PROGRAM CODE: DS7B
PROGRAM TITLE: Master of Technology (M.Tech.)
BRANCH: Big Data Analytics

- **BATCH: 2024-26**

PROGRAMME PROFILE

Introduction:

There are many applications, such as insurance and banking, social media, healthcare, e-commerce, telecommunications, climate change, weather forecast, etc., that are generating massive amounts of data, so called "Big Data", with volume, velocity, variety, veracity and value at an unprecedented scale. This has led to a critical demand of skilled professionals, who can mine, analyse and interpret the data. Making sense of this massive data is a very difficult challenge for scientific, technological and industrial disciplines.Data science or analytics provides techniques to handle the flood of big data generated across the world. It is concerned with the acquisition, storage, retrieval, processing and finally the conversion of data into knowledge where the quantum of data is very large.

Big data analytics draws from a diverse mix of statistics and operations research, machine learning, deep learning, algorithm design, and systems engineering. The Master of Technology (M.Tech.) programmein Big Data Analytics is designed to provide an in-depth knowledge of big data techniques, and their applications in improving business processes and decision making.This is a two year postgraduate interdisciplinary programme spread over four semesters and duly approved by AICTE, New Delhi.

The curriculum for this programme has been designed with inputs from industry and academia. The capstone of the programme is a dissertation during second year in which students apply the acquired theoretical knowledge in the programme to solve real-world business problems.

Objectives:

This programme is designed to equip its students with an in-depth knowledge of Big Data Analytics. At the end of the programme, the students will be able to:

• Appreciate the emergence of big data analytics as a competitive strategy.
• Analyse datasets by applying techniques from statistics, operations research, machine learning, deep learning, network analysis and data mining.
• Process unstructured data such as social media messages and machine generated click stream logs.

• Have a working knowledge of languages, platforms and tools that support statistical analysis and visualisation (R/Python), distributed computing (Hadoop/Spark) and pattern recognition.
• Apply the theories, techniques and tools to solve problems from a wide variety of industries such as manufacturing, services, retail, software, banking and finance, sports, pharmaceuticals, and aerospace.

Eligibility:

At least 55% aggregate marks in B.E./B.Tech. in any relevant branch of Engineering or Masters degree in Physics / Mathematics/ Statistics / Computer Science or any other equivalent degree. Relaxation of 5% marks in eligibility for sponsored/ SC/ ST candidates.

Age Limit: As per the directives of Government of Madhya Pradesh, there is no upper age limit for admission in various programmes.

Admission Procedure:

Indian Students:

GATE qualified candidates will be preferred for admission and admission will be given on the basis of merit of GATE score.The admission of Non-GATE students will be offered as per merit developed on the basis of score of CUET-PG conducted by NTA.

NRI/ Foreign Students:

Direct admission of NRI/ Foreign Students without entrance test (GATE/ CUET-PG), but Foreign students should have working knowledge of English.

Syllabus for Entrance Test

The candidate has to appear in the subjects as decided by the University for admission in this programme. The syllabus of such subjects will be as per NTA.

Seats: 24 and Additional 2 seats for EWS

Total Seats	URO	URF	STO	STF	SCO	SCF	OBO	OBF	NRI
24	7	4	3	2	3	1	2	1	1

Additional Seats:

Total Seats	EWS	EW-T	EW-NT
4	2	1	1

Duration:

Four Semesters (Two Years).

Scholarships:

Scholarship is provided directly to the GATE qualified candidates by AICTE through DBT (Direct Benefit Transfer).

Fee Structure: 2023-25

Semester	Academic Fee	Development & Maintenance Fee	Students' Services Fee		Examination Fee	Total (Rs.)	
			Boys	Girls		Boys	Girls
Odd	10000	7500	3630	3422	2750	23880	23672
Even	10000	7500	3202	2994	2750	23452	23244

Fees structure for the batch 2024-26 is under revision.

+ Sponsored Candidates will be charged Rs. 5000/- per semester additional as Development and Maintenance Fee.

- If a student repeats a paper(s) in a semester, an additional fee of Rs.500/- per paper shall be payable.
- Hostel Fee and Central Library Fee will be extra.
- For NRI/ NRI Sponsored/ PIO/ Foreign Nationals Belong to SAARC or BIMSTEC: Fee in each semester will be 2.5 times of the above mentioned existing total fee.
- Foreign Nationals Belong to other than SAARC or BIMSTEC: Fee of US$ 3500 per annum shall be payable on yearly basis.
- Caution Money (Refundable) and Alumni Fee (Chargeable in the First Semester):

Category	Caution Money	Alumni Fee
For Indian Nationals	Rs. 4,000	Rs. 500
For NRI/ NRI Sponsored/ PIO/ Foreign Nationals Belong to SAARC or BIMSTEC	Rs. 10,000	Rs. 1,000
Foreign Nationals Belong to other than SAARC or BIMSTEC	USD 500	USD 100

Learning Outcomes and Job Opportunities:

Fundamental knowledge in

computing tools and techniques in the field ofBig Data for solving real world problems.

Advanced knowledge in

Data Science and Analytics.

Ability for employment as

Data Scientist / Analyst, Consultant, Govt. Jobs, - Analyst, Professionals in Higher Education.

Ability for higher education and research in the areas of

Predictive Modelling, Data Science, Data Analytics.