protocols and Layers
• 1.6 System Security
• 1.7 System Software
• 1.8 Ethical, Legal, Cultural and Environmental Concerns

Paper 2:
• 2.1 Algorithms
• 2.2 Programming techniques
• 2.4 Computational Logic
• 2.6 Data Representation

Where can I find this information?
CPG GCSE OCR Computer Science Revision Guide
Craig & Dave Revision Videos - https://student.craigndave.org/gcse-videos
Seneca courses - https://app.senecalearning.com/dashboard/courses/add
Paper 1 - Revision Guide -
https://drive.google.com/file/d/158fj6YcPqVf5Mxhm6anOlOTdUTwdFrDf/view?usp=sharing
Paper 2 - Revision Guide -
https://drive.google.com/file/d/1v0Qpk175HV0CXuomIbTkH9dDdGRQzUL5/view?usp=sharing

Revision Activities -
https://docs.google.com/presentation/d/1HlFPyocEvvFP3goij0FNf9A6B1FjoPtGsijSO2tsM-c/edit?usp=sharing

What are top revision tips for this paper?

Paper 1

Flick through the paper to get a sense of the range of questions. Make sure you have made the number of points relevant to the marks for the examination question for example, 8 mark essay questions are likely to require that you cover all of the points under each bullet. On some of the essay questions you could be asked for your opinion. Remember to outline both sides of the argument.

Read the context of the question. It is likely that you will score marks for relating your answer back to the set context. If you are asked to write an algorithm in Paper 1 don't panic - you are only being asked to explain a set of instructions. If you need to, write down the steps as you remember them.

Paper 2

Make sure you double check the data representation and logic gates questions - these are easy marks to gain. Read the questions carefully. Make sure you understand what you are being asked to do convert i.e
- Convert denary numbers into binary or hex
- Convert hex numbers into binary or denary
- Convert binary numbers into hex or denary.
These are easy marks, so take your time

Logic Gates

Make sure you understand what gate you are using NOT is the opposite.
Not (A or B) applies to both, NOT (A) and B applies to just A.
You will be asked to write algorithms – don't be frightened
- List all variables
- Are there any inputs? If so, list them
- Include loops where appropriate
• For i = 0 to 10 or End for
• While i < 10 remember to increment i
• When using selection use IF ELSE IF ELSE END IF
When using Functions always remember Functions must return values and have parameters passed in
- Function FunctionName(name of parameters)
- Some Code
- Return VariableName
- When referring to subroutines look to see if there are any parameters that is a function

Other useful links:

Craig & Dave Revision Videos - https://student.craigndave.org/gcse-videos
Seneca courses - https://app.senecalearning.com/dashboard/courses/add
Paper 1 - Revision Guide -
https://drive.google.com/file/d/1-sw1e7ypKkGkJ3lKf71114PLCSw9fjON/view?usp=sharing
Paper 2 - Revision Guide -
https://drive.google.com/file/d/1F4sLDgacnagOHJvVpukt4AlMXNh1iEU2/view?usp=sharing
Flash cards -
https://drive.google.com/file/d/1DZ4BFLPS0XOPOw4Nv2-Y74oN7L7I8OiQ/view?usp=sharing

REVISION QUESTIONS

1. What is the function of the CPU?

2. What is the purpose of cache?

3. What are the effects of using a processor with more cores?

4. What is meant by an embedded system?

5. Give two items that are stored in RAM

6. What is virtual memory?

7. What is secondary storage?

8. Give three types of secondary storage

9. What are two advantages of networking computers?

10. What is meant by the term 'client server network'?

11. What is the purpose of a router?

12. What is the definition of 'protocol'?

13. What is meant by the term 'brute force attack'?

14. What is one method that a business could use to ensure that sensitive documents will not be read by anyone except the intended recipient?

15. What is an operating system?

16. What is meant by defragmentation?

17. What is meant by the term casting in relation to data types?

18. How could a software company use iterative testing to develop an app?

19. How many bits are there in a byte?

20. Convert the denary (base 10) value 31 into their 8-bit binary equivalent.

REVISION ANSWERS

1. To fetch, decode and execute instructions.

2. Stores frequently used instructions and data, built onto the CPU, provides faster access than RAM, allows instructions and data to be loaded into the CPU more quickly.

3. More instructions carried out simultaneously, the processor can process more instructions at the same time, which allows batches of instructions to be executed more quickly, which allows for more programs to be run at the same time.

4. A computer system that is built into another device.

5. Programs currently in use. Data currently in use.

6. It is simulated memory that is written to a file on the hard drive / memory that appears to exist as RAM but is in secondary storage.

7. Where devices are not constantly connected to the computer. Devices not directly accessible by the computer's CPU.

8. Solid state, Optical, Magnetic.

9. It is easy to share documents. Different users are able to work on the same document at once. Only one internet connection is required as it can be shared between every device connected to the network. Centralised backups can be carried out automatically. Software updates / patches can be automatically pushed out by the server to ensure that all devices are up to date. Users can log in to any machine connected to the LAN as accounts are stored centrally on the server.

10. All devices are connected to a central server. The central server receives and processes requests from 'clients'. The server stores user account details and files.

11. To transmit data …between at least two different networks.

12. A set of rules that govern how devices communicate.

13. An attack that attempts to decode passwords/encryption keys/encrypted data. All possible/ numerous combinations are attempted. A trial and error method. Resource/time consuming method.

14. Encryption.

15. Collection of software that tells the computer hardware what to do. Software that allows the computer to run applications. Software that controls the operations of a computer. System software that manages the computer.

16. The process of physically organising the mass storage device into the smallest number of fragments.

17. Changing how a variable's data type is interpreted / a temporary conversion of data type. Suitable example – eg str(123) will treat 123 as a string, not an integer /so a string and an integer can be concatenated.

18. Testing throughout development after each stage. If faults are found then they are fixed before moving onto the next stage.

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