**Question bank for data science in healthcare (Honors)**

**Semester: VII**

**5 Marks Questions**

1. What are the challenges involved in using EHR ?



1. List the components of EHR.
2. List the benefits of EHR.



1. What are the barriers to Adopting HER?



1. Describe in brief different modalities in biomedical image analysis.
2. List different methods for object detection in biomedical image analysis



1. List the challenges in healthcare data analysis.

**10 Marks Questions**

1. Explain the significance of Electronic Health Records (EHR) in improving healthcare delivery, citing specific benefits and components of EHR.



1. Discuss the barriers and challenges associated with the widespread adoption of Electronic Health Records (EHR) and propose potential solutions.



1. How can phenotyping algorithms contribute to personalized medicine, and what challenges might arise in utilizing EHR data for this purpose? Provide examples.



1. Explore the various biomedical imaging modalities and their applications in healthcare. Discuss the importance of image segmentation and registration in this context.



1. Design a scenario where object detection in biomedical imaging plays a crucial role in early disease diagnosis. Describe the steps involved and potential challenges.



1. Examine the role of mining sensor data in healthcare. Provide examples of how this data can be leveraged to improve patient outcomes and healthcare processes.



1. Discuss the challenges inherent in analyzing genomic data for personalized medicine. How can this data be effectively utilized, and what ethical considerations should be taken into account?



1. Examine the applications and challenges of data analytics for pervasive health. Discuss how analytics can be extended to improve healthcare in various settings.



1. Discuss the importance of fraud detection in healthcare data analytics. Provide examples of fraudulent activities and strategies to prevent and detect them.



1. Discuss the concept of Clinical Decision Support Systems (CDSS) and their impact on healthcare decision-making. Provide examples of situations where CDSS can be particularly beneficial.



1. Examine the role of computer-assisted medical image analysis systems. Discuss the significance of mobile imaging and analytics for biomedical data, providing real-world examples.



1. Discuss the challenges associated with personalized medicine and the ethical considerations involved in tailoring healthcare interventions based on individual genomic data.



1. Examine the potential of mining information from clinical text for clinical applications. Provide examples of how this information can be utilized to enhance patient care.



1. Explore the intersection of social media use in healthcare and its impact on public health research. Discuss the potential advantages and limitations of using social media data in healthcare contexts.



1. Provide an overview of methods for data publishing in healthcare. Discuss the implications of data sharing and potential methods to ensure privacy and security in healthcare data publications.

