

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

April – May 2023		
(B.Tech / M.Tech.) Program: Scheme II:		
Examination: TY Semester: VI		
Course Code: AIDLC6051 and Course Name: AI in E-Commerce		
Date of Exam: 22/5/23	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
Q 1	Solve any six questions out of eight:	12		
i)	What are some common security threats in e-commerce?	02	CO2	U
ii)	In a decision tree, if a node has 3 possible outcomes with probabilities 0.5, 0.3, and 0.2, what is its entropy?	02	CO3	Anal ysis
iii)	What is PageRank, and how does it work?	02	CO4	U
iv)	List the components of a marketplace.	02	CO1	U
v)	How NRF (4-5-4) calendar is helpful in Ecommerce analytics	02	CO5	U
vi)	Distinguish between forward and reverse auctions.	02	CO6	U
vii)	What is the relationship between entropy and information in decision trees?	02	CO3	U
viii)	What are some limitations of Web Clickstream Analysis?	02	CO4	U
Q2	Solve any four questions out of six.	16		
i)	Differentiate between private and public e-marketplaces.	04	CO1	U
ii)	How does m-commerce differ from ECommerce?	04	CO2	U
iii)	What is Regression Analysis, and how can it be used to model the relationship between two or more variables?	04	CO3	U
iv)	What is personalization in web content mining, and how is it achieved?	04	CO4	U

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v)	How story telling technique is useful for Ecommerce analysis?	04	CO5	U																																																							
vi)	What are some common challenges associated with e-commerce application development, and how can they be addressed?	04	CO6	U																																																							
Q.3	Solve any two questions out of three.	16																																																									
i)	What is PCA analysis, and how is it used in image matching?	08	CO5	U																																																							
ii)	What are some challenges associated with global e-commerce, and how can businesses overcome them?	08	CO6	U																																																							
iii)	How do web crawlers work, and what are some of their limitations	08	CO4	U																																																							
Q.4	Solve any two questions out of three.	16																																																									
i)	What are Recommendation Systems, and how do they work to improve business.	08	CO3	U																																																							
ii)	Calculate entropy of dataset before splitting any attribute and after air filter type.	08	CO3	Apply																																																							
	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Room Size (sqm)</th> <th>Number of Occupants</th> <th>Time of Day (hr)</th> <th>Air Filter Type</th> <th>Label</th> </tr> </thead> <tbody> <tr><td>20</td><td>2</td><td>14</td><td>Basic filter</td><td>Comfortable</td></tr> <tr><td>25</td><td>4</td><td>12</td><td>HEPA Filter</td><td>Comfortable</td></tr> <tr><td>30</td><td>6</td><td>16</td><td>Basic Filter</td><td>Too Hot</td></tr> <tr><td>18</td><td>3</td><td>10</td><td>Carbon Filter</td><td>Comfortable</td></tr> <tr><td>15</td><td>1</td><td>18</td><td>HEPA Filter</td><td>Too Cold</td></tr> <tr><td>28</td><td>5</td><td>13</td><td>Carbon Filter</td><td>Comfortable</td></tr> <tr><td>22</td><td>2</td><td>15</td><td>Basic Filter</td><td>Comfortable</td></tr> <tr><td>16</td><td>2</td><td>11</td><td>HEPA Filter</td><td>Too Hot</td></tr> <tr><td>21</td><td>4</td><td>14</td><td>Carbon Filter</td><td>Comfortable</td></tr> <tr><td>24</td><td>3</td><td>17</td><td>Basic Filter</td><td>Too Cold</td></tr> </tbody> </table>	Room Size (sqm)	Number of Occupants	Time of Day (hr)	Air Filter Type	Label	20	2	14	Basic filter	Comfortable	25	4	12	HEPA Filter	Comfortable	30	6	16	Basic Filter	Too Hot	18	3	10	Carbon Filter	Comfortable	15	1	18	HEPA Filter	Too Cold	28	5	13	Carbon Filter	Comfortable	22	2	15	Basic Filter	Comfortable	16	2	11	HEPA Filter	Too Hot	21	4	14	Carbon Filter	Comfortable	24	3	17	Basic Filter	Too Cold			
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iii)	Explain 4 activities of customer relationship management in detail with neat diagram .	08	CO2	U																																																							
