**ITC61Chapter11**

**Test Questions**

**1.How can Futuristic Technology be defined?**

- Futuristic Technology can be defined as technologies that could change the way people live their day to day lives. This technologies may be used in different fields such as manufacturing, aeronautics, information technology, electronics and communication, electro mechanical engineering,construction and materials.

1. **Which are the top Futuristic Technologies?**

* 3D Printing Technology
* 6G Technology
* Autonomous Robots
* Artificial Neurons
* Artificial General Intelligence (AGI)
* Mind Uploading
* Driverless Vehicles
* Infrastructure Hacking
* Regenerative Medicine
* Digital Twin (DT) Technology
* Programmable Living Robots
* Human Augmentation
* Intelligent Process Automation (IPA)
* Space Elevator
* Rotating Skyhook
* Light Sail

1. **How did 3D printing begin?**

3D printing began at the early 1980s. It was made to be considered useful for prototyping. That is why it was used to be called as rapid prototyping.

1. **What are the applications of 3D printing?**

The applications of 3D printing would include the manufacturing any customized fashion products. Also producing components for advanced products like for planes. This had revolutionized healthcare with experimental human body parts. Thus creating a vital equipment such as PPE during the Covid virus pandemic. This also expand into the food production and metal bridge construction

1. **In what ways does 6G technology differ from other technologies?**

The way that 6G technology is different from other technology is that by having much of a higher speed and lower latency than 5G. It also uses waves ranging from 30GHz to 3000 GHz. It would potentially exceed 100 Gbps in speed. This also support any advanced technology such as virtual reality, and Internet of Things (IoT)

1. **What is the need for 6G technology?**

The need for 6G technology is that it increases the demand for data bandwidth and connectivity. The existing technology would not be able to keep up with the future demands which 6G could provide. 6G is also essential for meeting the evolving needs for efficiency access across various industires

1. **What is a data center?**

Data center is a building that is dedicated for space within a building. It is used to house computer systems and associated components. Such as telecommunications and storage systems

1. **What is an autonomous robot?**

Autonomous robots are intelligent machine that are capable of doing tasks without human intervention. It would operate based on its own learning and decision making abilities. This also uses sensors to perceive its environment. It uses algorithms for its decision making and actuators to carry out any physical actions it needs to do

1. **What are autonomous mobile robots (AMRs)?**

Autonomous mobile robots (AMRs) are self operating machine that can perform task alone. They would navigate the environment independently and are used in various industries for repetitive or any hazardous tasks

1. **In what sense are Artificial Neurons useful?**

Artificial Neurons are useful for biological neurons and processing input data through algorithms to generate outputs. It also enable decision making in neural networks, which allows for automations and for complex problem solving

1. **What are AGI and ASI?**

AGI is a mid level AI that matches simple human decision making capabilities. But it is also still in the realm of science fiction. It also involves abstract thinking, common sense, and language understanding. Whilst ASI is a imaginary concept where machines would surpass human brains in all types of activities. This would include creativity, problem solving, and emotional understanding. It is also considered as highly risky.

1. **Why is Digital Twin (DT) technology Important?**

Digital Twin (DT) technology is important because it replicated physical objects and processes, cutting the cost and also minimizing failures. It also enables seamless data flow for a more informed decision making and support for scalability

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1. **How do modern technologies impact cybersecurity?**

Modern technologies makes a great impact to cyber security because of its expanding the threat surface, creating more vulnerabilities that hackers can exploit to launch their attacks

1. **How are the advanced technologies affecting cybersecurity?**

Advanced technologies affects cyber security by increasing the complexity and providing more opportunities for cyber threats to infiltrate the system. It is also often due to immature development and integration into the system

1. **Extensive data exposure: what are the risks?**

The risk of extensive data exposure are such as misuse of Internet of Things (IoT) devices and also from weak passwords that would lead to unauthorized access. Also the use of outdated software that lacks adequate security measures

1. **Is there a strategy for controlling cyber breaches?**

The strategy for controlling cyber breaches are continual monitoring, staff training, enhance awareness. This strategies help to maintain, or prevent any future cyber breaches.

1. **What is the reason for the shortage of cybersecurity**

professionals?

The reason for the shortage of cyber security professionals is because by the increase demand and also the lack of expertise and the challenges of adapting to rapidly evolving threats and adapting to rapidly evolving threats and defenses

1. **What impact do cyber-attacks have on businesses?**

The impact of cyber attacks have on businesses are financial losses, disrupting operations, damaging reputation and customer trust, and also the risk of potentially leading to any legal consequences and fines.

1. **What are the main reasons for data exposure?**

The main reasons for data exposure is that it includes a widespread use of IoT devices with diverse firmware and software. This makes user accounts across various platforms with poor password management practices, reliance on outdated software lacking security updates would be vulnerable to data exposure.

1. **What is Risk?**

The risk in cyber security means to the likelihood of harm or loss for any resulting from vulnerabilities within the systems. Potentially it could lead to data breaches, financial losses, reputational damage. Which are risk to the company

1. **How can cybersecurity affect national security?**

Cyber security could affect the national security by the safeguarding of critical informations, protections any sensitive government data from outside attackers. This is defending against cyber warfare tactics aimed at disruption any services of national security

**10.What is Zero trust policy?**

Zero Trust policy is a cyber security that approaches the emphasis of continuous verification of any devices. It also verify users that is attempting to access a network, regardless of their location. In order to minimize the risk of any unauthorized access and data breaches