

Practice Questions and Answers

Q1 Chapter 21 - Website Authoring

Circle **two** web development layers which are used when creating a web page.

Behaviour	X	Development	X
Operational	X	Programming	X
	Presentation		System

The behaviour layer: This is where all actions such as controlling elements (except hyperlinks), on a web page are created. They are done using scripting language like JavaScript

The Presentation layer: This is where the visual impact of the web page is created and contains the styles to be used. It is at the layer the CSS is been used

The Content layer: This is where the Content of the web page such as text, images are placed, others such as the page structure example frames, tables, hyperlinks are placed

Practice Questions and Answers

Q2 Chapter 1: Types and Components of Computer Systems

A computer system uses both an analogue to digital converter (ADC) and a digital to analogue converter (DAC).

(a) (i) Apart from converting data, state **one** other reason for using an ADC.
So it can be processed by the Computer

(ii) Apart from converting data, state **one** other reason for using DAC.
The actuator understands only analogue data other - so that the data can be used to control the device

(b) State **one** device that could be used to input data into an ADC.

Sensor

other - microphone

(c) State **one** device that could use the data output from a DAC.

Actuator

Others Monitor

Speaker

Practice Questions and Answers

Q3

Chapter 1 : Types and Components of Computer Systems
Types of Computers - Desktop, mobile

A student is planning to buy a new desktop computer. He could buy one with a touch screen or one with a keyboard and mouse.

Discuss the advantages and disadvantages of buying a desktop computer with a touch screen rather than one with a keyboard and mouse.

Advantages

- Easier to select options because the select just has to touch the

Screen

- Has the ability to use pinch and zoom
- Easier to choose options on the screen
- Has a smaller footprint

Disadvantages

- Harder to upgrade as separate units need to be bought
- If the screen gets damaged it is more difficult to use in entering data
- If the screen gets dirty, it can reduce responsiveness

Practice Questions and Answers

Q4

Chapter 1 : Types and Components of Computer Systems
RAM and ROM - large files

Compare internal memory and backing storage. Include in your answer both similarities and differences.

Similarities

- Both store data
- Both are storage devices

Differences

- Internal memory can be read directly by the CPU
- Internal memory tends to have faster data access
- Internal memory are primary memory
- Internal memory are much smaller memories
- Internal memory are fixed inside the computer
- Backing storage is permanent memory
- Backing storage has larger capacity
- Backing storage are secondary memory

Practice Questions and Answers

Q5

Chapter 7: The Systems life Cycle : Design phase

Tawara Cars manufactures and sells four models of a sports car. It uses a paper-based data capture form to record details about these models. It is planning to set up an online data capture form. The current form is shown.

Registration Number:	TC 4587 — LT 0000 ✓			
Please tick the Model of car				
Model of car:	☒ L-sport	☒ E-sport	☒ G-sport	☒ H-sport
Date of registration:				
Sale price	\$			
Please tick the State of car and the Type of car				
State of car:	☒ New	☒ Used		
Type of car:	☒ Electric	☒ Petrol	☒ LPG	☒ Hydrogen

Type of Car:

Model of Car:

State of car: ☐ New ☐ Used

☐ New ☐ Used

Validation routine

Practice Questions and Answers

Q5a

State, giving reasons for your choice, the most appropriate field name that could be used with the following design features. Your field names must be different in each case.

(i) Drop down list

Field name: Type of Car
Reason: They can only select what is in the list
other: Reduces errors in entering the data

(ii) Radio button

Field name: State of Car
Reason: Only one option can be selected at a time
other - Reduces errors in entering the data
- Quicker to enter the data

(iii) Input Mask - Chapter 18 / Chapter 10

Field name: Registration Number
Reason: Retains the same format
Input mask forces a database user to restrict the data they enter into a field: Note it is not a validation routine - error message

Practice Questions and Answers

Q5b

Chapter 6 : ICT Applications – Computer Controlled Systems

A robot paints cars during manufacture. The robot can be programmed by a set of instructions typed into the computer system.

Explain one other way in which the robot could be programmed to carry out this task.

- The worker has sensors strapped to his arm
- The robot arm is guided by a worker
- Each movement is stored in the computer's memory as a Co-ordinate

Practice Questions and Answers

Q5c

Same chapter as Q5b.
Discuss the benefits and drawbacks of using a robot to paint the cars.

Benefits

- Robots can work in environments that would be harmful to a human
- Robots work continuously
- Robots produce greater consistency
- Robot painting of the cars are done accurately

Drawbacks

- Maintenance of Robots are expensive
- Initial cost of purchasing robots are very high
- Robots can cause higher unemployment thereby replacing skilled labour

Practice Questions and Answers

Q6 Chapter 1: Types and Components of Computer Systems *Types of computer*

Students can bring their mobile computers into school to complete their work in lessons.

State two examples of mobile computers.

- Laptop Computers
- Smartphones
- phablets
- Tablets

Practice Questions and Answers

Q7a Chapter 2: Input and output devices - DDE

The owner of a theme park has decided to redesign the tickets for its rides. She is planning to use either a bar code or an RFID tag on the ticket.

Describe the advantages of using an RFID tag rather than a bar code.

Bar code are read by the barcode readers, they are used to read information in the form of a bar code

Radio Frequency Identification (RFID) reader use radio waves to read and capture information stored on a tag. This tag can be read from a distance : Types - Passive tag (radio wave)

- Battery power type (small embedded battery)

Advantages

- More information can be stored on the RFID tag
- RFID tags are more robust
- RFID tags does not need to be in line of sight of the reader
- RFID can be read from a distance
- RFID tags are scanned faster than barcodes, because they are read by radio waves - RFID tags can be scanned even if they are detached

Practice Questions and Answers

Chapter 6: ICT Applications - Booking systems

Q7b

The tickets for the theme park are booked online.
Describe the characteristics of an online booking system.

- Bookings can be made 24/7
- Many people can book at the same time
- Bookings can be take place anywhere
- Tickets can be instantly sent or sent instantly
- Payment is online so there won't be an issue with different currencies
- Prevents double booking

Practice Questions and Answers

Chapter 8 - Safety and Security

Q8a

Pharming can be a threat to data that is stored on computer systems.
Describe what is meant by the term pharming.

- A malicious code is installed onto a user's computer
- The code redirects the user onto a fake website when the user types in the real url
- They are redirected without the user's knowledge
- they are used to gain personal information
- Pharming is seen as a form of internet fraud

Practice Questions and Answers

Q8b State two ways in which a user can attempt to prevent phishing attacks. *Same topic as Q8a*

- Use of anti-spyware
- Check the URL for any spelling mistakes
- Check the website has digital certificate

Practice Questions and Answers

Q9

Chapter 21 - Website Authoring

A student is creating a web page using HTML. The student has coded the body section.

State the purpose of the body section. Include in your answer two elements that could be found in the body section.

- The body section is the main section of the webpage
- It contains all the contents of an HTML document

Two elements includes

- Table
- Image
- Text
- Hyperlink

```
<!DOCTYPE html>
<html>
<head>
</head>
<body>
  <table>
</table>
  <img>
  <p>
  <a href
</body>
</html>
```

Practice Questions and Answers

Chapter 3: Storage Devices and Media

Q10a A network manager stores the backup of a school network on magnetic tape. Describe the benefits and drawbacks of using magnetic tape to store backups.

A magnetic tape is a very thin strip of plastic which is coated in a magnetic layer. They are read from or written to by a read/write head in a magnetic tape storage device. Magnetic tape is best suited to offline or batch processing.

Benefits

- large data storage
- faster data transfer rate ✓
- less expensive per byte

Drawbacks

- They are affected by magnetic fields
- Not all devices support magnetic tape
- Slower data access rate or time

Practice Questions and Answers

Chapter 4: Networks and the effects of using them

Q10b

The music teacher wants to use Bluetooth headphones on the computers in her music classes.

Explain how the network manager could set up the Bluetooth headphones.

- Switch on the computer
- Go to settings
- Select Bluetooth
- Ensure the computer Bluetooth is turned on
- Switch on the headphones
- Click on the bluetooth button on the headphones
- Bring the headphone close to the computer
- Click on bluetooth search on the computer
- Choose the headphones
- Click on Connect

Practice Questions and Answers

Chapter 8: Safety and Security

Q11a

Confidential emails need to be secure in order to protect the privacy and confidentiality of the data.

Describe how this could be achieved using encryption of the email.

- The email is encrypted using an encryption key which scrambles the data
- The decryption key is sent to the receiver
- The encrypted email is sent
- The receiver uses the decryption key to decrypt the email

Practice Questions and Answers

Chapter 10: Communication

Q11b

State two methods of data transfer that use encryption.

- FTP (File Transfer Protocol)
- HTTPS (Hyper Text Transfer Protocol Secure)
- SSL (Secure Socket Layer)

Practice Questions and Answers

Q12a

Chapter 5: The effects of using IT - Data Security
A family has purchased smart CCTV cameras to protect their home when they are at work. These cameras can be monitored from a smartphone. Describe the positive and negative effects of using smart CCTV cameras.

Positives

- 24/7 protection of the home
- Real-time footage of any intruders
- The CCTV camera position can be controlled remotely
- The video can be encrypted to stop others gaining access
- Increases a sense of security
- The owner is alerted instantly if people are around the house

Negatives

- Requires good internet connection on your phone
- Camera can be hacked
- To ensure footage is streamed smoothly, high network bandwidth is required

Practice Questions and Answers

Q12b

Chapter 5 - The effects of using IT
Identify two other devices in the home that could be microprocessor controlled.

- Automatic washing machine
- Microwave ovens
- Robotic Vacuum Cleaners
- Smart-fridges
- Central heating and air-conditioning systems
- Television sets

Practice Questions and Answers

Chapter 6: ICT Applications - Computers in medicine

Q13a

3D printing is used in medicine to create prosthetics.
State two other uses of 3D printing in medicine.

- Customised tablets
- Tissue engineering
- Artificial blood vessels

Practice Questions and Answers

Same as topic as Q13a

Q13b

State two benefits and two drawbacks of using 3D printing when creating prosthetics.

Benefits

- Can produce a customised prosthetic
- Can produce the prosthetics faster than physically building them
- The design can be saved for later use

Drawbacks

- Initial cost of 3D printer is high
- Can take time to print the prosthetic
- Errors cannot be easily corrected

Practice Questions and Answers

Q14

Chapter 5: The Effects of Using IT
A school crossing is controlled by traffic lights. When pupils wish to cross the road, they press the button on the crossing control. Identify two output devices that could be used in the crossing control.

- Screen
- light
- Speaker

Practice Questions and Answers