

Course Code: <b>HDSC701</b> Date of Exam: <b>13/12/2023</b>	Nov - Dec. 2023 (B.Tech.) Program: <b>DS Scheme : I</b> Examination: <b>Honors</b> Semester: <b>VII</b> Course Name: <b>Data Science for Health and Social Care</b> Duration: 2.5 Hours Max. Marks: 60
--	--

Instructions:  
 (1) All questions are compulsory.  
 (2) Draw neat diagrams wherever applicable.  
 (3) Assume suitable data, if necessary.

		Max. Marks	CO	BT level
<b>Q 1</b>	<b>Solve any six questions out of eight.</b>	<b>12</b>		
i)	State major barriers to adopting EHRs ?	2	CO1	U
ii)	Explain the Genome analysis tools ?	2	CO2	U
iii)	Distinguish between Semantic and Syntactic analysis ?	2	CO3	An
iv)	Define and explain outbreak of infection ?	2	CO4	U
v)	List out the challenges in Healthcare data analysis ?	2	CO2	R
vi)	List out the standard measures of the NLP system ?	2	CO3	R
vii)	Explain manual and automated indexing ?	2	CO5	U
viii)	List a common biomedical image analysis task ?	2	CO6	R
<b>Q.2</b>	<b>Solve any four questions out of six.</b>	<b>16</b>		
i)	State and explain challenges of using EHR data ?	4	CO1	U
ii)	Explain context-based information mining of clinical text ?	4	CO3	U
iii)	Use several signal processing techniques to remove noise from ECG measurements, depict this in detail ?	4	CO2	Ap
iv)	Explain identifying fraudulent-claims?	4	CO6	U
v)	With the use of different alternative clinical prediction models, review on the clinical predictions ?	4	CO5	Ap
vi)	Explain the evolution of the Internet in detail ?	4	CO4	U



**K. J. Somaiya Institute of Technology, Sion, Mumbai-22**  
**(Autonomous College Affiliated to University of Mumbai)**

Course Code: <b>HDSC701</b> Date of Exam: <b>13/12/23</b>	Nov – Dec. 2023 <b>(B.Tech.) Program: DS Scheme :I</b> Examination: <b>Honors</b> Semester: <b>VII</b> Course Name: <b>Data Science for Health and Social Care</b> Duration: 2.5 Hours	Max. Marks: 60
--	--	----------------

<b>Q.3</b>	<b>Solve any two questions out of three.</b>	<b>16</b>		
i)	Explain any four SPM Mining medical applications in detail?	8	CO5	U
ii)	Explain in detail Clinical Decision Support Systems?	8	CO6	U
iii)	Explain clinical report processing challenges ?	8	CO3	U
<b>Q.4</b>	<b>Solve any two questions out of three.</b>	<b>16</b>		
i)	Compare Rule-based , Pattern-based , and ML-based approaches in the context of clinical text processing?	8	CO3	An
ii)	Describe privacy-preservation with the use of 'Generalization' and 'Synthetic Data Creation' techniques ?	8	CO5	Ap
iii)	With the use of different sources of social media, depict the public health monitoring ?	8	CO4	Ap

\*\*\*\*\*