

Academic Council Meeting No. and Date : 03 / February 14, 2022

Agenda Number : 7

Resolution Number : 13 / 5.3



**VidyaPrasarak Mandal's
B. N. Bandodkar College of
Science (Autonomous), Thane**



Certificate course in Big Data Analysis

[With effect from Academic Year 2022-2023]

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Eligibility :

Passed 12th standard (HSC) of Maharashtra State Board / CBSE / ICSE board or equivalent.

Mode of Conduct :

Offline lectures / Online lectures

Structure of Programme

CourseCode	Course Title	No. of lectures	Credits
BNBCCBD1T1	Certificate course in Big Data Analysis	40	2

Syllabus

Course Code	Course Title	Credits	No. of lectures
BNBCCBD1T1	Certificate course in Big Data Analysis	2	
Unit I :	<ul style="list-style-type: none"> Big Data: Getting Started, Big Data, Facts About Big Data, Big Data Sources, Three Vs of Big Data, Volume, Variety, Velocity, Usage of Big Data, Visibility, Discover and Analyze Information, Segmentation and Customizations, Aiding Decision Making, Innovation, Big Data Challenges, Policies and Procedures, Access to Data, Technology and Techniques, Legacy Systems and Big Data, Structure of Big Data, Data Storage, Data Processing, Big Data Technologies 	10	
Unit II :	<ul style="list-style-type: none"> Computational approaches to modeling – Summarization – Feature Extraction – Statistical Limits on Data Mining - Distributed File Systems – Map-reduce – Algorithms using Map Reduce – Efficiency of Cluster Computing Techniques Nearest Neighbor Search – Shingling of Documents – Similarity preserving summaries – Locality sensitive hashing for documents – Distance Measures – 	10	
Unit III :	<ul style="list-style-type: none"> Theory of Locality Sensitive Functions – LSH Families – Methods for High Degree Similarities. Stream Data Model – Sampling Data in the Stream – Filtering Streams – Counting Distance Elements in a Stream – Estimating Moments – Counting Ones in Window Decaying Windows 	10	

Books for Reference

1.	
2.	
3.	
4.	

Pattern of Evaluation(8 Hours for examination, assessment and evaluation)

MCQ Test/ Online MCQ Test (Duration: 1 Hour)

Assessment and Evaluation of Case Study Reports submitted by participants (Topics for case study to be allotted by teachers in consultation with students)

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