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Chapter 10

1. How can Futuristic Technology be defined?

- Future Technologies makes people’s life easier in different domains

1. Which are the top Futuristic Technologies?

- There are many technologies mentioned but here are the top 5: 3d printing, 6G technology, Autonomous Robots, Artificial Neurons, Artificial General Intelligence.

1. How did 3D printing begin?

- 3d printing begins as a concept introduced by Murray Leinster in 1945.

1. What are the applications of 3D printing?

- There are many 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?

- 6G uses wireless technology, it has transmission technology that uses upper spectrum in terahertz range to offer much more speed and data throughput or capacity. It also supports more advanced ICT tech such as virtual reality and augmented reality in real - time.

1. What is the need for 6G technology?

- The needs for the 6G technology is: The convergence of technology, The incorporation of high performance computing, Internet of things network and lastly is Mobile edge computing.

1. What is a data center?

- Data center is a service that demands highly data bandwidth that will rule the future of the ICT businesses to provide support to other industries but are still not getting enough bandwidth to cater the emerging demands.

1. What is an autonomous robot?

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

1. What are autonomous mobile robots (AMRs)?

- it is a 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 was used to get the inputs and make a decision and pass the results to the next level if the neuron calculates that the weight of the output is such that it should be send to the upper level or noeds or neurons.

1. What are AGI and ASI?

- artificial general intelligence (AGI) also referred to as deep artificial intelligence that is equal to the thinking, understanding, learning and applying intelligence. While artificial super intelligence (ASI) is the most advanced form of artificial intelligence.

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

- It is important because it’s advancement will change the change the shape of the industries significantly.

Chapter 11

1. How do modern technologies impact cybersecurity?

- The race of capturing more markets with the help of advanced advanced and emerging technologies often leave numerous security aspects skipped and overlooked, so the hackers exploits the possible vulnerabilities and overlooked loopholes in the security.

1. How are the advanced technologies affecting cybersecurity?

- Advanced technologies are affecting cybersecurity by the growth of global losses to the business caused by cybercrimes is expected to remain above 15% year over year for the projected time period.

1. Extensive data exposure: what are the risks?

- The risk is that you will be in an environment where the hackers and malicious actors are more organized and bold to attack

- there is also a huge shortage of cybersecurity professionals to counter them.

1. Is there a strategy for controlling cyber breaches?

- There mare may strategies in controlling it: Continual monitoring and updating software and hardware tools, Training the company staff as well as the users, Use advanced technologies in communication,Usage of highly secure technologies in cybersecurity systems, Implementation of defensive AI.

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

- Because of the advancements in the emerging technologies and newly introduced technological business ecosystems.

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

- It causes damage to them and the scale of damage caused by the threats is huge in trillions a year.

1. What are the main reasons for data exposure?

-The reasons are: huge number of devices that is used in highly diverse environments of IoT, Increased number of user accounts with huge number of devices and related services are prone to data exposure, Mismanagement in password creation, maintenance, and storage, Outdated software and devices, continual emergence of innovative techniques.

1. What is Risk?

- Is the chance/ possibility of something bad will happen.

1. How can cybersecurity affect national security?

- It can tear the social fabric and community harmony in any country.

- It stirs political chaotic conditions.

- It creates panic and social disturbances.

- Stealing and manipulation of data.

- Loss to major businesses.

1. What is Zero trust policy?

- it is what you do in cybersecurity, where you will trust no one and implement Zero Trust eXtended.