**ITC61 Seatwork**

**CHAPTER 10**

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1. How can Futuristic Technology be defined?

* Futuristic Technology are the technologies that will revolutionize people's daily lives in different aspects such as business, social activities, governments, research and especially developments.

1. Which are the top Futuristic Technologies?

* 3D Printing Technology
* 6D 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?

* The 3D printing was introduced by Murray Leinster that was back in 1945. As year goes by there is an article that was published name “Tools of the Trade” where this concept is in a science fiction magazine and with the concept of molecular spray. Followed by Liquid Metal Recorder was invented by Johannes Gottwald etc. As it evolved there are other improvements have been developed in the fields of 3D printing such as concept, methods, computer automated manufacturing, and improvements processes.

1. What are the applications of 3D printing?

* 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?

* The difference between 6G technology from the other technology is that 6G is the most modern generation technology. It has a higher level of efficiency, low cost, improves daily processes, enhances service and lastly great product quality in the world but to achieve all of these features or goals the technology must continue to revolutionize and it is provided by ITC that has a huge impact on all businesses process and activities cross industries and sectors.

1. What is the need for 6G technology?

* The reason why 6G technology is needed for this generation is that it is essential for industries and businesses in the world. 6G technology has modern features and has more improve in terms of efficiency, capacity, and speed than has been adopted in 5G technology. Furthermore, 6G technology has a very fast and high bandwidth, and data channels for communicating that gives smooth communication for the user.

1. What is a data center?

* Data center is a higher level of data bandwidth that demands services technologies. Data center provides efficient, speed and low latency that leads to smooth and faster level of data bandwidth.

1. What is an autonomous robot?

* Autonomous robots are automated robots' machines that perform tasks without human intervention. The task that they perform is based on the intelligence they adopt through computer vision training data sets. Some examples task that autonomous robots perform are serving food, automated guidelines for vehicles use in factories, flying robots, or drones use for entertainment, monitoring and security purposes.

1. What are autonomous mobile robots (AMRs)?

* Autonomous mobile robots (AMRs) are the most task-oriented self-operating and self-maintaining machines that perform tasks without any intervention or support from humans. Autonomous mobile robots are capable of doing different tasks by overcoming obstacles and hindrances.

1. In what sense are Artificial Neurons useful?

* Artificial Neurons is a futuristic technology that will provide changes, improvements and keep in shape of automation and mechanization of all essential types of business process with the help of robots, computer programs, and other modern equipment and software platforms.

1. What are AGI and ASI?

* Artificial General Intelligence (AGI) is known as deep artificial intelligence, meaning it has a deeper equal to thinking, understanding, learning, and applying intelligence to solve certain problems while Artificial Super Intelligence (ASI) is known as the most advanced artificial intelligence, meaning it has the capability of the most genius brain on the earth. This is just a fictional idea, but it is possible in the near future it will develop.

1. Why is Digital Twing (DT) technology important?

* Digital Twing (DT) technology is important because it helps industries to solve and operate failures of products and processes to lessen the error of the product. DT also helps to save the prototyping cost.

**ICT Seatwork**

**Chapter 11**

1. How do modern technologies impact cybersecurity?

* Because of the advancedment and emerging technologies, it is often skipped and leave the important security that leads to ease of hackers too easy to hack software applications, shutdown security system and create cyber-attacks.

1. How are the advanced technologies affecting cybersecurity?

* Advanced technologies affect cybersecurity because of the excitement of using advanced technologies. Advanced technology has a great benefit of features that leads to excitement for the user that they eventually forgot to secure some data that leads to hackers to easily get their data and privacy.

1. Extensive data exposure: what are the risks?

* Some common risks are mismanagement in password creation, maintenance and storage by the clients. Also increased number of user accounts with huge number of devices and related services are most prone to data exposure.

1. Is there a strategy for controlling cyber breaches?

* The strategy to control cyber breaches is knowing or taking care of the impact of those technologies on privacy breaches.

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

* The main reason why it increased the shortage of cybersecurity professionals is cybersecurity profession is very hard and needs lot of knowledge. It takes a lot of time to become professional in cybersecurity and it also needs to be highly skilled in order to get a job in this profession.

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

* Cyber-attacks have a bad impact in terms of business such as it costs a lot of money that is to be spent in maintenance and enhancement of cybersecurity system and professionals.

1. What are the main reasons for data exposure?

* The main reasons for data exposure are the most common outdated software and devices that are not updated regularly. It is important to update the software system because it offers highly secure services.

1. What is Risk?

* Risk is about the chances or probability of losing in certain events.

1. How can cybersecurity affect national security?

* The effect of cybersecurity in national security is 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?

* Zero trust policy is about never trusting anyone.