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BSIT601

**CHAPTER 10 ACTIVITY**

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

* Futuristic Technology refers to the technologies that can change the way people live their daily lives in different domains such as businesses, social activities, governments, research, and development, range of their industries and their processes.

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

* The top Futuristic Technologies are the following:
* 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 began?**

* 3D Printing began when the idea of three dimensional printing came into the minds of scientists. The concept of 3D Printing was introduced by Murray Leinster of 1945.

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

* The application of 3D printing are the following:
* Manufacturing Industry
* Fashion Industry
* Firearm Industry
* Healthcare Industry
* Transportation and Aviation Industry
* Culture Heritage Industry
* Education and Training Sectors

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

* It differs from other technologies because it offers more throughput and lesser latency. It is more heterogenous or diverse network. It supports more advance ICT Technologies such as Virtual Reality, Internet of Things, and etc. It uses upper spectrum in terahertz range and it has robust level of security, privacy, and secrecy may be the other most salient features of this technology.

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

* The main reasons why our industries and businesses need the 6th generation technology are convergence of technology, incorporation of high performance computing (HPC), Internet of Things (IOT) network, and mobile edge computing.

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

* A data center is one of the few highly-bandwidth demanding services and technologies that will rule the future of the ICT businesses to provide support to the other industries.

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

* Autonomous robots are intelligent machines that can perform tasks without any intervention of human being.

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

* Autonomous mobile robots, precisely referred to as AMRs, are the most task – oriented self-operating and self-maintaining machines that can perform their respective tasks without any intervention or support from human beings.

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

* It is useful in a sense that it will change the shape of automation and mechanization of all types of business processes with the help of robots, computer added programs, and other modern equipment and software platforms.

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

* AGI is Artificial General Intelligence which is also referred to as deep artificial intelligence, which is equal to the thinking, understanding, learning, and applying the intelligence, to solve the complex problems in the way human brain thinks and updates the learned experience for the future applications so that the advancement of mind would continue. On the other hand, ASI or Artificial Super Intelligence is the most advanced form of artificial intelligence, which will supersede the capabilities and power of the most genius brains on earth.

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

* Digital Twin Technology is important because it helps the industries save the prototyping cost and operational failures of products and processes significantly.

**CHAPTER 11 ACTIVITY**

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

* The threat surface expands with the expansion and utilization of more technologies and technological ecosystems because the new technologies that are evolving are used in the business much faster to achieve the competitive-edge in the market and to capture as much share of the market as possible.

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

* According to the Strategic Market Research forecast, the global cybersecurity market is expected to reach a whopping USD $478.68 billion by 2030 due to huge impact of the emerging and disruptive technologies that have already shown their impact on the industries across all domains.

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

* The risks of extensive data exposure is that in such environment where the hackers and malicious actors are more organized and bold to attack and there is a huge shortage of cybersecurity professionals to counter them, the chances of data exposure will remain very high.

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

* I think the strategy for controlling cyber breaches is to have more cyber security professionals that is trained and knowledgeable.

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

* The demands are continuously increasing and the availability of the cybersecurity professionals is continuously depleting.

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

* The entire society of a country or a business ecosystem of a nation can be manipulated and streamlined for the benefit of the adversary.

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

* The main reasons for data exposure are the following:
* Use of huge number of devices in highly diverse environments of IoT
* Increased number of user accounts with those huge number of devices
* Mismanagement in password creation, maintenance, and storage by the clients.
* Outdated software and devices
* Continual emergence of innovative techniques and ways that people are not fully expert at.

1. **What is Risk?**

* It is the potential for exposure or loss resulting from a cyberattack or data breach on your organization.

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

* It can lead to loss to major businesses, stealing and manipulation of data, creating panic and social disturbances, stirring political chaotic conditions, and tearing the social fabric and community harmony.

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

* It is a security model based on the principle or maintaining strict access controls and not trusting anyone by default, even those already inside the network perimeter.