Examples of AO2 and AO3 Questions

Here is a set of **exam questions** designed using the **AO2 and AO3 assessment objectives** and adhering to the **rules for optimal question creation**. Each question is based on the **Digital T Level core content areas** and follows the structure required for clarity and accessibility.

## **AO2 – Apply knowledge and understanding of contexts, concepts, theories, and principles to different situations and contexts.**

### **1. Describe**

**Scenario:**  
A small business wants to implement an online ordering system to improve efficiency. The system will allow customers to place orders, track deliveries, and make payments online.

**Question:**  
Describe two **features** of a database that would support the functionality of the online ordering system.  
**[4 marks]**

**Answer Line Prompt:**

### **2. Explain**

**Scenario:**  
A company uses **cloud-based storage** to store customer data. The IT manager is considering switching from a **public cloud** to a **private cloud** solution.

**Question:**  
Explain two advantages of using a **private cloud** over a **public cloud** for storing sensitive customer data.  
**[4 marks]**

**Answer Line Prompt:**

### **3. Demonstrate**

**Scenario:**  
A software development team is writing a Python program to process customer orders. The orders are stored in a list. The team wants to ensure that invalid entries (such as negative quantities) are not processed.

**Question:**  
Complete the missing lines in the following Python function to check if an order quantity is valid.  
**[4 marks]**

python

CopyEdit

def validate\_order(quantity):  
 if \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_: # Condition for valid quantity  
 return "Valid Order"  
 else:  
 return \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ # Return appropriate message

### **4. Compare**

**Scenario:**  
A company is considering using either **a relational database** or **a flat-file database** for storing employee records.

**Question:**  
Compare **a relational database** and **a flat-file database**, giving one advantage and one disadvantage of each.  
**[4 marks]**

|  |  |  |
| --- | --- | --- |
| **Database Type** | **Advantage** | **Disadvantage** |
| Relational Database | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Flat-file Database | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

### **5. Apply**

**Scenario:**  
A retail company wants to automate its **stock inventory management** using sensors and the **Internet of Things (IoT)**.

**Question:**  
Apply your understanding of IoT to explain how **smart sensors** can help the company monitor and manage stock levels effectively.  
**[4 marks]**

**Answer Line Prompt:**

## **AO3 – Analyse and evaluate information and issues related to contexts, concepts, theories, and principles to make informed judgements.**

### **6. Analyse**

**Scenario:**  
A company has experienced a **cybersecurity breach** due to weak password policies and lack of multi-factor authentication (MFA).

**Question:**  
Analyse how implementing **multi-factor authentication (MFA)** and **strong password policies** could help prevent future security breaches.  
**[6 marks]**

**Answer Line Prompt:**

### **7. Justify**

**Scenario:**  
A business is deciding between **on-premises servers** and **cloud-based hosting** for its web application.

**Question:**  
Justify why a **small start-up company** might choose **cloud-based hosting** instead of maintaining on-premises servers.  
**[6 marks]**

**Answer Line Prompt:**

### **8. Evaluate**

**Scenario:**  
A school is considering replacing traditional desktop computers with **virtual desktops hosted in the cloud**.

**Question:**  
Evaluate the benefits and drawbacks of **cloud-hosted virtual desktops** for the school.  
**[8 marks]**

|  |  |
| --- | --- |
| **Benefits** | **Drawbacks** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

### **9. Recommend**

**Scenario:**  
A logistics company is struggling with **delays in deliveries** due to poor **real-time tracking** of vehicles.

**Question:**  
Recommend a **digital solution** that could improve **real-time vehicle tracking**, explaining how it would address the issue.  
**[6 marks]**

**Answer Line Prompt:**

### **10. Assess**

**Scenario:**  
A business is considering whether to use **open-source** or **proprietary software** for its **customer relationship management (CRM)** system.

**Question:**  
Assess the impact of choosing **open-source software** for a business’s CRM system.  
**[8 marks]**

**Answer Line Prompt:**

### **Exam Question for "Discuss"**

#### **11. Discuss**

**Scenario:**  
A company is considering implementing **Artificial Intelligence (AI) chatbots** to handle customer support inquiries instead of employing human agents.

**Question:**  
Discuss the **potential benefits** and **challenges** of using AI chatbots for customer support in a business.  
**[8 marks]**

|  |  |
| --- | --- |
| **Benefits** | **Challenges** |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |