1. The Dr. Tanis AI processes and stores personal medical information. Not only does it take this information in the form of input from the patient, it also has access to that patient's records. What laws and/or regulations do you think GCPG is subject to in its development and operation of Dr. Tanis? Why are these laws and/or regulations applicable to Dr. Tanis? What are these laws and/or regulations meant to protect?

2. The personal medical information handled by Dr. Tanis needs to be kept private and secure when it is within the organization's networks and systems, as well as when that information traverses the Internet. What standards and/or best practices do you think apply to GCPG's security needs when it comes to Dr. Tanis? Why are these standards and/or best practices applicable to Dr. Tanis? What guidelines do these standards and/or best practices provide?

3. The Dr. Tanis AI needs access to a great deal of this health data, but at the same time, GCPG sees the value in minimizing data collection, sharing, and storage. Why are these business needs in conflict? How might you reconcile these two conflicting needs? Be sure to explain your reasoning using what you learned in the course.

4. Dr. Tanis currently has very few restrictions when it comes to the severity of a patient's medical issue. It can prescribe treatment for everything from the common cold to type 2 diabetes. Should the AI have this responsibility without needing to consult a human doctor? Should there be some form of human oversight to prevent Dr. Tanis from making decisions about serious medical concerns? Be sure to explain your reasoning using what you learned in the course.

5. A patient lies to Dr. Tanis about experiencing pain in order to get the Dr. Tanis AI to prescribe painkillers. Should Dr. Tanis have the power to prescribe medicine that is commonly abused by patients? In other words, should Dr. Tanis enable self-destructive behavior? Be sure to explain your reasoning using what you learned in the course.

6. The Dr. Tanis AI is able to prescribe antibiotics to patients. However, the overprescription of antibiotics has become an issue in recent years, as patients build up antibiotic resistances, reducing the effectiveness of treatment. Is it ethically justified for Dr. Tanis to prescribe antibiotics that benefit the individual, but might ultimately cause harm to society at large? Can these two competing pressures be reconciled? Be sure to explain your reasoning using what you learned in the course.

7. It's inevitable that Dr. Tanis will prescribe the wrong treatment on occasion, no matter how accurate it is. In some cases, this mistake can put the patient's health in jeopardy. At the moment, the Dr. Tanis AI has no ability to address emergency situations. Should it? In other words, should Dr. Tanis have the power to alert emergency medical personnel if a patient is complaining of worsening symptoms, even if it's a false alarm? What are the ethical implications of giving Dr. Tanis this responsibility? Be sure to explain your reasoning using what you learned in the course.

8. Despite its inevitable mistakes, the Dr. Tanis AI has proven to be better than human doctors at diagnosing some medical issues. However, Dr. Tanis is known to exhibit bias when it comes to certain protected classes like race or gender. Although there is room for minimizing this bias through coding/technical improvement, right now that's not feasible. Is GCPG still ethically justified in operating Dr. Tanis? In other words, does its general diagnostic performance outweigh its biases? Be sure to explain your reasoning using what you learned in the course.

9. Although it has a high degree of skill in its diagnoses, the decisions made by the Dr. Tanis AI are not always easy to understand. Even a machine learning practitioner has trouble explaining how Dr. Tanis correctly or incorrectly diagnosed an illness. There may be ways to make the system more explainable, but this could negatively impact its performance. Why is explainability important to an AI system? How might you reconcile the conflict between performance and explainability? Be sure to explain your reasoning using what you learned in the course.

10. Given all of what you learned about GCPG and Dr. Tanis from the scenario and the previous questions, what ethical principles do you believe are of greatest concern to GCPG in the development and operation of Dr. Tanis? Why are these principles relevant and important?

11. **Given the ethical principles you identified as being most important to the Dr. Tanis project, what ethical frameworks do you think would be most helpful in addressing these ethical dilemmas? Why?**