Task 1)

a) The best solution I would suggest as a CIO is to implement drone deliveries. Where the drone flies to the specific house, delivers the package and returns back to the warehouse. This would cut down the time a lot compared to today's solution: Door to door delivery. If the warehouse has the item in stock, the customer could potentially have the package in just minutes after ordering.

   If the customer could choose the drop spot for the package, it could also make a huge impact on package theft. Which is a huge problem for the American market, around 210 million packages are stolen each year! By having the drone drop of the package in a backyard where the thieves are less likely to enter.

b) I would use a drone with AI technology, where the drone could read and analyze the drop off spot. To see if the spot is safe enough for a package and if it’s a rooftop or not. Kinda sad if you need to retrieve your package from your own rooftop.

c) My role as a CIO within UPS is to analyze processes and technology within the company and to come up with suggestions on change to make the business more efficient. All to reach the goal of the business.

d) As a CIO I would most likely try to hire somebody with the type of skills required to implement the solution. This person could teach the other employees about the specific skill and it would close the skill gap in the business. If it is not possible to hire somebody with the skills that are required. Then I would send a few employees on different courses where they can learn about the skill.

e) My solution would impact the number 13, “climate action”. Using drones to deliver packages directly from the warehouse would cut down a big chunk of

the emissions from the delivery cars for UPS. It would cut the emission on Co2 and limit the usage of tearage on the local roads. This would lead to less contamination that impacts the local environment and the globe.

Task 2)

a) Many say that the future is in virtual reality, Meta(Facebook) are forexaple making a “metaverse”. The metaverse is a virtual reality where you can experience many different inputs and outputs. The solution is obvious in the virtual universe where the teacher could give the students a reality they need to pass. Example: A lab where the students need to combine two different elements and see what happens. The students would see the result, get the feeling of objects and could also collaborate in this virtual universe.
b) This could also be a virtual universe, just like an exam where every student sits in a classroom and has an exam. If the student takes off the headset for some reason without alerting the guards the teacher/guard gets a notification about it. The teacher could also mute all the students that are in the virtual universe. Making it impossible for students to communicate with each other.
c) I would make it based around the technology with the virtual reality headset. In recent years the improvement around virtual reality headsets have been immense. By using the newest technology and code language that would generate very realistic realities for the students and teachers. This is for making the reality as realistic as possible and give the students the best learning experience. The solution needs to be easy to use for all parts. Not many teachers are good with tech so an easy to use solution is important.
d) The biggest challenge with online learning is the lack of experience with digital tools. This is very time consuming for all parts when everyone needs to wait for people that don’t understand the technology. Example: Zoom call with the teacher and the teacher does not know how to turn on the microphone.
   But there are also different challenges about online learning. People are easily distracted when they are in a different setting. When at home there are

a lot of different distractions that could disrupt the learning. People also don't interact in the lecture the same as they did when it was physical.

e) The SDG my solution with a positive impact is number 4. This is because with the virtual universe the teaching is more giving compared to slow and boring Zoom calls. Where students can physically touch objects, play with different scenarios and interact with each other… Even though they are not in the same room. This would give and overall better quality of education.

Task 3)

a) The digital strategy I would mitigate is artificial intelligence for analyzing different evaluations. This would give the patient a greater chance of correct evaluation and treatment. Making it less likely for human errors and misdiagnosis. By using AI the chance of earlier disease detection is greater. Making the patient more likely to survive and spend less time in the hospital. Decreasing the work for the healthstaff in the hospital.

b) By using AI technology. The computer would read all the images faster than a doctor, analyze them faster and give a more precise answer on what the problem could be. This will reduce the workeffort for many people in the hospital and give the patients a more certain diagnosis.

c) The advantages of implementing this solution to the cloud would be that it is portable and scalable offered by the cloud. Even though the implementation is: Public, private, hybrid or multi-cloud. The big negative side is that data could be stolen by hackers. Data about a person is the most sensible data and should never get leaked or stolen. Also cloud services are under constant attack from DDOS attacks. DDOS stands for denial of service and can be done by sending large amounts of data to the servers of the cloud.

d) I would host different events to complete the projects. Maybe have a hackathon on the topic of AI in healthcare. This would boost the invention and development for a low price of maybe a prize pool.

e) The SDG this digital transformation would impact is the number 3, "Good health and well-being". This is because of the work of the AI that gives the patient a greater chance of correct diagnosis. Also the AI has a chance to notice for example cancer earlier than the human eye. The earlier it gets

detected the less likely the cancer will spread. So AI is the difference between life or death in some cases.

Task 4)

a) **Defensive** is referred to protect the business from competitors. This could for example be businesses that undercut to get all the customers so new competitors go bankrupt.
Offensive is the opposite, by disrupting the rest of the industry. Example: Apple who made the first phone with touch screen technology. The whole industry was changed after that day and never looked back.

b) Example many shops and businesses lost ALL their customers overnight because of covid-19 and lockdowns. They needed to adapt to the environment, so many businesses started their own website and offered free home deliveries. If Covid never happened they would never ever have started the website and home deliveries.

c) Is when the developers choose to have a less functional code and deliver faster than a perfect code and longer delivery. The space in between these two are the “technical debt”. If the debt is not paid it would be harder to implement changes later.

d) The most normal ones are: Lack of an industrial digital transformation strategy, lack of top-down support from board, inward focus (narrow minded) and mismatch of planning. (Powerpoint, chapter 9 “Pitfalls to avoid”. Page 3)

e) Lighs-out manufacturing means that there is no humans working on the manufacturing phase. Because of that there is no need for lights. Because the whole process is fully automated. Raw material comes in, products come out.