DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE

Regular End Semester Examination – Summer 2022

Course: M. Tech. **Branch :** Computer Engineering **Semester :II**

Subject Code & Name: Data Science (MTCE1201)

Max Marks: 60 **Date:** **Duration: 3 Hr.**

Instructions to the Students:

1. *Solve Any Five Questions.*
2. *The level of question/expected answer as per OBE or the Course Outcome (CO) on which the question is based is mentioned in ( ) in front of the question.*
3. *Use of non-programmable scientific calculators is allowed.*
4. *Assume suitable data wherever necessary and mention it clearly.*

		(Level/CO)	Marks
Q. 1	**Solve the following.**		
A)	Explain Requirements and Applications of cluster analysis in data mining.	**Remember**	**6**
B)	What is Association Rule Learning? How does Association Rule Learning work?	**Understand**	**6**
Q.2	**Solve the following.**		
A)	When to use Random Forest over SVM and vice versa?	**Understand**	**6**
B)	Differentiate between Data Science, Machine Learning and Al. Python or R - Which one would you prefer for text analytics?	**Synthesis**	**6**
Q. 3	**Solve the following.**		
A)	Discuss heteroscedasticity in regression. How to identify heteroscedasticity? Explain the methods for resolving it.	**Application**	**6**
B)	What is correlation? State its type and Enlist the tools which are available in R for Correlation.	**Remember**	**6**
Q.4	**Solve the following.**		
A)	What is K-means clustering? How can you select K for K -means? Enlist different steps in the K-means clustering algorithm.	**Application**	**6**
B)	Explain various types of visualizations offered by R**.**	**Remember**	**6**
Q. 5	**Solve the following.**		
A)	What are the Challenges and application of Machine Learning in Data Science?	**Application**	**6**
B)	What is supervised and unsupervised machine learning? Explain these terms with real life examples. Enlist algorithm used in supervised and unsupervised machine learning.	**Remember**	**6**
Q. 6	**Solve the following.**		
A)	Hierarchical Clustering	**Remember**	**4**
B)	K-Fold Cross-Validation	**Synthesis**	**4**
C)	SVM Classifier	**Remember**	**4**

***** End *****

7A99B711EEC469D69A366D3272CA7B09