

M.PHIL PROGRAMME

The SCSVMV University offers M.PHIL (Master of Philosophy) programme in full Time / Part Time mode of one year duration under semester pattern. Part – 1 being covered in the first semester and the Part – II in the second Semester.

1. Discipline : Computer Science
2. System : Choice Based Credit System
3. Duration : Two Semesters
- 4. Eligibility**

Candidates should have passed Master Degree in Computer Science or Computer application or Information Technology / Science with at least 50% of marks in the course from a recognized university under 10+2+3+2 system of study recognized by our university.

5. Selection Procedure

Research committee consisting of Dean (Academic), Head of the Department of Computer Science and Engineering will scrutinize the applications and select the eligible candidates for the program. A minimum of 10 candidates is required to run the program.

6. Course Works

Part – I

S.No	Sub.Code	Subject	Duration of exam	Marks		Credits
				In	Ex	
1.	MCS101	Research Methodology	3	20	80	4
2.	MCS102	Recent Trends in Advance Computer Techniques	3	20	80	5
3.	MCS103	Supervision Papers (Electives)	3	20	80	5
Total						14

Part – II

S.No	Sub. code	Subject	Marks		Credits
			In	Ex	
1.	MCS201	Dissertation	20	80	12
2.	MCS202	Viva Voce			4
		Total			16

The Question paper for Part – I examination consist of 8 questions out of which 5 are to be answered by the candidate each question carrying 16 marks each. The questions are to be distributed evenly from all the five units of the syllabus.

The Supervision paper has to be selected from a list of electives and the syllabus is decided by the Supervisor. The Supervisor has to guide the candidate to do the Dissertation in the related area given in the Supervision paper.

All other regulations of CBCS prevailing in the SCSVMV are applicable to M.Phil programme.

7. Dissertation & Viva Voce

The Dissertation has to be carried out for a period of six months after which a report has to be submitted and the candidate has to face Viva Voce examinations. Two extensions of three months duration each is permitted with a payment of extension fee.

The candidate will be examined by an external examiner along with the Supervisor for Viva Voce examinations. List of three external examiners is to be given by the guide to conduct the Viva Voce examination. Suitable Credit will be given for the candidate who submits a paper in National / International / Journal or Conference.

8. Supervisor

The Supervisor must be a faculty in the Department of Computer Science who has completed M.Phil Degree or Ph.D degree. In case of part time mode of registration the Supervisor can be an external member from a reputed institute who has completed M.Phil degree with 5 years of experience or a Ph.D. Degree. The external Supervisor has to be approved by a panel consisting of the Head the Department and the Dean (Academics). The external Supervisor may be remunerated appropriately for guiding the candidate. The Supervisor can guide at most five candidates in our university.

9. Attendance

- 9.1 To be eligible to appear for the examination a student must put in minimum of 80% of attendance in the course. However if a student having the attendance of 70% and above may be permitted with condonation.
- 9.2 A student who withdraws from the course or does not meet the required percentage of attendance must reregister for and repeat the course.

10. Passing of examination and Grading

- 10.1 Based on the performance each student will be awarded a letter grade to each course

Marks	Grade
90 to 100 Marks	'S'
80 to 89 Marks	'A'
70 to 79 Marks	'B'
60 to 69 Marks	'C'
55 to 59 Marks	'D'
50 to 54 Marks	'E'
Less than 50 marks	'F'
Insufficient attendance	'I'
Withdrawn from course	'W'

- 10.2 20% of the marks in each theory paper / practical are assessed internally.
- 10.3 There is no separate passing minimum in the CIA but the passing minimum in the university examinations (UE) is 40% and in aggregate of UE and CIA is 50%

- 10.4 A student who earns a grade of S, A, B, C, D, or E for a course is declared to have successfully completed that course and earned credits for that course. The student cannot repeat such a course.
- 10.5 A student who obtains letter grade 'F' in courses has to reappear for the examinations in that course.
- 10.6 A student who obtains letter grade of I or W in a course has to reregister for and repeat the course.
- 10.7 The following grade points are associated with each letter grade.
S-10; A-09; B-08; C-07; D-06; E-05; F-0
- 10.8 Course with grades I and W are not considered for calculation of grade point average or cumulative grade point average . F grade will be considered for computing GPA and CGPA.
- 10.9 GPA is the sum of the products of the number of credits of a course with the grade point scored in that course, taken over all the courses for the year / semester, divided by the sum of the number of credits for all courses taken in that year / semester. CGPA is similarly calculated considering all the courses taken from the time of admission.
- 10.10 Students who have secured a minimum of 30 credits and pass all the courses in the first attempt without extension of the dissertation work with CGPA of more than 8.25 out of 10 will be awarded distinction.
- 10.11 Students who have secured a minimum of 30 credits and complete the courses in one year and six months with CGPA of more than 6.5 and above out of 10 will be awarded first class. The theory papers for the above candidate must be completed within one year and two extension of the dissertation is permitted.
- 10.12 All other students who have secured a minimum of 30 credits and complete the courses in one year and six months will be awarded second class.
- 10.13 In any case the degree has to be completed within one year and six months otherwise the candidate has to reregister the course.

11. Assessment.

The break-up of assessment and examination marks is as follows

a) Internal Assessment	=	20 marks
b) External Assessment	=	80 marks
Total	=	100 marks

Internal Assessment is given based on class test and assignments given time to time.

MCS101 - Research Methodology

Unit I

Research : meaning – Purpose – Types of research – Significance of research in social and business sciences.

Steps in research: Identification, selection and formation of research problem – Research questions – Research design – Formulation of hypothesis – review of literature.

Unit II

Sampling technique: Sampling theory – types of sampling – Steps in sampling – Sampling and non-sampling error – Sample size – Advantages and limitation of sampling.

Unit III

Data for Research : Primary data – Meaning – Collection methods – Observation – Interview – Questionnaire – Schedule – Pretest – Pilot study – Experimental and case studies – Secondary data – Meaning – Relevance, limitations and cautions.

Unit IV

Processing data: Checking – Editing – Coding – Transcription and Tabulation – Data analysis – Meaning and methods – Quantitative and Qualitative analysis.

Unit V

Structuring the Report : Chapter format – Pagination – Identification – Using quotations – Presenting foot notes – abbreviations – Presentations of tables and figures.

Research Report: Types of reports – Contents – Styles of reporting – Step in drafting reports – Editing the final draft – Evaluating the final draft

Reference Books:

1. C.R. Kothari, Research Methodology: Methods and Techniques
2. Bannet, Roger Management Research
3. Young Pauline V, Scientific Surveys and Research
4. Goode and Ht, Methods of Social Research
5. Rummel & Ballalne, Research Methodology in Business
6. Selltiz et-al, Research Methods in Social Research
7. Emory William, Business Research Methods
8. Thakur, Devandra , Research Methodology in Social Sciences

MCS102 - Paper – II – Recent Trends in Computer Technology

UNIT – I

Computer Architecture: Fundamentals of computer design- Instruction set principles and example – Pipeline interconnection networks – vector processors

UNIT – II

OVERVIEW OF WIRELESS NETWORKS: Overview of wireless Networks – Principle of Wireless Network Operation – Network planning – Wireless Network operation – Wireless WANS : GSM AND TDMA Technology – CDMA Technology – Mobile Data Networks

UNIT –III

MULTIMEDIA SYSTEMS : Multimedia System Design – An Introduction – Compression and decompression – data and File Format standards – Multimedia Input / Output technologies – Multimedia Application Design.

UNIT – IV

Introduction to UML: The meaning of Object-Orientation, conceptual model of the UML, Architecture - Basic structural Modeling - Advanced structural modeling - Class & object diagrams - Collaboration diagrams -Sequence diagrams - Behavioral Modelling.

UNIT –V

Data mining Definition - Data mining Tasks - Classification – Clustering – prediction – Association rules – Time series Analysis – Sequence Discovery – Regression - Architecture of a typical Data Mining System - Data mining Techniques – Decision Trees – Neural Networks – Genetic Algorithms – Hypothesis Testing - Four Generations of Data Mining Systems - The Future of Data Mining

Reference Books

1. John L. Hennessy and DAvid A Patterson, “ Computer Architecture – A Quantitative Approach “, Morgan Kaufmann Publishers, 3rd Edition, New Delhi, 2003.
2. Kaveh Pahlavan and Prshant Krishnamurthy, “ Principles of Wireless Networks, a Unified Approach”, Pearson Education Ltd., 2004.
3. Prabhat K. Andleigh and Kiran Thakrar, “ Multimedia Systems Design”, PHI, New Delhi , 2003.
4. Fundamentals of Object Oriented Design in UML, Meilir Page-Jones, Addison Wesley, 2000. ISBN : 981-4053-83-X.
5. Margart M. Dunham, “ Data Mining- Introductory Advanced Topics “, Pearson Education Ltd., New Delhi 2004.

Paper – III

MCS103 - Background Study in the field of Specialization

List of Specialization Papers

1. Core Paper

- i) OOPS / OOAD
- ii) Advanced Architecture
- iii) Advanced Database Concepts
- iv) Advanced Software Engineering
- v) Advanced Programming Methods

2. Mathematical Foundation of computer science

- i) Soft Computing Techniques
- ii) Automata Theory
- iii) Computer Simulation & Modeling
- iv) Discrete Mathematics

3. Communication Networks

- i) Digital Communication
- ii) Advanced Computer Networks
- iii) Web Technology
- iv) Network Security
- v) Mobile Computing

4. Applied Computer Science

- i) Digital Image Processing
- ii) Micro Controller
- iii) Natural Language Processing
- iv) Bio Informatics
- v) Remote Sensor