

**B.Tech. VI<sup>th</sup> Sem****END SEMESTER EXAMINATION April-May 2023**

Course Code: COCSC19/CDCSC19/CMCSC19/CACSC19

Course Title: Data Science Tools Workshop, Computer Hardware

Software workshop, AI Hardware and Tools Workshop,

Computing tools workshop

Time: 3 Hours

Max. Marks: 20

**Note: - Attempt all the five questions. Missing data/ information if any, maybe suitably assumed & mentioned in the answer.**

Q. No.	Question	Marks	CO
<b>Q1</b>	<b>Attempt any 2 parts of the following.</b>		
1a	What do you understand by TinyML? What is difference between TinyML and ML? Discuss the challenges of low power ML applications.	2	CO1
1b	What are the advantages of TinyML? Why microcontrollers for TinyML, not CPU? Explain with suitable example.	2	CO1
1c	Briefly example a capstone project one can implement utilizing data science or TinyML	2	CO5
<b>Q2</b>	<b>Attempt any 2 parts of the following.</b>		
2a	Briefly explain a capstone project one can develop utilizing R/Python programming language.	2	CO5
2b	What are the common goals of statistical modelling? Explain various characteristics of processed data?	2	CO2
2c	Explain the statistical and Programming features of R/Python programming language?	2	CO2
<b>Q3</b>	<b>Attempt any 2 parts of the following.</b>		
3a	Explain various data structures or packages used in R/Python?	2	CO2
3b	What is data visualization? Why is it important in business? What is its advantage?	2	CO3
3c	Briefly explain a capstone project one can develop for data visualization and analytics.	2	CO5
<b>Q4</b>	<b>Attempt any 2 parts of the following.</b>		
4a	How is distributed database processed using AI?	2	CO4
4b	What is Regularization and what kind of problems does regularization solve?	2	CO3
4c	Briefly explain a capstone project one can develop using distributed databases.	2	CO5

<b>Q5</b>	<b>Attempt any 2 parts of the following.</b>		
5a	What is DevOps lifecycle? Explain how the DevOps lifecycle works at every stage with an illustration infinite loop diagram with the related tools.	2	CO5
5b	What are the benefits and challenges of DevOps?	2	CO5
5c	Explain a capstone project one can develop using open-source framework focused on DevOps.	2	CO5