SCHOOL OF COMPUTER SCIENCE AND INFORMATION TECHNOLOGY

PROGRAMME CODE: CS5B
PROGRAMME TITLE: MASTER OF SCIENCE (COMPUTER SCIENCE)

OBJECTIVES:

This is a two year master degree programme that aims to prepare professionals for the Computer industry and educational institutes. This post graduate course focuses on theoretical as well as practical's of computer science that enables the students to be knowledgeable in programming, networking, algorithms design, web technology, theory of computer science, software engineering, compiler design, artificial intelligence, computational techniques, analytical ability etc. The programme also covers interdisciplinary courses for improving their communication and management skills.

The broad objectives of the M.Sc. (CS) programme are as follows:

- To impart knowledge on techniques and theories related computer science which includes Computer Organization, Computer Architecture, theory of computer science, compiler design, data analytics, Machine learning, Artificial Intelligence, etc.
- To attain knowledge of computer science through core subjects, flexible and diverse program specific electives.
- To gain practical, hands-on experience of various programming languages and tools.
- To develop the critical skills and evolve basic competencies required in software industry like interpersonal skills, communication skills, working in team environment.

ELIGIBILITY:

B.C.A or B.Sc. or B.Sc.(Hons.) with Maths as a compulsory subject and any one of the following subjects: Computer Science, Electronics, Physics, I.T., Computer Maintenance, Elex. Eqpt. Maint.) with 50 % marks in aggregate for General / OBC candidates, and 45% marks in aggregate for SC/ST and Differently Able (DA) category candidates from a recognized University / Institute.

OR

Candidates who have appeared in final year degree examination can also apply. Admission will be finalized if the result is declared before August 14 in the admission year and the candidate secures min. % of marks as mentioned above.

AGE LIMIT: As per the directives of Government of Madhya Pradesh, There is no upper age limit for admission to various programmes.

ADMISSION PROCEDURE:

The admissions will be done as per merit in the entrance test conducted by the university.

SEATS: **30** (reservation as per state Govt. rules).

DURATION: Four Semesters (Two Years).

FEE STRUCTURE (2020-22):

Semester	Academic Fee	Development & Maintenance Fee	Students' Services Fee		Examination Fee	Total (Rs.)	
			Boys	Girls		Boys	Girls
First	12500	5500	3300	3111	2500	23800	23611
Second	12500	5500	2911	2722	2500	23411	23222
Third	12500	5500	3300	3111	2500	23800	23611
Fourth	12500	5500	2911	2722	2500	23411	23222

- Caution money (Refundable) of Rs. 4000/- will be charged additionally in the first semester.
- Alumni Fee of Rs. 500/- will be charged extra in the first semester.
- If a student repeats a paper(s) in a semester, an additional fee of Rs.500/- per paper shall be payable.
- For NRI/ FN/ PIO Candidates, a fee of US$ 3500 Per Annum shall be payable on yearly basis. They will have to pay a refundable deposit of US$ 500 once at the time of admission.
- Hostel Fee and Central Library Fee will be extra.

PROGRAMME STRUCTURE (2020-22):

First Semester:

Code	Title	Credits (L T P)
CORE COURSES		
CS5B-501	Computer Organization & Assembly Language Programming	5 (3-1-2)
CS5B-503	Programming and Problem Solving Using C	6 (3-1-4)
CS5B-505	Operating Systems	5 (3-1-2)
ELECTIVE COURSES-DISCIPLINE CENTRIC (Any One)		
CS5B-521	Discrete Structures	4 (3-1-0)
CS5B-523	Data and Computer Communication	5 (3-1-2)
ELECTIVE GENERIC: The students can choose following course or any other PG level generic course being run in this campus.		
CS5B-541	Communication Skills and Report Writing	3 (2-1-0)
CS5B-551	Comprehensive Viva * (*Compulsory)	4

Second Semester:

Code	Title	Credits (L T P)

CORE COURSES		
CS5B-502	Data Structures Using C++	5 (3-1-2)
CS5B-504	Database Management System	6 (3-1-4)
CS5B-506	Software Engineering	4 (3-1-0)
ELECTIVE COURSES-DISCIPLINE CENTRIC (Any One)		
CS5B-522	Computer Architecture	5 (3-1-2)
CS5B-524	Embedded Systems	5 (3-1-2)
ELECTIVE GENERIC: The students can choose following course or any other PG level generic course being run in this campus.		
CS5B-542	Organization and Management Concepts	4 (3-1-0)
CS5B-552	Comprehensive Viva * (*Compulsory)	4

Third Semester:

Code	Title	Credits (L T P)
CORE COURSES		
CS5B-601	Computer Networks and Security	5 (3-1-2)
CS5B-603	Object Oriented Programming using JAVA	6 (3-1-4)
CS5B-605	Theory of Computation	4 (3-1-0)
CS5B-607	English Language Lab	1 (0-0-2)
ELECTIVE COURSES-DISCIPLINE CENTRIC (Any One)		
CS5B-621	Computer Graphics and Multimedia	5 (3-1-2)
CS5B-623	Artificial Intelligence	5 (3-1-2)
ELECTIVE GENERIC: The students can choose following course or any other PG level generic course being run in this campus.		
CS5B-641	Data Analytics using R	6 (3-1-4)
CS5B-651	Comprehensive Viva * (*Compulsory)	4

Fourth Semester:

Code	Title	Credits (L T P)
CORE COURSES		
CS5B-602	Compiler Design	5 (3-1-2)
CS5B-604	Cloud Computing	5 (3-1-2)
CS5B-606	Internet & Web Technology	6 (3-1-4)
CS5B-608	Project	6
ELECTIVE COURSES-DISCIPLINE CENTRIC (Any One)		
CS5B-622	Design and Analysis of Algorithms	5 (3-1-2)
CS5B-624	Machine Learning	6 (3-1-4)
ELECTIVE GENERIC: The students can choose following course or any other PG level generic course being run in this campus.		
CS5B-642	Professional and Social Issues in IT	1 (1-0-0)
CS5B-652	Comprehensive Viva * (*Compulsory)	4

Note: The above programme structure can be modified as per requirement from time to time in accordance with University Ordinance No. 14.

PROGRAMME OUTCOMES:

- To understand both theoretical and practical concepts of computer science.
- To develop problem solving skills using logical and analytical techniques.
- To understand various programming languages and apply to solve real world problems from diversified domain.
- To develop better algorithms and analyze them.
- To apply software engineering principles in the development of computer software.

PROGRAMME SPECIFIC OUTCOMES:

- To learn use of numerous software systems in the wide range of areas such as Internet and Web Technology, Cloud computing, Algorithms, Networking, Compiler design, and Web design, Machine learning, Artificial Intelligence, etc.
- To develop better algorithms and solutions for Computing Problems.
- To understand latest tools and technology to undertake further research.
- To explore the modern tools and technology to produce cost effective and maintainable software.