1. [4 points (1x4=4)] Which cloud deployment model would you choose for each of the following? Why? Please justify your answer briefly (within 5 sentences).

(a) The UAB Hospital, which has to store millions of patient medical records containing sensitive data and also a lot of research publications that are public.

Ans. I would choose the hybrid cloud deployment model. The hybrid model is the best of both worlds. The sensitive patient records can stay at the private cloud and the the public research publications can reside on the public cloud allowing unrestricted access. Since a hospital has a lot of financial resources, they can afford to spend on IT infrastructure and system admins.

(b) Skywalker Saber Industries -- A galactic defense contractor which works on 100% confidential, sensitive, and secret data on lightsaber design.

Ans. Skywalker Saber Industries must use a private cloud. The nature of data demands absolute security and privacy and complete control by the organization. Cost won't be a problem for a private contractor, and considerable expenditure on IT resources is a necessary sacrifice.

(c) The Kaleidoscope -- UAB's student newspaper that wants to digitize its archives of newspaper page photos.

Ans. Kaleidoscope is part of student media and its archives should be publicly accessible. Therefore the public cloud deployment model is best for this case. It is the most inexpensive to use and has the least management overhead. The security and privacy issues are not a problem in this case since the student newspaper is accessible by any user in the world.

(d) All the K-12 public schools in the Birmingham area that want to consolidate their IT infrastructure.

Ans. All the K-12 public schools will constitute a community, a group of organizations that share a common goal. They must use a community cloud because it allows collaboration with community participants. The cloud can be managed jointly by all the parties. The data will be inaccessible outside organizational boundaries and the resources can be shared with all the members of the community and they can divide the cost among themselves.

2. [4 points] Assume that you are a founder of a startup, whose product has a chance to go viral and get millions of users within a few days or weeks after launch. However, you have limited capital resources, and you can only attract more venture capital for IT resources after your product starts to get many users.

Would the cloud computing model be helpful to you to launch your startup with limited capital/resources? Explain your answer.

Ans. The cloud computing model would be perfect for my startup for the following reasons:-

- **I don't have to worry about capacity planning or sudden disavailability of new resources. I can balance peak usage requirements without unnecessary expenditure of funds by provisioning IT resources dynamically on demand and releasing them when demand decreases. I don't have to worry about sudden lack of resources because the cloud is a seemingly infinite pool of resources with massive scalability and flexibility. Therefore I can easily and efficiently accomodate millions of users if my product goes viral.**

- **I don’t have to worry about excessive costs because the cloud computing expense model is a pay-as-you go model which calculates cost on usage metrics, and does not have any huge upfront inital cost.**
- **I don’t have to worry about acquisition or operational costs or management and maintenance overheads. The cloud provider wil take care of that for me. The cloud is a vast expanse of IT resources tailored to every need, so I’ll easily be able to obtain resources suited to my requirement. This makes it easier for my startup to get off the ground with limited capital.**
- **I can have organizational agility and increased scalability due to the above reasons. I have access to a powerful, unlimited and scalable pool of relatively cheap IT resources that can be instantly provisioned and deprovisioned based on processing requirement. I can utilize my capital judiciously and efficiently by avoiding large scale invesments on IT infrastructure or excessive costs for renting cloud services for a product that may or may not take off. The barrier of entry for startups into cloud services is lowered considerably due to these advantages.**