MOHANLAL SUKHADIA UNIVERSITY: UDAIPUR

MASTER OF SCIENCE IN INFORMATION TECHNOLOGY

(A Choice Based Credit System Effective from 2011-12)

1. Duration of the Course

The Master of Information Technology M.Sc. (IT) shall be of four semesters duration which will be conducted in two years. Each semester will be approximately 5 months (minimum 90 working days in a semester) duration.

2. Eligibility:

Candidates seeking admission to the first semester of Master of Information Technology must have a B.Sc. or equivalent/B.C.A degree (10+2+3 scheme) or Graduation followed by PGDCA or equivalent with minimum 50% marks from a recognized university.

3. Admissions:

Admissions to the first year of M.Sc.(IT) shall be made on the basis of an entrance test conducted by the university.

4. Medium of Instruction

The medium of instruction and examination shall be english.

5. No. of Seats

Total 25 seats (Self –Finance seats). Or as decided by university

6. Curriculam

6.1 M.Sc (IT) Programme has a two year , four semester prescribed course structure which in general terms is known as curriculum. It prescribes courses to be studied in each semester as given under courses of study and examination

6.2 M.Sc. programme shall have a curriculum and course contents (syllabi) for the courses recommended by the committee courses in Informatics and Computational Sciences and approved by the academic council of the university.

6.3 The programme shall follow a credit based semester system. Each academic year is divided in to two semesters as prescribed in 6.1

6.4 Course Credit System/Structure

In general a certain quantum of work measured in terms of credits is laid down as the requirement for a particular degree. A student earns the credits for a particular course by fulfilling the academic requirements viz. attendance and evaluation. The total credits required for completing the M.Sc.(IT) program shall be 108. The total number of credits in each semester (I to III semester) shall be 30 and 18 in the IV semester. Number of credits for a course in any semester is calculated as follows.

Sr.No	Course	Credits
1	One Lecture or tutorial hr/week	1
2	Two Laboratory hours/week	1
3	Seminar 4hrs/week	2
4	Extension Activities 2hrs/week	1
4	Full semester project	18

Credits are awarded to a student for Theory / Laboratory / Other Courses only if the student satisfies the minimum attendance requirement and the evaluation requirements.

6.5 Seminars

Seminar is a course requirement wherein under the guidance of an internal guide a student is expected to do in depth study of topics allotted to them by doing literature survey, and understanding different aspects of the technology. It is mandatory to give a seminar presentation before a panel constituted for the purpose. 4hrs/week is allotted for seminars, which will be used for seminars by students as well as extension lectures/ seminar by faculty members as well as subject experts from other institutions. Participation in the seminars by the students shall be compulsory. The credits shall be awarded on the basis of the following:

(a) Understanding of the concept and presentation by the student concerned.(50%)
(b) Literature survey & detailed report (25%)
(c) Active participation & attendance in the seminars (25%)

6.6 Project Work

Project work will be offered in the fourth semester which shall be typically carried out in the industrial/ Research organization individually by the candidates admitted in the sixth semester. A faculty member will be appointed to guide the students and shall be called the internal guide and the scientist / manager guiding the student (at site) shall be called as external guide. It is mandatory to submit the progress report at every 30 days to the internal guide through the external guide giving number of hours the candidate has worked for the project. During the project period, a student is expected to work at least 36 hrs/week. Thus a candidate who successfully completes the project work can earn 18 credit points. At the end of semester-IV , the student has to submit a formal individual project report in a prescribed format. He is required to submit a certificate of successful completion of the project from his external guide giving total number of hours the candidates has worked toward the project and his conduct during the project work. Evaluation of the project will be carried out by a committee consisting of external examiner and internal examiner by examining the project report, presentation of the project and demonstration of the working model of the project with sufficient data to check the working of the project.

6.7. Earning credits:

At the end of every course, a letter grade is awarded in each course for which a student had registered. On obtaining a pass grade, the student accumulates the

course credits as earned credits. A student's performance is measured by the number of credits that he/she has earned and by the weighted grade point average. Some of the subjects in a course may be marked as audit course. Grades obtained in the audit courses are not counted for computation of grade point average. However, a pass grade is essential for earning credits from an audit course. A minimum number of earned credits are required in order to qualify for a degree and continuation of registration at any stage.

The credit system enables continuous evaluation of a student's performance, and allows the students to progress at an optimum pace suited to individual ability and convenience, subject to fulfilling minimum requirement for continuation.

7 REGISTRATION:

7.1 Faculty Advisor

A student or a group of students is assigned to a faculty advisor from the concerned department, who will mentor the student throughout his/her tenure in the Institute. The students are expected to consult the faculty advisor on any matter relating to their academic performance and the courses they may take in various semesters / summer terms. The faculty advisor is assigned to extend guidance to the students enabling them to complete their courses of study for the required degree in a smooth and timely manner. Thus, the role of the faculty advisor is of immense importance. The faculty advisor is the person to whom the parents/guardians should contact for performance related issues of their ward. In view of the guidance to the students the role of faculty advisor is outlined as below

(a) Guidance about the rules and regulations of the courses of study for the programme

(b) Pay special attention to weak students.

(c) Guidance and liaison with parents of students for their Performances and other personal problems a student may have.

7.2 Each student shall be required to register for course work on the advice of the Faculty Advisor at commencement of each semester on the day fixed for such registration and notified by the examination section of the university. Registration involved filling up a registration form by stating the theory course / Laboratory / Seminar / Project, etc.

7.3 Each student shall also register for the audit course/ elective courses in consultation and approval of Faculty Advisor.

7.4 Only those student will be permitted to register course work who have cleared all dues of the previous year / semester of the department and Hostel.

7.6 Such students who have earned at least 40 credits out of the total 60 credits in the I &II semester will be allowed to register for the next year. The credit, if any, earned from the audit pass course shall not be counted towards the minimum requirement of the credit. The students admitted second year , but have backlog papers, have to earn the credits for backlog courses on self-study basis. They can appear in the End Semester Examination (ESE) for backlog courses. However if the student appears for end semester examination of backlog course code, the performance of that examination will be considered and his/ her previous performance of End Semester Examination shall be treated as cancelled. The marks obtained by the candidate for Continuous Assessment (CA) shall be carry forwarded and shall be added to ESE marks from backlog papers.

7.7 Such students who have failed to earn minimum 40 credits out of 60 credits in the academic year will not be allowed to register for next higher class. Such students will have to register for the backlog course codes in the respective next semester, undergo class room/Laboratory instructions and appear for CA and ESE. Such student will have to pay tuition fees per course code as decided by the university from time to time.

7.11 **Course Coordinator**: For each course, Head of the department/Course Director may appoint a course coordinator to assist him in managing the course.

8 ATTENDANCE:

Regular attendance of the student is an important factor in grading system. No grade can be given to a student unless he/she has attended the course regularly.

8.1 Regular 100% attendance is expected of all students for every registered course in theory, laboratory and seminar. Hence attendance is compulsory and will be monitored in the semester and students will be informed at the end of the month and end of semester.

8.2 A maximum of 25% absence for the attendance may be condoned only on valid grounds such as illness, death in family or other emergency beyond students control and approved by the Head of the Department / Course Director. Sanctions to be taken within a week after joining if on medical grounds.

8.3 For Students participating in Sports / Cultural event/NCC camps during a semester the maximum number of days of absence shall not exceed 8 days. Any waiver in this context shall be on the recommendation of the Dean - Student Welfare and the student will be required to apply in advance for the leave to the Head/Course Director through Faculty Advisor/Course Co-ordinator. This however shall be within the 25% of absence as mentioned in 8.2

8.4 A student having attendance lower that 75% in a course is detained by the course instructor and debarred from appearing in the ESE for that course in that semester and the student will have to re-register for the course as and when it is offered. However, a course instructor may detain a candidate by awarding I grade for want of required attendance provided the candidate was regular while he was attending the course but the absence was due to medical or other special circumstances and the overall performance in the internal assessment has been very good (70% or more). Such candidates will be required apply to the Head of the department or course Director within three days from the declaration of I grade by the course instructor. The Head of the Department/course Director will constitute a committee and the student will be required to appear before the committee to explain

his case. If the committee is convinced with the explanation and find that the candidate satisfied all the conditions for award of grade I, special classes /tutorials (Not exceeding 10% of the total classes held in the concerned paper) may be conducted before the end semester examination, provided sufficient time period is left before the end semester examination and the course instructor is available for the additional classes/tutorials. In such cases, the student will be required to deposit a fee decided by the committee mainly to meet out the expenses incurred to conduct the additional lectures/tutorials/practical. If the student fails to convert his I grade, the student shall have to re-register for the course as and when it is offered. In such cases the student is given X grade.

8.5 Leave of Absence

a. If the period of leave is for a short duration (less than a week), prior application for leave shall have to be submitted to the Head/Course Director stating fully the reasons for the leave requested for, along with the supporting document(s). Such leave shall be granted by the Head/Course Director

b. Absence for a period not exceeding one week in a semester due to sickness or any other unavoidable reasons for which prior application could not be made may be condoned by the Head of the Department provided he/she is satisfied with the explanation**.**

c. If the period of absence is likely to exceed one week, a prior application for grant of leave will have to be submitted to the Head /Course Director with supporting documents. In each
case the decision to grant leave shall be taken by a committee constituted by the Head/Course Director. The committee on receipt of an application may decide whether the student be asked to withdraw from the course for that particular semester because of his long absence.

8 TEMPORARY WITHDRAWAL FROM THE PROGRAMME

A student seeking temporary withdrawal is granted permission by the Vice-Chancellor to withdraw from the Programme for one semester/year for reasons of ill health or other valid reasons on the recommendations of concerned HOD/Course Director on the following terms:

8.1 The student applies to the Head/Course Director within six weeks of commencement of the term or from within six weeks of his / her last attendance in class whichever is earlier, stating the reasons for such withdrawal with supporting documents and endorsement of his/her parents.

8.2 The fee deposited for the current semester shall not be refunded for the students who applies for withdrawal after two weeks of commencement of the terms.

8.3 Normally, a student shall be permitted to avail of temporary withdrawal only once during the Programme duration at the institute and for a maximum duration of two semesters.

8.4 Such student who has discontinued and re-joins again will be governed by rules and regulations, courses of study, syllabi and fee in force at the time of his re-joining the Department. The joining time shall be the normal commencement of the term.

9 MODES OF ASSESSMENT

The Academic Board will decide from time to time on the system of examinations in each course in each semester. The current practice of Assessment of Theory and Laboratory Courses is as follows

9.1 A student is evaluated for theory courses through Internal Assessment and End Semester External Examinations. The IA consists of two internal semester examinations (40% weightage), one conducted during mid semester and second

exam conducted towards end of the semester and teacher evaluation (60% weightage) through home assignments, viva/quiz , regularity etc.

9.2 The relative weightage is 25% for IA and 75% for ESE. Minimum marks for passing is calculated by the sum of marks obtained IA and ESE

The IA marks will be awarded by the teacher concerned and will be presented to the following committee for necessary approval. The committee may call for the internal examination answer books, assignment details etc. if necessary

(a) Head of the Department/Course Director
(b) Course Co-ordinator
(c) Nominee of the Vice-Chancellor

The Internal marks awarded will be displayed on the notice board at least one week before the ESE. Grievances, if any, from the student shall be examined by the above committee. The student will be given an opportunity to represent his case to the committee in the presence of his faculty advisor.

9.3 The teacher shall announce the method of teacher evaluation at the beginning of the semester. All IA and ESE are compulsory for all students for award of credits in a course. The marking for all tests, tutorials and examinations will be on absolute basis. The final percentages of marks are calculated in each course as per the weightage indicated above.

9.4 No credits are awarded if the student remains absent in the Internal examinations and ESE or Continuous Assessment. If a candidate fails to attend in one of the two Internal examinations, in special cases and after satisfied by the reason for absence, department may conduct defaulters examination. The candidate will be required to pay prescribed fee for the defaulters examination to meet the expenditure towards conducting defaulters examination.

9.5 The laboratory course whether offered as an independent course or as an attached course with a theory course will have continuous assessment for award of Internal Assessment marks.

Most of the laboratory courses contains two parts as follows :

Part I : Assignments and Part II : Mini project based on implementation of concepts of laboratory course

Continuous Assessment of laboratory courses will be based on ,number of assignments/practical satisfactorily completed, punctuality, turn to turn supervision of student work, quality of work of journals, group discussions, overall understanding of the experiment and viva-voce examination (as per requirement of structure of course) .

Mini Project will be also assessed continuously by the concerned teacher and demonstration and presentation of workable mini project will be conducted at the end of the semester. This mini project can be developed by the group of maximum two students only. In such case the 70 % weightage will be given to completed assignments and 30% weightage will be given to the Mini Project otherwise overall evaluation shall consist of 100 % weightage to completed assignments .

9.6 The teacher shall announce the mode of evaluation and distribution of marks at the beginning of the laboratory course. It is obligatory to maintain and submit laboratory journal, prescribed documentation for the laboratory course, and reports.

9.7 The End-Semester Examination (ESE) shall generally be of three hours duration for each theory course and is held as per the schedule declared. The detail time-table for this is declared by the examination section of the university at least two weeks in advance of the conduction of ESE. The ESE for the laboratory course will be of 4 hrs duration.

9.8 All examinations and evaluations that are conducted are compulsory. Credits for a course will be awarded only if the student satisfies the minimum attendance

requirements and acquires the necessary minimum grades for that course. No credits are awarded if the student remains absent in internal examinations or ESE even though he/she has minimum attendance requirements.

9.9 Assessment of Project:

At the end of the sixth semester of study, a student will be examined in the course "Project".

1. Project work must be performed individually.
2. Each Student shall be reporting with the progress in work to the internal guide as well as for guidance in project work.
3. The project Work should be of such a nature that it could prove useful or be relevant from the commercial/management/engineering / scientific angle.
4. The project report should be prepared in a format prescribed by the department which also specifies the contents and methods of presentation.
5. The project work carry 18 credits . The viva shall be conducted by the panel of minimum three examiners out which at least one examiner will be external examiner

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10. THE GRADING SYSTEM

10.1 Award of Grade

(a) The academic performance of a student is graded on a ten point scale . The letter grades, the guidelines for conversion of marks to letter grades and their equivalent grade points are as follows:

Sr. No	Grade	Grade points	Marks Range	Grade point

				Description of Performance
1	A+	10	91-100	Outstanding
2	A	9	81-90	Excellent
3	B+	8	71-80	Very Good
4	B	7	61-70	Good
5	C+	6	51-60	Average
6	C	5	41-50	Below Average
7	D	4	31-40	Marginal
8	E	2	21-30	Poor
9	F	0	0-20	Very Poor
10	I	0		Absent in the Exam but not detained (Incomplete)
	AP	0	40-100	Audit Pass
	AF	0	0-39	Audit Fail
	U	--		Unsatisfactory
	W	--		Withdrawal
	X	--		Continued
	S	--		Satisfactory Completion
	Z	--		Course Continuation

b.Description of the grades

A+ to D

The student shall pass the course if he/she gets any grade in the range “A+” to “D”.

E and F grades:

The E and F grades denote poor and very poor performance ie. failing a course. A student has to repeat all core courses in which he/she obtains either E or F grades until a passing grade is obtained. For the other (elective) courses in which E or F grades have been obtained the student may take the same course or any other courses from the same category. The E and F grades secured in any course stay permanently on the grade card. These grades are not counted in the calculation of the CGPA; however these are counted in the calculation of the SGPA.

I Grade

The I grade denotes incomplete performance in any courses. The student is temporarily assigned grade "I", if he/she is not detained by an instructor but fails to appear for end-semester examination due to valid reason. Such a student will have to appear for the examination as and when conducted. An I grade also may be awarded by an instructor, if a candidates attendance is below 75% but above 60% and the absence is on medical grounds other special circumstances. The students should complete all requirements as per provisions within 10 days of commencement of End Semester Exams, the request to be made to the Head/Course Director.

(c) A student who has awarded grade E or F in a particular course is considered to be failed in that course and no credits will be awarded for the same the student will have to appear for the examination as and when it is conducted.

10.2 Grade "X"

(a) The grade "X" is assigned to the student if his/her attendance is less than 75% in the Lectures/Tutorial/Laboratory course and/or his/her performance in the semester is not satisfactory and/or he/she fails in the IA of the subject. A student with X grade will not be permitted to take the ESE in that subject. The student will be detained for that subject only and will have to re register for the subject as and when it is offered and appears as and when it is conducted. However if a student is detained in any of the course he/she, will not be admitted to the next year, unless he/she Re-registers for that course and obtained passing grade

(b) An'X' grade is treated as equivalent to F for purpose of CGPA calculation, and the following criteria in addition to poor attendance (less than 75% may be considered for the award of X grade : (1) Badly incomplete in semester record (due to non-medical reasons) {for example, in the case of a student who has missed all tests and assignments etc.) (2) Misconduct/use of unfair means in the examination, assignments etc., of a nature serious enough to invite disciplinary action in the opinion of the instructor. (It is emphasized that award of the X grade is in the nature of an immediate action in such cases, and the case may be referred to the Disciplinary Action Committee for consideration of further punishment depending on the seriousness of the offence). The names/roll numbers of students to be awarded the X grade should be communicated to the examination section in advance of the end-semester examination.

(C) Following rules apply for the course registered in any semester in which a student has acquired grade "X"

(i) He/she shall try to get a passing grade by registration for full examination in the next regular semester whenever it is offered. In this case the earlier performance of a student in all the evaluations will be treated as null and void.
(ii) A student registering for the course (Grade X) shall undergo all evaluations including IA and ESE and is eligible to acquire any grade between "A+" to "D" or "E /F " .

10.3: Method of awarding grades:

(a)The ESE will be conducted by the examination section of the university. The question papers will be set by the examiners appointed by the university as per the syllabus, teaching plan and model question paper. University may conduct centre evaluation of the answer books by inviting external examiners or the answer books may be sent to the individual examiners for evaluation. After the evaluation of the answer books based on the IA and ESE marks, a semester board will award the grades.

(b) The semester board will consist following

(i) Convenor of the Committee of Courses

(ii) Head/Course Director

(iii) Two subject experts

(iv) Nominee of the Vice chancellor

In case semester board feels moderation/rec-checking of the answer book is necessary, recommendation with reason will be sent for the consideration of the Result committee of the University. The semester board will maintain strict confidentiality of the marks and results. The result will be declared by the Controller of Examinations.

(c)Evaluated answer papers of IA and ESE should be preserved at least for a minimum period of one semester.

11. Calculation SGPA and CGPA

11.1 Semester Grade Point Average (SGPA)

a) The performance of a student in a semester is indicated by the number called SGPA

b) The SGPA is the weighted average of the grade points obtained in al the courses registered by the student during the semester

c) If a numerical grade point equivalent to letter grade obtained by the student for the course with credit Ci then, SPGA for that semester calculated using the formula

SPGA $\frac{\sum Cigi}{\sum Ci}$

Where summation is for all the courses registered by a student in that semester. For example, if a student passes five courses in a semester with credits c1,c2,c3,c4,c5 and his grade points in these courses are g1, g2,g3,g4,g5 respectively, then SPGA is equal to

$$\text{SPGA} = \frac{c1g1 + c2g2 + c3g3 + c4g4 + c5g5}{c1 + c2 + c3 + c4}$$

The SPGA is calculated to two decimal places and rounded off.

d) For the students acquiring "I" grades in any of the courses, SPGA and CPGA calculated only after make-up examination.

e) Since the grades "I" are only temporary grades, they are not taken in the calculation of SPGA. The conversions of letter grades into SPGA and CPGA for the students acquiring "I" grade in any of the courses is suspended till declaration of the grades of make-up examination.

11.2 Cumulative Grade Point Average (CGPA)

(a) An up-to- date assessment of the overall performance of a student from the third semester onwards till completion of the programme is obtained by calculating a number called CGPA

(b) The CGPA is weighted average of the grade points obtained in all the courses registered by the student since the beginning of the third semester of the programme

$$\text{CGPA} = \frac{\sum Cigi}{\sum Ci}$$

Where summation is for all the courses registered by a student till that semester. The CGPA is also calculated at the end of every semester from third semester onwards to two decimal places and is rounded off.

(c) The CGPA shall reflect all courses done by the student including courses where he/she has failed.

(d) If a student is awarded with a passing grade for a course in which he/she was awarded previously “E” grade or “F” grade then CGPA is calculated by replacing corresponding Ci and gi in both numerator and denominator of the above formula. Thus a course is included only once in CGPA calculation. The latest performance of a student in a course is considered for CGPA.

11.3. A candidate admitted to the MSC(IT) programme will be required to pass the course within five academic years from the year of admission to the first semester.

12. Courses of Study and Examination

Semester – I

Paper	Paper Name	L-T-P	No.of credits	Max. Marks		Total
				University Exam.	Internal Assessment	
1	2		3	4	5	6
Paper-I (MIT-101/MCA-101)	Introduction to Information Technology	3-1-0	4	75	25	100
Paper-II (MIT-102/MCA-202)	Computer Architecture	3-1-0	4	75	25	100
Paper-III (MIT-103/MCA-103)	Introduction to Programming	3-1-0	4	75	25	100
Paper-IV (MIT-104/MCA-201)	Data Structure	3-1-0	4	75	25	100
Paper-V (MIT-105/MCA-105)	Discrete Mathematics	3-1-0	4	75	25	100
Paper-VI (MIT-106)	Practical-I Computer Hardware Lab.	0-0-8	4	75	25	100
Paper-VII (MIT-107)	Practical-II Computer Programming Lab.-I	0-0-8	4	75	25	100
Paper-VIII (MIT-108)	Soft Skill Lab	1-0-2	2(AP)	25	25	50
Paper IX (MIT-109)	Seminar	4	2		50	50
	TOTAL		32(30)	550	225	750

Semester – II

1	2	3		4	5	6
Paper-I (MIT-201/MCA-301)	Database Systems	3-1-0	4	75	25	100
Paper-II (MIT-202/MCA-202)	Operating System	3-1-0	4	75	25	100
Paper-III (MIT-203/MCA-303)	Algorithms	3-0-2	4	75	25	100
Paper-IV (MCA-204/MCA-2)	Object Oriented Programming using C++	3-1-0	4	75	25	100
Paper-V (MIT-205/MCA-305)	Computer Networks	3-1-0	4	75	25	100
Paper-VI (MIT-206)	Practical-I: OOPS Lab	0-0-8	4	75	25	100
Paper-VII (MIT-207)	Practical-II: Operating Systems & Networking Lab.	0-0-8	4	75	25	100
Paper-VIII (MIT-208)	Practical-III: Visual Programming Lab	0-0-4	2(AP)		100	100
MCA-VIII (MIT-209)	Seminar	4	2		50	50
	TOTAL		32(30)	525	225	750

Semester – III

Paper	Paper Name	L-T-P	Credits	Max. Marks		Total
				University Exam.	Internal Assessment	
1	2	3	4	5	6	7
Paper-I (MIT-301/MCA 501)	Software Engineering	3-1-0	4	75	25	100
Paper-II (MIT-302/MCA 304)	Java Programming	3-1-0	4	75	25	100
Paper-III (MIT-303/MCA 403)	Network Management and Information Security	3-0-2	4	75	25	100
Paper-IV (MIT-304/MCA404)	Computer Graphics	3-1-0	4	75	25	100
Paper-V MIT-305A/MCA 551 MIT-305B/MCA541 MIT 305/MCA 553	Elective-1 (i) Embedded Systems (ii) Data Mining (iii) Image Processing	3-1-0	4	75	25	100
Paper-VI (MIT-306)	Practical-I: Graphics &Java Lab.	0-0-8	4	75	25	100

Paper-VII (MIT-307)	Practical-II: Elective Lab.	0-0-8	4	75	25	100
Paper-VIII (MIT-308)	Practical-III: Network Management	0-0-4	2(AP)		100	100
Paper-IXI (MIT-309)	Seminar	4	2		50	50
	TOTAL		32(30)	525	225	750

Semester – IV

Paper	Paper Name	No. credits	Max. Marks		Total
			University Exam.	Internal Assessment	
1	2	3	4	5	6
Paper-I (MIT-401)	Project Work	18	350	100	450
		18			

Total Credits: 168 Audit credits: 6

13.Examination rules

Examination Scheme:

a) University shall conduct examinations only after completion of at least 90 working days of instruction in each semester. External examination will be conducted on consecutive working days without any gap.

b) Each theory paper shall be of 100 marks (75 marks for written examination of 3-hrs duration and 25 marks for internal assessment

c) Each practical/Project paper shall be of 100 marks (75 marks for semester practical examination of six hours duration and 25 marks for internal assessment.

d) The question paper shall consist total six questions. Part-A shall consist of one compulsory question of 10 marks with ten parts covering the entire syllabus for which answer must be provided within 20 words for each. Part-B will consist five long answer questions (which requires answers in about 400 words for each), one from each unit with internal choice. Each question in the part-B will carry 13 marks each. Only one answer booklet will be given to the students for answering all the questions. No supplementary answer books shall be allowed.

e). Detailed outline of the course and a list of textbooks and reference books and detailed lecture schedule will be intimated to the examiner along with a model paper to provide necessary guide lines to set question paper for the external examination.

MASTER OF SCIENCE IN INFORMATION TECHNOLOGY

(A Choice Based Credit System Effective from 2010-11)

SYLLABUS

First Semester

Paper-I (MIT-101/MCA-101): Introduction to Information Technology

(Note : Only introductory concepts to be taught in the course.)

UNIT- I

Information Concepts and Processing: Definition, Need, Qualities, value of information. Categories of information in business organization, levels of information, data concepts, logical and physical concepts, data processing, Introduction to office automation.

Number systems: Binary numbers, octal numbers, hexadecimal numbers, Radix- decimal, octal, hexadecimal, conversion from one form to another-Examples, Representation of decimal, octal, hexadecimal numbers: fractional numbers and signed numbers, 1's and 2's complement forms, Binary arithmetic-addition, subtraction ,multiplication and division-Examples. Codes-Various types- ASCII and 8 bit EBCDIC

UNIT-II

An overview of a computer system: components of a computer system, various I/O and auxiliary storage devices

System software (Only Introductory level): Introduction to system software, Distinction between systems software and Application software. Introductory ideas of loaders and linkers

High level language (Only Introductory level): Different languages, introduction to Assemblers, Compilers and Interpreters, relative merits of compilers v/s interpreters

UNIT-III

Operating systems (Only introductory level): Evolution, introduction to OS , functions and facilities, single tasking and multitasking OS , single user and multi-user OS, characteristics of MS-DOS and Unix operating systems , DOS and UNIX commands for file and process management.

UNIT-IV

Text editors: overview of editing process

Graphical User Interfaces- Introduction to Windows, Word processing software packages and features, spread sheet packages and features

Database : Introduction to database and database packages.

Desktop Publishing: Introduction to desktop publishing and desk top publishing packages.

UNIT-V

Computer Communications (Only Introductory level) : Computer to computer communication through networking, Introduction to computer networks and networking software, Types of Networks, Internet and Intranet , Electronic mail.

Multimedia and Virtual reality: Introduction to Multimedia and Virtual reality

Specifications of a typical desktop computer system, Recent Developments in ICT

Recommended books:

1. Satish Jain , Information Technology
2. Alexis Leon , Fundamentals Of Information Technology
3. V.Rajaraman : Fundamentals of Computers