PROGRAMME GUIDE

M.Sc. (MATHEMATICS WITH APPLICATIONS IN COMPUTER SCIENCE) (MSCMACS)

Core and Elective Courses



School of Sciences Indira Gandhi National Open University New Delhi-110068

March, 2025

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Further information on Indira Gandhi National Open University courses may be obtained from the University's office at Maidan Garhi, New Delhi-110 068.

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INDIRA GANDHI NATIONAL OPEN UNIVERSITY

MAIDAN GARHI, NEW DELHI-110068, INDIA PHONE : (O) 91-11-29534251 FAX : 91-11-29532167, (Grams): IGNOU E-mail : <u>sos@ignou.ac.in</u>

SCHOOL OF SCIENCES

Dear Learner,

We welcome you to the Indira Gandhi National Open University (IGNOU). We compliment you for joining M.Sc. (Mathematics with Applications in Computer Science), which is a unique programme of its kind in the Country. The aim of this programme is to familiarise you with some important applications of mathematics in computer science.

We are sure you will make all sincere efforts to complete this programme and benefit from it. While doing this programme this programme guide will be an important source of information regarding various aspects of the programme like registering for various courses, filling up examination forms, non-receipt of study material, etc.

We strongly recommend that you read this Programme Guide carefully. We hope you will enjoy studying the courses of the programme.

Wishing you all the best,

Yours Sincerely,

Programme Team Members of M.Sc. (MACS) IGNOU Maidan Garhi New Delhi – 110 068

1. ABOUT THE UNIVERSITY

1.1 Introduction

Indira Gandhi National Open University came into being on September 20, 1985, by an Act of Parliament to achieve the following objectives:

- democratising higher education by taking education to your doorsteps;
- providing access to high quality education to all those who seek it irrespective of age, region or formal qualifications;
- offering need-based academic programmes by giving professional and vocational orientation to the courses;
- Promoting and developing distance education in India.

1.2 Special Features

- International jurisdiction.
- Nation wide student support service network.
- Cost effective programmes.
- Modular approach to programmes.
- Socially and academically relevant programmes based on students need analysis.
- Relaxed entry regulations.
- Study according to your own pace and convenience.

1.3 The Schools of Studies

With a view to develop interdisciplinary studies, the University operates through Schools of Studies. Each School is headed by a Director who plans, supervises, develops and organizes its academic programmes and courses in coordination with the School staff and the different academic, administrative and service wings of the University. The emphasis is on providing a wide choice of courses at different levels. The Schools of Studies currently in operation are as follows:

- School of Computer & Information Sciences
- School of Continuing Education
- School of Education
- School of Engineering & Technology
- School of Health Sciences
- School of Humanities
- School of Management Studies
- School of Sciences
- School of Social Sciences
- School of Agriculture
- School of Law
- School of Journalism and New Media Studies
- School of Gender and Development Studies

- School of Tourism Hospitality Service Sectoral Management
- School of Interdisciplinary and Trans-disciplinary Studies
- School of Social Work
- School of Vocational Education and Training
- School of Extension and Development Studies
- School of Foreign Languages
- School of Translation Studies and Training
- School of Performing and Visual Arts

1.4 Instructional Approach

The methodology of instruction in this university is different from that of the conventional universities. The Open University System is more learner-oriented, and the learner is an active participant in the teaching-learning process. Most of the instruction is imparted through distance mode rather than face-to-face communication.

The University follows a multi-media approach for instruction. It consists of:

- Self-instructional material in the form of printed material and wrap-around material
- Audio-visual material
- Counselling sessions/contact programmes

1.5 Course Preparation

Print materials are specially designed and developed as self-learning materials by in-house faculty along with a team of experts drawn from different institutions and universities all over the country. These materials are edited by content experts and language experts before they are finally printed and dispatched to the study centres.

1.6 Credit System

The University follows the "Credit System" for most of its programmes. The course weightage is expressed in terms of credits. Each credit in our system is equivalent to 30 hours of student study time, comprising all learning activities (i.e. reading and understanding the print material doing the self check exercises therein, attending counselling sessions and writing assignment responses). A four-credit course, for instance, involves 120 study hours. This helps you to understand the academic effort you need to put in to successfully complete a course.

1.7 Support Services

In order to provide individualised support to you, the University has a large number of Programme Study Centre throughout the country. At the Programme Study Centres, you would interact with the Academic Counsellors and your peer groups, refer to books in the library, watch/listen to video/audio cassettes and interact with the coordinator on administrative and academic matters. The support services are also provided through work centres, programme centres, skill development centres and special study centres.

1.8 Counselling Sessions

According to the course design, most of your learning is to be done by you studying on your own. However, you may need help at various times. For this we provide face-to-face contact between you and your tutors/counsellors. Although attending theory counselling sessions is not compulsory, we recommend that you attend them regularly. By attending these counselling sessions, you can meet your academic counsellors and your fellow students. This will help you to discuss the course material and clarify any doubts you may have in the course from your academic counsellor or fellow students. You will also get a realistic idea of the level of accomplishment that is expected of you by talking to your fellow students. The detailed schedule of the counselling sessions for each of the courses will be available at your Programme Study Centre.

Face-to-face counselling will be provided to you at the programme study centre assigned to you. You should note that the counselling sessions will be very different from the usual classroom teaching or lectures. Counsellors will **not** give lectures on the course contents. They will try to help you to overcome difficulties (academic as well as personal) which you face while studying for the programme. In these sessions you must concentrate on the subject-based difficulties and any other issue arising out of such difficulties.

1.9 IGNOU Website

The IGNOU website is <u>http://www.ignou.ac.in</u>. The following useful information is availables at this site.

- Details of programmes on offer.
- Application forms of various programmes.
- Address checking.
- Assignment of current years.
- Term-end examination date-sheet.
- Catalogue of audio/video programmes.
- Hall ticket details.
- Result and Grade Card of your term-end examinations.
- Previous years question papers.
- An update on the latest happenings at the University.

2. M.Sc (MATHEMATICS WITH APPLICATIONS IN COMPUTER SCIENCE)

Programme Code: M.Sc (MACS)

This unique programme emphasises on the courses which have vast potential for applications in the areas such as computer science, economics, biology, etc. It offers an exciting opportunity to people who are interested in mathematics and who wish to understand how mathematics can be put to practical use. It discusses modelling and solving real world problems in the contexts of computer applications. In fact, these applications have become essential even in undergraduate education for all students, including those preparing to be scientists, engineers, technicians, teachers and leaders in business and government organisations.

Objectives of the Programme

This programme has the following broad objectives:

- to emphasise the relevance and usefulness of mathematics from an application point of view;
- to equip the learners with the core mathematical knowledge and training necessary for use in many application areas;
- to expose the learner to real-life problems and promote the use of mathematics in industry and applied sciences;
- to develop human resource in emerging disciplines such as Mathematical Biology, Computational Mathematics, etc.

Duration

The minimum duration of the programme is **two years**, which is divided into **four semesters**. The **maximum** period allowed for completion of the programme is **four years**.

Medium of Instruction

The programme is available only in English.

Eligibility

Graduate with a B.A./B.Sc. with a Major/Honours in Mathematics.

Or

Graduates with a BA/B.Sc. degree with Mathematics as one of the three main subjects with equal weightage.

Reservation

IGNOU provides reservation according to the reservation policies of the Government of India.

Admission

Admissions are open for January and July session every year. You need to apply online through IGNOU admission Samarth portal, the link of which is <u>https://ignouadmission.samarth.edu.in/</u> for first semester. Thereafter you need to re-register in the subsequent semesters.

Programme Fee

After your admission to the programme is confirmed and you take admission to the programme, you have to pay the programme fee[§] of Rs. 27,600/- for full programme to be paid semester wise @Rs. 6,900/- per semester which exclude registration fee and other admissible fees. Programme fee will be paid at the time of re-reFgistration in the beginning of each semester, only by way of Demand Draft drawn in favour of IGNOU, New Delhi.

Sl. No.	January Session	Late Fee	July Session	Late Fee		
1.	1 st Aug. to 1 st Oct.	Without late fee	1 st Feb. to 31 st March	Without late fee		
2.	3 rd Oct. to 31 st Oct.	Rs.200/-	1 st April to 30 th April	Rs.200/-		
3.	1 st Nov. to 30 th Nov.	Rs.500/-	1 st May to 31 st May	Rs.500/-		
4. 1^{st} Dec. to 20^{th} Dec. Rs.1000/- 1^{st} June to 20^{th} June Rs.1000/-						
Submissio	Submission of forms at Sl. No. 1 to 4 above for Jan./July session will be at Regional Centre concerned.					

The details for the submission of re-registration form are given below:

Sample re-registration forms in this regard are given as Form No.9-11 in the programme guide. Please note that you have to register for the next semester, irrespective of whether you have cleared all the papers in your previous semester.

2.1 M.Sc. (MACS) Programme Structure

Studies in this 2 year programme are divided into 4 semesters (2 semesters per year). The first semester is from January/July to June/December and subsequent semesters are from July/January to December/June of each year. To successfully complete this programme, you will have to earn 64 credits over a period of 2 to 4 years depending on your convenience. However, you will not be allowed to earn more than 16 credits in a semester. These 64 credits comprise

	Total	64 credits
3.	Project	4 credits
2.	Elective Courses	26 credits
1.	Core Courses	34 credits

The details of these courses are given in Secs.5 and 6. After successfully completing the programme you will be awarded the **degree** of **M.Sc** (**Mathematics with Applications in Computer Science**).

Core Courses

The core courses are designed to provide mathematical knowledge and techniques, necessary for use in many application areas. These core courses, which you will be studying during the first two semesters of your studies, will prepare you well to study the courses offered during the third and the fourth semesters. We have given the pre-requisite, qualifications needed (if any) for the courses, along with their syllabus in Sec. 5.

Elective Courses

The elective courses will expose you to the applications of mathematics in the area of computer sciences. The details of these courses are given in Sec. 6.

[§] The Programme fee is subject to change

Project

Project work is **compulsory** for every learner. It aims to provide you with an opportunity to undertake hands-on work in some Industry/Organizations/R&D establishment/Institution. The Project Guide that is sent to you along with the fourth semester material will give you all the details related to the project work.

2.2 Instructional System

The M.Sc. (MACS) programme instructional system includes self-instructional print material, E-content, assignments, counselling sessions, project and practical work at the programme study centres.

Print Material

For some of the courses of the programme, you will be receiving printed study material in the form of booklets called blocks. The print material is properly planned and is self-instructional in nature. Lessons, which are called units, are structured to facilitate self-study. The **printed material is sent to you by registered post to your residence**.

E-content

eGyanKosh is a digital repository developed by Indira Gandhi National Open University (IGNOU) to store, preserve, and share its vast collection of educational resources. It provides free and open access to a wide range of study materials, including course modules, video lectures, and research papers, covering various disciplines. The platform is designed to support distance learning by enabling students, educators, and researchers to access high-quality academic content anytime and from anywhere. eGyanKosh plays a crucial role in promoting open educational resources (OER) and enhancing learning opportunities for a diverse community of learners. The link of the E-content of the courses of the programme is given below: https://egyankosh.ac.in/handle/123456789/4058

Assignments

Assignments are a **compulsory** component of the course. Assignments are sent to you along with the other printed material by post. They can also be downloaded from the IGNOU website. You will need to do one tutor marked assignment for each theory course. Courses with practical components have practical assignments also. For such courses assignments may contain a mix of both theory and practical exercises or, the two assignments may be separate or, practical assignment may be attached to the blocks in the print material.

If you fail in an assignment or couldn't submit the assignment before the due date, you have to submit the assignment for the next year.

The main purpose of the assignments is to test your comprehension of the learning material you receive from us and also to identify the gaps in your understanding of the course by providing feedback to you. These assignments will be checked by your counsellors, who will also explain to you where and how you can improve your understanding. The information given in the printed course material should be sufficient for answering the assignments. However, to take you a little further, you can always refer to other books accessible to you.

These assignments are to be submitted at the programme study centre according to the submission schedule provided in the assignments booklets. Before submission, you should ensure that you have answered all the questions in all assignments. Incomplete answer sheets bring you poor grades.

The period of validity is given in the instructions for students in the second page of the assignment. You will not be allowed to appear for the term-end examination for a course if you have not submitted the assignments in time for that course. If you appear in term-end examination without submitting the assignments, then the result of term-end examination is liable to be cancelled. For your own record, please keep a copy of all the assignment responses which you submit to the programme facilitator of your centre. If you do not get back your duly evaluated tutor marked assignments along with a copy of the assessment sheet containing comments on your assignments by the counsellor within a month after submission, please try to get it from your programme study centre personally. This may help you to improve upon future assignments.

SPECIFIC INSTRUCTIONS FOR TUTOR MARKED ASSIGNMENTS

- 1. Write your Enrolment Number, Name, Full Address, Signature and Date on the top right hand corner of the first page of your response sheet.
- 2. Write the Programme Title, Course Code, Course Title, Assignment Code and Name of your Programme Study Centre on the left hand corner of the first page of your response sheet. Course Code and Assignment Code may be reproduced from the Assignment. The top of the first page of your response sheet for each assignment should be like this:

	ENROLMENT NO:
PROGRAMME TITLE :	NAME :
	ADDRESS :
COURSE CODE :	
COURSE TITLE :	
ASSIGNMENT CODE :	SIGNATURE:
PROGRAMME STUDY CENTRE :	DATE :

- 3. Read the assignments carefully and follow the specific instructions, if any, given in the assignment itself.
- 4. Use only foolscap size paper for your responses and tie all the pages carefully. Avoid using very thin paper. Allow a 4 cm. margin on the left and at least 4 lines in between each answer. This may facilitate the evaluator to write useful comments on the margin at appropriate places.
- 5. Write the response in your own hand. Do not print or type the answers.
- 6. Do not copy your assignment response from other students or from the internet. You can discuss the assignment questions with your fellow students or refer to other sources, but you have to present the answers in your own language. If you are caught copying, your assignment will be rejected.
- 7. Write assignment for each course separately. Do not write the assignments in continuity.
- 8. Write the question number with each answer.
- 9. The completed assignments should be sent to the Facilitator/Assistant Coordinator of the Programme Study Centre allotted to you. Under no circumstances you should send the tutor marked response sheets to the Students Registration & Evaluation Division at Headquarters for evaluation.

Project Work

The aim of the Project work, worth 4 credits, is to provide the learners with an opportunity to undertake hands-on work in some industry/organisation/R&D establishments/institution. To help you, a detailed project guide is sent to you along with other print material in which different steps involved in doing a project are given, along with detailed examples. The Programme Facilitator at your centre will also help you in tying up with some industry/organization/institute, etc. in your region for doing the project work.

Practical Work

Nine out of seventeen courses of study of the programme have a computer practical component. Computer practicals will be held at the Programme Centres. Attending practical sessions is **compulsory** for each student. The total number of practical sessions per semester ranges between 11 to 36. These sessions are spread over the entire semester. Completing 70% of the sessions is compulsory in the practical sessions of a course. It qualifies you to appear for the term-end practical exam of the course. Schedule for practical sessions will be provided to you by the Programme Facilitator of your centre. In some of the courses, practical assignments are given separately whereas, for some they are printed at the end of the units in the block. Please do your assignments independently and do not forget to read the instructions regarding the practical work given in the practical manual or the printed blocks of the course material.

Programme Study Centres

To provide effective students support, we have set up several programme study centres. The list of M.Sc. (MACS) programme centres, along with their addresses, is given in Sec. 7 of the programme guide. You will be allotted one of these programme study centres. However, each programme study centre can handle only a limited number of students. The particulars regarding the programme study centre to which you are assigned will be communicated to you at the time of admission.

Each Programme Study Centre will have:

- A Programme **facilitator/Assistant Coordinator** who will coordinate all the activities, academic as well as administrative, related to the programme and will be a guide/support to you at the centre.
- **Counsellors** in different courses, core as well as electives, to provide you counselling and guidance in that subject.
- **Project supervisors** to guide you in selecting and executing your project work and supervise the progress from time to time.
- A computer laboratory where you can do your computer practicals.
- A **library** where you can refer to the books suggested for supplementary reading in different subject areas as well as view audio-video materials, if any, related to the programme.

A Programme Study Centre has the following functions:

i) **Tutorial/Counselling:** Programme study centres conduct face to face contact-cum-counselling for both the theory and practical component of courses. Generally there will be 5 theory counselling sessions for a 4-credit course and 3 to 4 sessions for a 2-credit course.

Programme Facilitator/Assistant Coordinator will provide you the schedule of the contact-cumcounselling sessions for both theory and practical. In these sessions you will get an opportunity to discuss with the Counsellors your problems pertaining to the courses of your study.

- ii) **Evaluation of Assignments:** The evaluation of your Tutor Marked Assignments (TMAs) will be done by the Counsellors at the Programme Study Centre. The evaluated assignments will be returned to you by the Programme Facilitator/Assistant Coordinator of your Programme Centre with tutor comments and marks obtained in TMA. These comments will help you in your further studies while preparing for your examinations.
- iii) **Interaction with fellow-students:** In the Programme Study Centre you will have an opportunity to interact with fellow students. This may lead to the formation of self-help groups.

2.3 Scheme of Study

In order to enable you to complete your M.Sc (MACS) programme within the minimum period of two years, you will have to take 16 credits worth of courses in each of the four semesters. Registration to the programme is semester-wise. After the first/second/third semester, irrespective of whether you pass or not in all the courses of the semester, you must re-register for the second/third/fourth semester courses

respectively, by submitting the Course Re-registration Form with the requisite programme fee. The course re-registration form for second/fourth, and third semesters, respectively, are given as Forms No. 9, 10 and 11, respectively.

It is quite possible that you cannot find sufficient time to prepare for the Term End Examinations of all the 16 credits worth of courses you have registered for in a particular semester. You can focus only on those courses in which you intend to take the examination. You can give the examination of the remaining courses later. Examinations are held in the month of June/December of each year. In this way, you can plan your courses for more than two but not more than four years. By a proper planning every year, you can complete this programme according to your convenience. The **semester-wise details of the courses of M.Sc (MACS) programme** is as follows: (The courses with a practical component are marked with a *)

First Semester

S. No	Course Code	Title of the Course	Credits	Type of Material Available
	(Tentative)			
1.	MMT-001	Programming & Data Structures *	4	Print (4 Blocks)
2.	MMT-002	Linear Algebra	2	Print (2 Blocks)
3.	MMT-004	Real Analysis	4	Print (3 Blocks)
4.	MMT-005	Complex Analysis	2	Print (2 Blocks)
5.	MMT-007	Differential Equations and Numerical Solutions	4	Print (4 Blocks)

Second Semester

S. No	Course Code (Tentative)	Title of the Course	Credits	Type of Material Available
6.	MMT-003	Algebra	4	Print (4 Blocks)
7.	MMT-006	Functional Analysis	4	Print (4 Blocks)
8.	MMT-008	Probability and Statistics	8	Print (8 Blocks)

Third Semester

S. No	Course Code (Tentative)	Title of the Course	Credits	Type of Material Available
9.	MMT-009	Mathematical Modelling	2	Print (2 Blocks)
10.	MMTE-001	Graph Theory	4	Print (3 Blocks)
11.	MMTE-002	Design & Analysis of Algorithms	4	Print (5 Blocks)
12.	MMTE-003	Pattern Recognition & Image Processing	4	Print (5 Blocks)
13.	MMTE-004	Computer Graphics	2	Print (3 Blocks)

Fourth Semester

S. No	Course Code (Tentative)	Title of the Course	Credits	Type of Material Available
14.	MMTE-005	Coding Theory	4	E-content

15.	MMTE-006	Cryptography	4	Print (3 blocks)
16.	MMTE-007	Soft Computing & its Applications	4	Print (4 Blocks)
17.	MMTP-001	Project	4	Project Guide

Dispatch of Study Material

The study material is dispatched to you semester-wise. The printed course material is dispatched after the registration/re-registration in each of the semester. If you do not get your study material in time, write to the **Regional Centre concerned.** A sample prescribed application form for this purpose is enclosed as Form No.1 in the programme guide.

2.4 Evaluation

The system of evaluation, both for theory courses and courses with practical component comprise of continuous evaluation in terms of assignments. and the term-end examination (held twice a year in June and December).

Weightage of continuous evaluation and term-end examination of various courses of the programme are shown in the table given on the next page.

• Examination Fee

You have to pay the examination fee per course as notified by the University time to time through Bank Draft in favour of IGNOU payable at Delhi. The examination forms are available at all the Study Centres and Regional Centres. A sample prescribed form with all the rules and regulations in detail is enclosed as Form No.2 in the programme guide. You can also submit on-line examination form as per the guidelines through IGNOU website at <u>www.ignou.ac.in</u>.

• Examination Centre

Usually the programme study centre is the examination centre. However, you can choose a different examination centre. In case you wish to take examination at a particular centre, you should fill up the code of that centre as examination centre code. However, if the examination centre you choose is not activated, the university will allot another examination centre under the same region.

	Theory		Practical	
Course	Continuous assessment (Assignment)	Term End Examination	Continuous assessment	Term End Examination
MMT-001	20%	20%	10%	50%
MMT-002	30%	70%	NIL	NIL
MMT-003	30%	70%	NIL	NIL
MMT-004	30%	70%	NIL	NIL
MMT-005	30%	70%	NIL	NIL
MMT-006	30%	70%	NIL	NIL
MMT-007	20%	50%	10%	20%
MMT-008	20%	50%	10%	20%

Weightage of Theory and Practical courses

MMT-009	20%	70%	10%	NIL
MMTE-001	20%	50%	10%	20%
MMTE-002	30%	70%	NIL	NIL
MMTE-003	20%	50%	10%	20%
MMTE-004	20%	50%	10%	20%
MMTE-005	20%	50%	10%	20%
MMTE-006	20%	50%	10%	20%
MMTE-007	20%	50%	10%	20%

• Date of Submission of Examination Forms

June, TEE	December, TEE	Late Fee	Address
1 st March to 31 st March	1 st Sept. to 30 th Sept.	NIL	For outside Delhi students (Regional Centre concerned).
1 st April to 30 th April	1 st Oct. to 30 th Oct.	Rs.500/-*	For Delhi students (IGNOU, Maidan Garhi, New Delhi –
1 st May to 15 th May	1 st Nov. to 15 th Nov.	Rs.1000/-*	110068 or Regional Centre concerned.
16 th May to 28 th May	16 th Nov. to 28 th Nov.	Rs.1000/-	

(*Note that the fees are subject to change.)

To avoid discrepancies in filling up examination form/hardship in appearing in the term-end examination you are advised to:

- 1. remain in touch with your Programme Study Centre/Regional Centre/SED for change in schedule of submission of examination form if any;
- 2. fill up the examination form for next term-end examination without waiting for the result of the previous term-end examination and also filling up the courses, for which result is awaited;
- 3. fill up all the particulars carefully and properly in the examination form to avoid rejection/delay in processing of the form;
- 4. retain a copy of the form and the proof of mailing/submission of examination form till you receive examination hall ticket;

• Issue of Examination Hall Ticket

University issues Examination Hall Ticket to you at least two weeks before the commencement of Term-end Examination and it could also be downloaded from the University's website <u>www.ignou.ac.in</u>. In case you fail to receive the Examination Hall Ticket within one week before the commencement of the examination, you can download the hall ticket from the website and approach the exam centre for appearing in the exam. Please note that you have to carry the Identity Card issued by the University with you when you appear for the Term End Examination. Otherwise, you will not be allowed to appear in the examination, even if you have the hall ticket.

Your enrolment number is your Roll Number for examinations. Be careful in writing it. Any mistake in writing the Roll Number will result in non-declaration of your result. It is your duty to check whether you are registered for that course and whether you are eligible to appear for that examination or not. If you neglect this and take the examination without being eligible for it, your result will be cancelled.

If you have missed any term-end examination of a course for any reason, or failed in the examination, you may appear in the subsequent term-end examination. This facility will be available until you secure the minimum pass grade but only up to a period of four years from the date of registration of the first semester. There is no provision to reappear in an examination of any course for improvement.

While communicating with the University regarding examinations, please clearly write your enrolment number and complete address. In the absence of such details, it is not possible to attend to your problems.

Practical Evaluation

Evaluation of the practicals for courses with a practical component comprises of two aspects. Evaluation of practical exercises which you do throughout the semester under the guidance of your counsellors at the programme study centre, constitutes **continuous evaluation** and carries 10% weightage. On the other hand, the evaluation of unguided practical exercise assigned to you, which you perform towards the end of the semester, at your programme study centre constitutes **term-end** evaluation and carries 20% weightage for all the courses except MMT-001 where it is 50%. The schedule of term-end practical examination will be notified to you by the Facilitator/Assistant coordinator of your Programme Study Centre.

You must get the flow chart/source code of the program written/any other output, related to each exercise of your practical assignments checked and signed by your counsellor and maintain a file of these signed assignments. This file will be a part of your continuous assessment and you will be required to produce it at the time of the term-end practical exam.

You will have to obtain at least 40% marks in each course (both in theory and practical) in both continuous and terminal evaluation separately. However, the overall average should also be at least 40% for the successful completion of a course.

Project Evaluation

Project evaluation comprises of three aspects, viz., continuous assessment, project report and viva-voce. Weightage for each of these components is 35%, 30% and 35%, respectively. For successful completion of the project work you will have to obtain at least 40% marks in **each of the three components** above **separately**. The overall pass percentage is 40 as well. For more details related to the project work please read the Project Guide of MMTP-001 carefully before doing your project. The project report should be submitted to:

The Registrar Student Evaluation Division Indira Gandhi National Open University Maidan Garhi New Delhi-110 068

Early Declaration of Result

If you have got offer of admission for higher study and or selected for employment etc. and are required to produce statement of marks/grade cards by a specified given date, you may apply for early processing of your answer script and declaration of result. You are required to apply in prescribed application form with fee of Rs.1000/- per course by means of demand draft drawn in favour of IGNOU and payable at New Delhi along with an attested photocopy of offer of admission/employment. You can submit your request for early declaration before the commencement of the term-end examination i.e. before 1st June and 1st December, respectively. The University, in such cases, will make arrangement for early processing of answer scripts and declare the result as a special case possibly within a month time from the date of conduct of examination.

Early declaration of result is permissible in term-end examinations only and not in Practicals/Lab courses, Project and Assignment.

A sample prescribed application form with rules and regulations in detail for this purpose is enclosed as Form No.13 in the programme guide and is also available at University's website <u>www.ignou.ac.in</u>.

Re-evaluation of Answer Script(s)

If you are not satisfied with the marks/grade awarded to you in Term-end Examination you may apply for re-evaluation before 31st March for result of December term-end examination and 30th September for result of June term-end examination or within one month from the date of declaration of results i.e. the date on which the results are made available on the University's website. You are required to pay the prescribed fee per course by means of demand draft drawn in favour of IGNOU and payable at New Delhi in the prescribed application form. The better of the two scores of original marks and marks after re-evaluation will be considered and updated in student's record.

Re-evaluation is permissible in term-end examination only and not in Practicals/Lab courses, Project, Workshop, Assignment and Seminar etc.

A sample prescribed application form with rules and regulations in detail for this purpose is enclosed as Form No.3 in the programme guide and is also available at University's website <u>www.ignou.ac.in</u>.

Improvement in Division/Class

If you have completed the programme and wish to improve your Division/Class you may do so by appearing in term-end examination provided you fall short of 2% marks to secure overall 55% marks.

You may apply in the prescribed application form from 1st to 30th April for June term-end examination and from 1st to 31st October for December term-end examination alongwith prescribed fee per course by means of demand draft drawn in favour of IGNOU and payable at New Delhi.

The improvement is permissible in term-end examination only and not in Practicals/Lab courses, Project and Assignments.

A sample prescribed application form with rules and regulations in detail for this purpose is enclosed as Form No.14 in the programme guide and is also available at University's website **www.ignou.ac.in**.

Photocopy of the evaluated answer script

The students may obtain the photocopy of the evaluated answer scripts for the term-end examination on request. They may apply in the prescribed application form from 1st September to 15th October for June Term-end Examination and from 1st March to 15th April for December Term-end Examination along with the requisite prescribed fee per course by means of demand draft drawn in favour of 'IGNOU' and payable at 'New Delhi'.

A sample prescribed application form with rules and regulations in detail for this purpose is given as Form No.15 in the programme guide and also made available at University's website <u>www.ignou.ac.in</u>.

Issue of official transcript

The students may also obtain 'Official Transcript' for submission to the Overseas or Indian Institutes/Universities on request. They may apply in the prescribed form by paying the requisite fee as under by means of demand draft in favour of 'IGNOU' and payable at 'New Delhi':-

- 1. Prescribed fee per transcript, if it is to be sent to the students/institutes in India.
- 2. Prescribed fee per transcript, if required to be sent to the Institutes outside India by the University.

A sample prescribed application form with rules and regulations in detail for this purpose is given as Form No.16 in the programme guide and also made available at University's website <u>www.ignou.ac.in</u>.

3. OTHER USEFUL INFORMATION

Reservation

The University provides reservation of seats for Scheduled Castes, Scheduled Tribes, non-creamy layer of OBC, War widows, Kashmiri Migrants and Physically Handicapped learners, as per the Government of India rules, for various programmes of the University.

Scholarships and Reimbursement of Fee

Reserved Categories viz., Scheduled Castes, Scheduled Tribes, Other Backward Classes and Physically Handicapped students have to pay the full fee at the time of admission to the University along with other Students.

Physically Handicapped students admitted to IGNOU are eligible for Government of India scholarships. They are advised to collect scholarship forms from the respective State Government Directorate of Social Welfare or Office of the Social Welfare Officer and submit the filled in-forms to them through the Regional Director concerned.

Similarly, SC/ST, and Other Backward Classes students also have to collect and submit the filled in scholarship forms to the respective State's Directorate of social Welfare or Office of the Social Welfare Officer, through the concerned Regional Director of IGNOU for reimbursement of Programme fee.

Scholarship scheme of National Centre for Promotion of Employment of Disabled People (NCPEDP) for post graduate level programme is applicable to the students of this University also. Such students are advised to apply to awarding authority.

Change/Correction of Address and Programme Centre

There is a printed card for change/correction of address and change of Study Centre which is dispatched along with the study material. In case there is any correction/change in the address, you are advised to make use of Form No.4 provided in the Programme Guide and send it to the **Regional Director concerned** who will forward the request, after verifying your signature, to SR&E Division, Maidan Garhi, New Delhi – 110 068. **Requests received directly at SRD, New Delhi will not be entertained. The form for change of address can also be downloaded from IGNOU website <u>www.ignou.ac.in</u>. You are advised not to write letters to any other officer in the University in this regard. Normally, it takes 4-6 weeks to effect the change. Therefore, you are advised to make your own arrangements to redirect the mail to the changed address during this period. In case a change of Study Centre is desired, you are advised to fill the proforma and address it to the Regional Centre concerned. You can request a change to only those Programme Study Centres where M.Sc. (MACS) is activated. Request for change of Study Center is normally accepted subject to availability of seat for the programme at the new centre asked for. Change of Address and Study Centre is not permitted until admissions are finalized. Similarly, change of Study Centre is not permissible in programmes where practical components are involved.**

Incomplete and Late Applications

Incomplete application forms/Re-registration forms, received after due date or having wrong options of courses or electives or false information, will be summarily rejected without any intimation to the learners. You are, therefore, advised to fill the relevant columns carefully and enclose the self attested copies of all the required certificates. **The form is to be submitted to the Regional Director concerned ONLY on or before the due date**. The application form sent to other offices of the University will not be considered and the applicant will have no claim whatsoever on account of this.

Refund of Fee

Fee once paid will not be refunded under any circumstances. It is also not adjustable against any other programme of this University. However, in cases where University denies admission, the programme fee

will be refunded after deduction of registration fee through A/c Payee Cheque only by Regional Centre concerned.

Credit Transfer

"Credit transfer" means allowing a student of another university to get admitted to IGNOU for completing any equivalent degree/diploma programme on the basis of credits obtained by him/her from that University. A student thus admitted need not write IGNOU examinations for such courses which are found equivalent to and for which appropriate credits would be deemed to have been acquired for, and for purposes of fulfilling the IGNOU requirements for award of a degree/diploma.

Eligibility

The credit transfer scheme is applicable only to those candidates who have not completed their degree from any other recognized university but want to complete it through IGNOU.

Modalities

- The credit transfer scheme for M.Sc. (MACS) is applicable only from post-graduate courses.
- Credit transfer will be permissible in the case of students coming from institutions established by an Act of Parliament or by an Act of State Legislature, or a "Deemed to be University", or an "Institution of National Importance", or institutions recognized by statutory bodies like AICTE, ICMR, ICAR, CSIR, etc.
- Credit transfer can be done **only on the basis of individual courses** and not on the basis of year to year courses as in conventional institutions.
- Credit transfer for a maximum of 50% credits (i.e., upto 32 credits) of this programme is permissible. In order to complete M.Sc. (MACS) programme from IGNOU, a student will be required to earn **at least** 50%, i.e., 32 credits from this programme. However, those students who fail to complete the programme in the prescribed period can apply for fresh admission. If they are admitted, they will be given credit transfer for all the courses which have not been revised in the intervening period.
- The degree certificate or the mark sheet given to the students will specifically indicate the credits earned in IGNOU and those obtained from any other institution.
- The basis of credit transfer will be
 - a) Course coverage of at least 75%.
 - ii) A minimum of 40% marks clearly obtained for this coverage.
- IGNOU "Programme" and "Courses" means "courses" and "subjects" or "papers", respectively of conventional universities.
- Students seeking credit transfer should apply directly to **The Registrar (SRD)**, **IGNOU**, **Maidan Garhi**, **New Delhi-110 068**, in the prescribed form enclosing the following items:
 - i) A Demand Draft of Rs.200/- per course drawn in favour of IGNOU and Payable at New Delhi.
 - ii) Attested copies of Mark Sheet(s); and
 - iii) Attested copies of syllabi of courses covered by them.
- Applications for credit transfer will be examined by the Mathematics Discipline Group at the Headquarters of the University. This process will usually take a period of two months from the date of receipt of such requests with all the relevant documents. A sample prescribed application form for this purpose is enclosed as Form No.7 in the programme guide.

Issue of Duplicate Grade Card/Mark sheet

A duplicate Grade Card is issued after a request is made on the prescribed form (Form No.5) along with a draft of Rs.200/- to be paid in favour of IGNOU, New Delhi. The form for this purpose is given in this programme guide.

Re-admission

If you are not able to complete the programme in a maximum of 4 years, the University has made a special provision for re-admission. The re-admission period for Master degree programme is 2 years. The form and the guidelines are available in the Programme Guide (Form No.12). Kindly fill and submit it as per instructions.

Recognition

IGNOU Degree/Diplomas/Certificates are recognised by all member Universities of Association of Indian University (AIU) and are at par with Degrees/Diploma/Certificates of all Indian Universities/Institution, as per UGC Circular letter No. F.1-52/2000 (CPP-II) dated May 5, 2004, AIU Circular No. EV/11 (449/94/176915-177115) dated January 14, 1994 and AICTE circular No. AICTE/Academic/Nov-Dec/2005 dt. May 13, 2005.

Disputes

Regarding any disputes on University matters, the place of jurisdiction for filing a suit, if necessary, will only be at New Delhi/Delhi.

1)	For non-receipt of study material, assignments etc.	Regional Centre concerned
2)	For Programme centre and missing score of assignments & term end examination in Grade Cards.	 Assignments Assistant Registrar (Assignment) Student Evaluation Division Block-3, Room No. 12 IGNOU, Maidan Garhi New Delhi – 110 068 assignments@ignou.ac.in 2. Dy. Registrar (EX-III) Student Evaluation Division Block-12, Room No. 1 IGNOU, Maidan Garhi New Delhi – 110 068 skranthan@ignou.ac.in
3)	For Student Support Service	Regional Director Student Service Centre IGNOU, Maidan Garhi New Delhi – 110 068 <u>ssc@ignou.ac.in</u>
4)	Student Grievances related to examinations	Assistant Registrar (Student Grievance Cell) Student Evaluation Division Block-3, Room No. 13 IGNOU, Maidan Garhi New Delhi – 110 068 <u>sregrievance@ignou.ac.in</u>
5)	For Purchasing Audio/Video Tapes	Marketing Unit, EMPC Indira Gandhi National Open University, Maidan Garhi New Delhi-110068
6)	For academic matters	Director, School of Sciences Indira Gandhi National Open University Maidan Garhi, New Delhi-110068 E-mail: <u>sos@ignou.ac.in</u> .

Some Useful Contact Addresses

You are also advised to get in touch with the Facilitator/Assistant coordinator of your study centre for timely information.

4. SOME FORMS FOR YOUR USE

We are enclosing the samples of following forms for your use.

- 1. Intimation of Non-receipt of Study Material/Assignment (Form No.1)
- 2. Examination Form (Form No.2)
- 3. Form for Re-evaluation of Answer-scripts (Form No.3)
- 4. Change/Correction of Address and Programme Centre (Form No.4)
- 5. Form for Duplicate Grade Card (Form No.5)
- 6. Form for Provisional Certificate (Form No.6)
- 7. Form for Credit Transfer (Form No.7)
- 8. Migration Certificate Form (Form No.8)
- 9. Course Re-registration Form for Second Semester (Form No.9)
- 10. Course Re-registration Form for Third Semester (Form No.10)
- 11. Course Re-registration Form for Fourth Semester (Form No.11)
- 12. Re-admission Form (Form No.12)
- 13. Early Declaration of Result (Form No.13)
- 14. Improvement in Division/Class (Form No.14)
- 15. Form for Photocopy of the Evaluated Answer Script (Form No.15)
- 16. Issue of Official Transcript (Form No.16)

To, Regional Director concerned

Sub: Non-receipt of Study Material/Assignment					
Enrolment No.					
Programme	Medium of Study				
I have not received the Study Material/Assignments in respect of the following:					

Sl. No.	Course Code	Blocks	Assignments

I have remitted all the dues towards the course fee and there is NO CHANGE in any address given as follows:

Name and Address:		Signature:
		Date:
	For Official Use	

Date of despatch of study material/assignments to students.



INDIRA GANDHI NATIONAL OPEN UNIVERSITY STUDENT EVALUATION DIVISION MAINDAN GARHI, NEW DELHI-110 068 TERM END EXAM JUNE/DECEMBER-20____

EXAM FORM

Serial No.

Control No.

INSTRUCTIONS 1. Use BLACK BALL POINT PEN in boxes using English capital letters or English numerals 2. Write in CAPITAL LETTERS only within the box without touching the lines as shown in the sample below. 0 1 2 3 4 5 6 7 8 9 A B C D E F G H I J K L M N O P O R S T U V V X Y Z					
Programme Code	Study Centre	e Code			
Enrolment No.	Exam Centre C (where you wish	Code to appear in Exam)			
Name of the Candidate (Leave on	ne box empty between First Name, Middle Nan	ne and Surname)			
Address for Correspondence (Do	not give Post Box No. address. Leave a blank	box between each unit of address like			
House No., Street Name, P.O., etc	c.)				
City		District			
State		Pin Code			
the First time OR fa Practical Courses for BCA, M FEE @ 1 S. No. Course Code	es for which appearing for ailed in the earlier TEEs including ICA, BIT/ADIT/PGDLAN/BLIS Programme Rs.120/- PER COURSE	Course codes (Exam arready taken in last TEE but result awaited on the date of submission of the exam form) (For result please visit IGNOU site www.ignou.ac.in) NO EXAM FEE TO BE PAID S. No. Course Code			
1.	9.	1.			
2.		2.			
3.					
		3.			
4.		4.			
4. 5.	12. 13.	3. 4. 5. 1			
4.	12. 13. 14. 14.	3. 4. 5. 6.			
4.	12. 13. 14. 15.	3. 4. 5. 6. 7. 1			
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4. . . . 5. . . . 6. . . . 7. . . . 8. . . . FEE DETAILS (Please write you Nar Total No. of Courses . . Practical . 12 Courses . . . Late Fee . . . SIGNAUTRE OF THE STUDENTS (within the Box only) . .	12. 13. 13. 14. 15. 16. 16. 10. 16. 10. 17. 10. 18. 10. 19. 10. 10. 10. 10. 10. 11. 10. 12. 10. 13. 10. 14. 10. 15. 10. 16. 10. 10. 10.				
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DECLARATION

I hereby affirm that I have submitted/will submit all the required number of assignments as applicable for the above course(s) within the deadlines prescribed by the University to the appropriate authority for evaluation. I also affirm that my registration for the above course(s) is valid and not time barred. If any of my above statements are found to be untrue, I will have no claim for taking examination. I undertake that I shall abide by the rules and regulations of the University.

Date:		(Signature of the Students)

Dates for Submission of Exam Forms					
FOR JUNE TEE	LATE FEE		FOR DEC. TEE	LATE FEE	
1 st March to 31 st March	NIL		1 st Sept. to 30 th Sept.	NIL	
1 st April to 30 th April	Rs.500/-		1 st Oct. to 30 th Oct.	Rs.500/-	
1 st May to 15 th May*	Rs.1000/-		1 st Nov. to 15 th Nov.*	Rs.1000/-	
16 th May to 28 th May*	Rs.1000/-		16 th Nov. to 28 th Nov.*	Rs.1000/-	

* During these dates submit the examination form with late fee to concerned Regional Centre (For outside Delhi); For Delhi, submit to the Registrar (SED), Exam for these students will be conducted at Regional Centre city only.

Examination form without late fee can be submitted by Regd. Post/Speed Post along with the requisite fee (in the form of demand draft at SE Division, IGNOU, Maidan Garhi, New Delhi – $110\,068$ or at the concerned Regional Centre within the stipulated dates.

INSTRUCTIONS FOR FILLING UP THE EXAM FORM

- 1. Please send the examination form by Registered Post/Speed post and retain the proof of its mailing till you receive the Hall Ticket.
- 2. Students should submit the examination form only once for each Term-end Examination.
- 3. Examination fee @ Rs.120/- per course in the form of demand draft drawn in favour of IGNOU and payable at New Delhi is required to be sent along with the Examination Form.
- 4. It is advisable that students fill-up the examination form without waiting for the result of the previous examination. No Examination fee is required to be paid for the courses for which the student appeared in the preceding TEE and the result has not been declared on the date of submission of the Examination form.
- 5. Term-end Examination result is also available on the university website i.e., <u>www.ignou.ac.in</u> Please see the result status before filling examination form.
- 6. If you fail to receive Examination Intimation Slip one week before commencement of examination, you may visit our website <u>www.ignou.ac.in</u> and download Hall Ticket and report to Examination Centre with your Identity Card.
- 7. Normally the Study Centre is the Examination Centre. In case you wish to take examination at a particular centre, the code of your chosen centre be filled up as Examination Centre Code. However, if Examination Centre chosen by you is not activated, you will be allotted another Examination Centre under the same Region.
- 8. Change of Examination Centre, once allotted, is not permissible under any circumstances.
- 9. Please write correct course code(s) as indicated in your Programme Guide, failing which the course(s) will not be included in Hall Ticket for taking examination. (For example ECO-01/NS-02).
- 10. In case wrong/invalid course code is mentioned in examination form, the course will not be included in the Hall Ticket and the examination fee paid will not be refunded.
- 11. Students are advised to enclose/forward only the Examination fee alongwith this form. Any other fee forwarded with the Exam fee will result in rejection of the Examination Form.
- 12. Student of BA/B.Com/BCA/BTS Programme can take examination for courses up to 48 credits and those of Management Programme can take examination for a maximum of 8 courses at a time.
- 13. Examination Form can also be submitted with the requisite fee (with or without late fee) within the stipulated dates at the respective Regional Centres.
- 14. Examination fee once paid will not be refunded/adjusted.



APPLICATION FORM FOR RE-EVALUATION OF ANSWER-SCRIPTS

(Rules & regulations are mentioned on the reverse side of this form. Please go through them carefully before filling up the form).

1.	Name:			
2.	Programme:	Enrolment No:		
3.	Address:			
		Pin		
4.	Month and Year of the Exam	iination:		
5.	Examintaion Centre Code:			
6.	Address of the Examination	Centre:		
7.	Courses, in which re-evaluation is sought	COURSE CODE	MARKS/GRADE OBTAINED	
		•••••	•••••	
		•••••		
		•••••	•••••	
8.	Fee detail:-			
	(The fee for Re-evaluation of demand draft drawn in favou	answer script is Rs.750/- per cou ır of 'IGNOU' & payable at 'Nev	urse, which is to be paid through w Delhi")	
	No. of Course(s)	×Rs.750/- Total Amount .		
	Demand Draft No	Date		

Issuing Bank

Date:

(Signature of the Student)

RULES & REGULATIONS FOR RE-EVALUATION OF ANSWER SCRIPTS

- 1. The request for re-evaluation by the student must be made before 31st March for December TEE and 30th September for June TEE or within one month of declaration of results whichever is later.
- 2. The date of declaration of results will be calculated from the date of which the result are placed on the IGNOU website.
- 3. After re-evaluation, the better of the two scores of original marks/grade and marks/grade after re-evaluation will be considered.
- 4. The revised marks/grade after re-evaluation shall be communicated to the student on receipt of reevaluation result and result of re-evaluation will also made available on the IGNOU website at <u>www.ignou.ac.in</u>. The minimum time required for re-evaluation shall be 30 days from the date of receipt of applications.
- 5. Re-evaluation is permissible in TEE only and not in the Projects/Dissertation/Practicals/Lab courses, Workshops, Assignments & Seminar etc.
- 6. On the top of the envelope containing the prescribed application form, Please mention "APPLICATION FORM FOR RE-EVALUATION OF ANSWER SCRIPTS"
- 7. Application form must reach within the prescribed dates at the following address:-

The Registrar, Student Evaluation Division, Indira Gandhi National Open University, Maidan Garhi, New Delhi-110 068

Form No.4

APPLICATION FOR CHANGE OF ADDRESS AND PROGRAMME CENTRE

	Date:
To, Regional Director concerned	
Enrolment No	
Programme	
Name (in caps)	
DETAILS FOR CHANGE/C	ORRECTION OF MAILING ADDRESS
New Address	Old Address
City Pin	City Pin
State	State
State DETAILS FOR CI	State
State DETAILS FOR CH New Programme Centre	State HANGE OF PROGRAMME CENTRE Old Programme Centre
State DETAILS FOR CH New Programme Centre Programme Centre Code	State HANGE OF PROGRAMME CENTRE Old Programme Centre Programme Centre Code
State DETAILS FOR CH New Programme Centre Programme Centre Code	State HANGE OF PROGRAMME CENTRE Old Programme Centre Programme Centre Code
State DETAILS FOR CI New Programme Centre Programme Centre Code City Pin	State HANGE OF PROGRAMME CENTRE Old Programme Centre Programme Centre Code City Pin

Date: _____



INDIRA GANDHI NATIONAL OPEN UNIVERSITY STUDENT EVALUATION DIVISION

APPLICATION FORM FOR ISSUE OF DUPLICATE STATEMENT OF MARKS/GRADE

1.	Name:	
2.	Programme: Enrolment No:	
3.	Address:	
	Pin	
4.	Fee details:	
	(The fee for duplicate grade card is Rs.200/-, which is to be paid through demand draft drawn in favour of 'IGNOU' & payable at 'New Delhi')	l
	Demand Draft No Date Date	
	Issuing Bank	
	Date: (Signature of the student)	
	The filled in form with the requisite fee is to be sent to:	
	The Registrar, Student Evaluation Division, Indira Gandhi National Open University, Maidan Garhi, New Delhi-110 068	

Indira Gandhi National Open University Student Evaluation Division Maidan Garhi, New Delhi – 110 068

APPLICATION FORM FOR ISSUE OF PROVISIONAL CERTIFICATE

Enrolment No.	
Programme Title	
Name:	
Father's name:	
Month and year of last examination in which you have completed the Programme	
Mailing address	
Please write the names of the co successfully completed and encl a copy of your complete grade c	burse(s) lose card.
1	
2	
3	
4	
5	
6	
	Signature
Date:	
The filled in form is to sent to:	

The Registrar

Maidan Garhi New Delhi-110 068

Student Evaluation Division

Indira Gandhi National Open University

Form No. 7

Indira Gandhi National Open University Maidan Garhi, New Delhi – 110 068

APPLICATION FORM FOR CREDIT TRANSFER IN M.Sc (MACS) PROGRAMME

Enrolment No.]
Name & Address	 Programme of study:
	 Details of Credit Transfer fee paid:
	 D.D. No Date Amount
	 Drawn on (Bank & Branch) Payable in favour of IGNOU, New Delhi (fee is Rs.200/- per course)

Details of Courses applied for Credit Transfer:				IGNOU Credit Equivalence desired							
Sl. No.	Subject(s) Qualified	Maximum Marks	% age marks	e of N s C	Aarks Obtained	Year of Passing	Cours code	e Course	Title		Credits
All th	ne informatio	on provided a	above is	true to the	he best of	f my know	ledge	Stud	ent Signatur	e & Date:	
(For	Office use or	nly)									
Recommendation of School:											
Cred	it Transfer re	commended	for the f	followin	g courses	Cre	lit Trans	fer for the t	following co	ourses not	
Cred	it Transfer re	commended	for the	followin	g courses	Cre reco	dit Trans mmende	fer for the f d	following co	ourses not	
Cred Cour Code	it Transfer re se Course Title	commended C	for the tredits	followin % age	g courses	ure Cou	dit Trans ommende rse Co e Tit	fer for the f d urse le	Collowing co	Reason	Signature of the
Cred Cour Code	it Transfer re se Course Title	commended C M	for the fredits larks	followin % age	g courses Signat of Directo	Cre reco ure Cou Coo or	dit Trans ommende rse Co e Tit	fer for the t d urse le	Collowing co	Reason for rejection	Signature of the Director
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Cred. Cour Code	it Transfer re	commended C M	for the fredits Iarks	followin % age	g courses Signat of Directo of Sch	Cre reco ure Cou Coo ool	dit Trans ommende rse Co e Tit	fer for the f d urse le	Credits	Reason for rejection	Signature of the Director of School
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Cred	it Transfer re	commended C M	for the fredits larks	followin % age	g courses Signat of Directo of Sch	Cre reco ure Cou Coc or ool	dit Trans ommende rse Co e Tit	fer for the f d urse le	Credits	Reason for rejection	Signature of the Director of School
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Form No. 8

INDIRA GANDHI NATIONAL OPEN UNIVERSITY

Ke	eceived Rs
D.I	.D. No
To be submitted at the Regional Centre Concerned)	ate:
Ba	ank Name
Pla	ace of Issue

FORM OF APPLICATION FOR ISSUE OF MIGRATION CERTIFICATE

(To be filled by the Applicant – Before filling in the form, see instructions on reverse)

1.	1. Name and address of the Applicant:						
2.	Father's Name:						
3.	3. Particulars of last Examination:						
Exar (Pro	nination Passed gramme)	Year of Passing	Enrolment No.	Marks Obtained	Grade Obtained		
4.	Name of the Regional Study Centre to which is attached	Centre and the Candidate					
5.	Name of the Universit Candidate wants to mi	y to which the grate					
		(To be filled	in by the Regional	Centre)			
1.	The information furnish is correct as per the sch	ned by Shri/Smt./Ku olar register.	m				
2.	He/She may be issued t	he Migration Certifi	icate applied for.				
]	Date Dealing Assistant Section Officer						
I her fees liabl	by declare that the inf due to the University. e to cancellation by the	ormation provided i In the event of any i University.	s correct to the best information being fo	of my knowledge an ound incorrect the Ce	d I have paid all the rtificate shall be		
Rece	eived the Migration Cer	tificate No	Da	ated			
Date	ed:	_	S	ignature of the Appli	cant		
Note	e: See instructions over	leaf					

INSTRUCTIONS

A fee of Rs.300/- should be remitted by way of a Demand Draft drawn in favour of IGNOU and payable at the Regional Centre concerned.

At the time of submission of the application for issue of Migration Certificate, the applicant should attach a xerox copy of the consolidated Statement of Marks or Provisional Certificate issued by this University (duly attested) for verification.

Duplicate Migration Certificate can be issued on payment of Rs.200/- only in case the same has been lost, destroyed or mutilated, on admission of an Affidavit drawn upon a non-judicial stamp paper of the value of Rs.2/- to be sworn before a Magistrate on the following format:

"І,	son/daughter of	, resident of
		hereby solemnly declare that the
Migration Certificate No.	dated	issued to me by the
	to enal	ble me to join

University has been lost and that I did not join any other University on basis of the same nor have I submitted the same for joining any other University".



INDIRA GANDHI NATIONAL OPEN UNIVERSITY COURSE RE-REGISTRATION FORM FOR M.Sc (MACS)

En Re	rolment No.	in form along with fee to: The Regional Director of your Regional Centre
Ser	M.Sc. (MACS)IIIIIVII	* as per schedule
1.	Name of the Student (In capital letters):	
2.	Complete Address:	

Details of fee paid: Draft is to be made in the name of IGNOU payable at the city of the Regional Centre.

- a. Name of the Bank______ Place _____
- b. Bank Draft No. _____ Dated _____
- c. Amount of Rs. ______(Rs. 5500/- + the late fee as applicable)

(If you have paid the fee by way of Challan at the designated Bank Branch, attach the Challan, in original)

I hereby register for the following courses of M.Sc. (MACS) commencing July Session.

List of Courses

The list of courses on offer for II semester is given below. All courses are compulsory.

S. No **Course Code** Title of the Course **Type of Course** Credits 1. **MMT-003** Algebra Core 4 2. **MMT-006** Core 4 **Functional Analysis** 3. **MMT-008** Core 8 Probability and Statistics

Second Semester

Note: 1) For all the above courses, a student is eligible for appearing in TEE after six month of commencement of session. For this you may fill up the examination form as per schedule notified by the University.

2) Please keep a photocopy of this form for your record.

Date: _____

Signature of student_____

E-Mail ID

Mobile/Ph. No. _____

*Schedule for submission of Re-registration form at the Regional Centre only:

S. No.	July Session	January Session	Late Fee
1.	1 st February to 31 st March	1 st August to 1 st October	Nil
2.	1 st April to 30 th April	3 rd October to 31 st October	Rs.200/-
3.	1 st May to 31 st May	1 st November to 30 th November	Rs.500/-
4.	1 st June to 20 th June	1 st December to 20 th December	Rs.1000/-

PS: Students are required to fill-up compulsorily the statistical information in the enclosed Annexure-I of the RR Form.

Form No. 9 Send this filled-

INFORMATION FOR STATISTICAL PURPOSE. STUDENTS ARE REQUIRED TO FILL-UP THIS ANNEXURE COMPULSORILY.

1.	Name of student:
2.	Enrol. No.:
3.	Programme Code:
4.	Category: (Cross (X) the appropriate Box only)
	General SC ST OBC
5.	Whether Kashmiri Migrant: (Cross (X) if applicable)
6.	Whether Physically handicapped: (Cross (X) if applicable
7.	Whether minority: (Cross (X) if applicable)
8.	Social Status: (Cross (X) the appropriate Box only)
	Ex-service man War-widow Not applicable
9.	Employment Status: (Cross (X) the appropriate Box only)
	Unemployed Employed IGNOU Employee KVS Employee
10.	Religion: Cross (X) the appropriate Box only
	Hindu Muslim Christian Sikh Jain Buddhist Parsi Jew Others (Please specify
11.	Details of Scholarship being received, if any.
	(a) Amount (annually) (b) Govt./Deptt. (c) Family income (yearly)
	Rs. Rs. Rs.



Form No.10

INDIRA GANDHI NATIONA	AL OPEN UNI	VERSITV	
COURSE RE-REGISTRATION	FORM FOR	M.Sc (MACS)	Send this filled- in form along
Enrolment No.			with fee to: The Regional
Regional Centre Code Study Centre Co	ode		Director of your Regional Centre
Semester to which registration is sought (Please $$):	M.Sc. (1 11 11	MACS) I IV	* as per schedule
	1		
1. Name of the Student (In capital letters):			
2. Complete Address:			

Details of fee paid: Draft is to be made in the name of IGNOU payable at the city of the Regional Centre.

- a. Name of the Bank______ Place _____
- b. Bank Draft No. _____ Dated _____
- c. Amount of Rs. ______(Rs. 5500/- + the late fee as applicable)

(If you have paid the fee by way of Challan at the designated Bank Branch, attach the Challan, in original)

I hereby register for the following courses of M.Sc. (MACS) commencing January Session.

List of Courses

The list of courses on offer for III semester is given below. All courses are compulsory.

S. No **Course Code** Title of the Course **Type of Course** Credits 1. **MMT-009** Mathematical Modelling Core 2 2. 4 MMTE-001 Graph Theory Elective 3. **MMTE-002** Design & Analysis of Algorithms Elective 4 4. **MMTE-003** Pattern Recognition & Image Processing Elective 4 5. 2 MMTE-004 Elective **Computer Graphics**

Third Semester

Note: 1) For all the above courses, a student is eligible for appearing in TEE after six month of commencement of session. For this you may fill up the examination form as per schedule notified by the University.

2) Please keep a photocopy of this form for your record.

Date: ____

Signature of student_____

E-Mail ID _____

Mobile/Ph. No. _____

*Schedule for submission of Re-registration form at the Regional Centre only:

S. No.	July Session	January Session	Late Fee
1.	1 st February to 31 st March	1 st August to 1 st October	Nil
2.	1 st April to 30 th April	3 rd October to 31 st October	Rs.200/-
3.	1 st May to 31 st May	1 st November to 30 th November	Rs.500/-
4.	1 st June to 20 th June	1 st December to 20 th December	Rs.1000/-

PS: Students are required to fill-up compulsorily the statistical information in the enclosed Annexure-I of the RR Form.
INFORMATION FOR STATISTICAL PURPOSE. STUDENTS ARE REQUIRED TO FILL-UP THIS ANNEXURE COMPULSORILY.

ot applicable
KVS Employee
Parsi Jew Others (Please specify
)
Family income (yearly)
Rs.
ot applicabl



INDIRA GANDHI NATIONAL OPEN UNIVERSITY COURSE RE-REGISTRATION FORM FOR M.Sc (MACS)

Enr Reg	rolment No.	in form along with fee to: The Regional Director of your Regional Centre
Sen	M.Sc. (MACS)IIIIIIV	* as per schedule
1.	Name of the Student (In capital letters):	
2.	Complete Address:	

Details of fee paid: Draft is to be made in the name of IGNOU payable at the city of the Regional Centre.

- a. Name of the Bank______Place _____
- b. Bank Draft No. _____ Dated _____
- c. Amount of Rs. ______(Rs. 5500/- + the late fee as applicable)

(If you have paid the fee by way of Challan at the designated Bank Branch, attach the Challan, in original)

I hereby register for the following courses of M.Sc. (MACS) commencing July Session.

List of Courses

The list of courses on offer for IV semester is given below. All courses are compulsory.

S. No	Course Code	Title of the Course	Type of Course	Credits
1.	MMTE-005	Coding Theory	Elective	4
2.	MMTE-006	Cryptography	Elective	4
3.	MMTE-007	Soft Computing & its Applications	Elective	4
4.	MMTP-001	Project	Compulsory	4

Fourth Semester

Note: 1) For all the above courses, a student is eligible for appearing in TEE after six month of commencement of session. For this you may fill up the examination form as per schedule notified by the University.

2) Please keep a photocopy of this form for your record.

Date: ____

Signature of student_____

E-Mail ID _____

Mobile/Ph. No.

Form No.11

Send this filled-

*Schedule for submission of Re-registration form at the Regional Centre only:

S. No.	July Session	January Session	Late Fee
1.	1 st February to 31 st March	1 st August to 1 st October	Nil
2.	1 st April to 30 th April	3 rd October to 31 st October	Rs.200/-
3.	1 st May to 31 st May	1 st November to 30 th November	Rs.500/-
4.	1 st June to 20 th June	1 st December to 20 th December	Rs.1000/-

PS: Students are required to fill-up compulsorily the statistical information in the enclosed Annexure-I of the RR Form.

INFORMATION FOR STATISTICAL PURPOSE. STUDENTS ARE REQUIRED TO FILL-UP THIS ANNEXURE COMPULSORILY.

1.	Name of student:
2.	Enrol. No.:
3.	Programme Code:
4.	Category: (Cross (X) the appropriate Box only)
	General SC ST OBC
5.	Whether Kashmiri Migrant: (Cross (X) if applicable)
6.	Whether Physically handicapped: (Cross (X) if applicable
7.	Whether minority: (Cross (X) if applicable)
8.	Social Status: (Cross (X) the appropriate Box only)
	Ex-service man War-widow Not applicable
9.	Employment Status: (Cross (X) the appropriate Box only)
	Unemployed Employed IGNOU Employee KVS Employee
10.	Religion: Cross (X) the appropriate Box only
	Hindu Muslim Christian Sikh Jain Buddhist Parsi Jew Others (Please specify
11.	Details of Scholarship being received, if any.
	(a) Amount (annually) (b) Govt./Deptt. (c) Family income (yearly)
	Rs. Rs.

Form No.12

STUDENTS REGISTRATION DIVISION INDIRA GANDHI NATIONAL OPEN UNIVERSITY MAIDAN GARHI, NEW DELHI – 110 068

RE-ADMISSION FORM

(For M.Sc. (MACS))

1. Name & Address of the student ______

2. Programme Code:

3. Enrolment No.

4. Programme Centre (Name the city)

- 5. Course Fee: @ **Rs.300/-** per credit
- 6. Details of course(s) not completed for which re-admission is sought.

S.No.	Course Code	Title of the Course	Credits	Course Fee (Rs.)
			Total Rs.	

7. Details of re-registration for the missed year(s)/semester(s), if any:

Year(s)/semester(s)	Course Code(s) of the missed year(s)/semester(s)	Re-registration Fee (Rs.)

8. Total Fee (Col. No. 6, 7) Rs._____ enclosed vide Demand Draft No._____

Date ______ of ______ (Name of Bank)

(DD Should be drawn in favour of "IGNOU" payable at New Delhi)

Dated:_____

Mail this "Re-admission" form along with DD to Registrar, SRD, IGNOU, Maidan Garhi, New Delhi-110 068 on or before the last date mentioned above.

Signature of Student

(Please retain a copy of this form for any future reference)

Date for Submission 1st August to 30th September.

GUIDELINES FOR RE-ADMISSION

- 1. Re-admission is permissible in the following cases:
 - (a) Students who failed to complete the requirements in full or in part within the maximum span period prescribed.
 - (b) Students who failed to complete the requirement of attendance in practical as prescribed in programme curriculum within the maximum span period prescribed.
- 2. Students shall not be on rolls of the university beyond the extended period as stated at (3) below.
- 3. The extended period of two years will commence from the date of completion of the maximum duration of the programme for which the registration was done initially.
- 4. The credit earned by the student towards his/her courses and assignments successfully completed shall be retained for the revalidated period.
- 5. No study material will be supplied on re-admission. If the earlier study material is replaced, the student will be required to buy changed course material.
- 6. The students will be allowed to take re-admission in the old course(s) as long as the examination in the old course(s) is conducted by the University.
- 7. For the Programme containing practical component, the norms of the fee payable will be as decided by the respective Schools.
- 8. Students are required to pay the pro-rata re-admission fee in lump sum for all the courses they failed to successfully complete earlier.
- 9. Pro-rata fee for re-admission would be changed as and when the University revises the Programme fee for various programmes.
- 10. Other conditions as prescribed by the University relating to the admission and re-admission shall remain the same.
- 11. The Demand Draft for Re-admission fee should be drawn in favour of IGNOU payable at New Delhi. Please write your Enrol. No., Name and Programme code on the reverse of the Demand Draft.



INDIRA GANDHI NATIONAL OPEN UNIVERSITY STUDENT EVALUATION DIVISION

APPLICATION FORM FOR EARLY DECLARATION OF RESULT OF TERM-END EXAMINATION

(Rules & regulations are mentioned on the reverse side of this form. Please go through them carefully before filling up the form).

1.	Name:	••••••		•••••	•••••	•••••	•••••	•••••	••
2.	Programme:		Enrolment No:						
3.	. Address:								•
	•••••	••••••		•••••	•••••	•••••	•••••	•••••	••
	•••••		Pin						
4.	Reason for ear	ly declaration of resu	ılt:						
5.	(enclose a cop Course(s) deta	by of the documentar	y evidence specifying the re	eason fo	r early	decla	ratio	1)	
	Sl. No.	Course Code	Date of Exami	nation					
	i.								
	ii.								
	iii.								
	iv.								
6.	Exam. Centre	details, from where y	ou have to appear/appeare	d at Ter	·m-enc	l Exai	ninati	on:	
	Exam. Centre	Code:	Address of Exam. Centr	re:					
7.	Fee details:								
	(The fee for early declaration of result is Rs.1000/- per course, which is to be paid through demand draft drawn in favour of 'IGNOU' & payable at 'New Delhi')								
	No. of Course(No. of Course(s)× Rs.1000/- Total Amount							
	Demand Draft	No	Date	•••••	•••••	•••••	•••••	•••••	•
	Issuing Bank .	••••••		•••••	•••••	•••••	•••••	•••••	•

Date:

(Signature of the student)

RULES & REGULATIONS FOR EARLY DECLARATION OF RESULTS

- 1. Request for early declaration of results will be entertained for final semester/year maximum of 4 backlog courses only, subject to the following conditions:
 - i) The student has been selected for higher study/employment and statement of marks/grade card is required to be produced to the institute by a particular date, which is before the prescribed dates of declaration of the University's results.
 - ii) The student has completed all the other prescribed components except the term-end examination of the courses, for which early evaluation has been sought.
- 2. Application for early declaration, for the reasons such as to apply for recruitment/higher study/post and promotion purpose etc. will not be entertained.
- 3. Application without enclosing documentary evidence specifying the reason for early declaration will not be entertained.
- 4. Application form must reach at the following address before the date of the examination for the course(s) for which early evaluation is sought:

The Registrar Student Evaluation Division Indira Gandhi National Open University Maidan Garhi New Delhi – 110 068



INDIRA GANDHI NATIONAL OPEN UNIVERSITY STUDENT EVALUATION DIVISION

APPLICATION FORM FOR IMPROVEMENT IN DIVISION/CLASS

(Rul befor	es & regulations re filling up the f	are mentioned on the form).	ne reverse side of this form	n. Pleas	e go th	rough	them	carefu	ılly
Pres	cribed dates for s	submission of form:	 1st to 30th April for Ju 1st to 31st October for 	une Ter r Decen	m-end ber Te	Exam. erm-en	d Exa	m.	
1.	Name:				•••••	••••	•••••	•••••	•
2.	Programme:		Enrolment No:						
3.	Address:		••••••	• • • • • • • • • •	• • • • • • • • • •	•••••	•••••	•••••	•
	•••••						•••••	•••••	•
	•••••		Pin						
4.	Term-end exam	nination, in which pr	ogramme completed June	e/Decen	nber	•••••	•••••	•••••	••••
	Total	marks/Overall poin	t grade obtained	Perce	entage	obtain	ed		
	(Pleas	se enclose photocopy	of the statement of marks	s/gardes	s card)	•••••	•••••	•••••	• • • • •
5.	Course(s), in wi	hich 5 sought:	Course Code		Cou	rse Co	de		
	r	1.	•••••		4	•••••	•••••	•••••	
		2.	•••••		5	•••••	•••••	•••••	
		3.	•••••						
6.	Fee details:								
	(The fee for In demand draft d	nprovement in Divi lrawn in favour of 'l	ision is Rs. 750/- per cou IGNOU' & payable at 'Nev	ırse, w w Delhi	hich is	s to be	paid	throu	ıgh
	No. of Course(s		×Rs.750/- Total Amou	unt	•••••	•••••	•••••		•••
	Demand Draft	No	Date	•••••	•••••	• • • • • • • • • •	••••••	••••••	••••
	Issuing Bank	••••••			•••••	•••••	•••••	•••••	
7.	Term-end exam	nination, in which yo	ou wish to appear: June/Do	ecembe	r	••••	• • • • • • • •	•••••	•••
8.	Examination ce	entre details, where y	you wish to appear in term	1-end ex	kamina	tion:			
	Exam. Centre (Code:	City/Town	• • • • • • • • • •		• • • • • • • • •	•••••	•••••	••••
			•••	•••••	•••••	•••••	•••••	•••••	••••

UNDERTAKING

I hereby undertake that I shall abide by the rules & regulations prescribed by the University for improvement in Division/Class.

Date:	Signature
Place:	Name:

RULES & REGULATIONS FOR IMPROVEMENT IN DIVISION/CLASS

- 1. The improvement of marks/grade is applicable only for the students of the Bachelor's/Master's Degree Programme, who have completed the programme. The eligibility is as under:
 - i) The students of Bachelor's/Master's degree programmes who fall short of 2% marks to secure 2^{nd} and 1^{st} division.
 - ii) The students of Master's degree programmes only, who fall short of 2% marks to secure overall 55% marks..
- 2. Only one opportunity will be given to improve the marks/grade.
- 3. The improvement is permissible only in theory papers. No improvement is permissible in Practicals/Lab courses, Projects and Assignments.
- 4. Under the Provision of improvement, a maximum of 25% of the maximum credits required for successful completion of a programme shall be permitted.
- 5. Students wishing to improve the marks will have to apply within six months from the date of issue of final statement of marks/grade card to them, subject to the condition that their registration for the programme/course being applied for improvement, is valid till the next term-end examination in which they wish to appear for improvement.
- 6. No student will be permitted to improve if maximum duration to complete the programme, including the re-admission period, has expired.
- 7. After appearing in the examination for improvement, better of the two examinations i.e., marks already awarded and the marks secured in the improvement examination will be considered. In such cases, the improved marks can be incorporated only on surrender of the Statement of Marks/Grade Card., Provisional Certificate and Degree Certificate already issued to the student.
- 8. In case of improvement, the month and year of completion of the programme will be changed to the Term-end examination, in which students appeared for Improvement.
- 9. Students will be permitted for improvement of marks provided the examination for the particular course, in which they wish to improve is being conducted by the University at that time.
- 10. On the top of the envelope containing the prescribed application form, Please mention 'APPLICATION FORM FOR IMPROVEMENT IN DIVISION/CLASS'
- 11. Application form must reach within the prescribed dates at the following address:

The Registrar Student Evaluation Division Indira Gandhi National Open University Maidan Garhi New Delhi – 110 068



INDIRA GANDHI NATIONAL OPEN UNIVERSITY STUDENT EVALUATION DIVISION

APPLICATION FORM FOR OBTAINING PHOTOCOPY OF THE ANSWER SCRIPT

(Rules & regulations are mentioned on the reverse side of this form. Please go through them carefully before filling up the form).

Prescribed dates for submission of form:	- 1 st March to 15 th April for June Term-end Exam.	
	1 st September to 15 th October for December Term-end	

Exam.

1.	Name:					
2.	Programme: Enrolment No:					
3.	Address:					
	Pin Pin					
4.	Details of the course(s), for which photocopy of the answer script(s) is/are required:					
	(a) Term-end examination: June/December					
	(b) Exam Centre Code:					
	(c) Exam Centre Address:					
	(d) Course(s):					
5.	Fee details:					
	(The fee for obtaining photocopy of the answer script is Rs.100/- per course, which is to be paid through demand draft drawn in favour of 'IGNOU' & payable at 'New Delhi')					
	No. of Course(s): × Rs.100/- Total Amount:					
	Demand Draft No Date Date					
	Issuing Bank					
6.	Self attested photocopy of the Identity Card: Attached/Not attached issued by the University					
	UNDERTAKING					

I hereby undetake that the answer script(s), for which photocopy(ies), applied for, belongs to me. For this purpose, I am enclosing self attested photocopy of my Identity Card issued by the University. In case, my statement is found false, the University may take action against me as deemed fit.

Date:	Signature:
Place:	Name:

RULES & REGULATIONS FOR OBTAINING PHOTOCOPY OF THE ANSWER SCRIPTS

- 1. Photocopy(ies) of the answer script(s) shall be provided to the students from December-2008 term-end examination (TEE), onwards.
- 2. The fee for photocopy of the answer script shall be Rs.100/- (Rupees One Hundred Only) per course. Fee shall be paid in the form of a Demand Draft in favour of IGNOU and payable at New Delhi.
- 3. Application form without self attested photocopy of the Identity Card of the student will not be entertained.
- 4. Student's application form for photocopy(ies) of the answer script(s) shall reach the Concerned Authority (as mentioned below in the last para) alongwith the prescribed fee within 45 days from the date of declaration of results. The date of receipt of application for June term-end examination shall be upto 15th October and for December term-end examination upto 15th April or within 45 days from the date of declaration of result on the University's website, whichever is later.
- 5. The students, who find that any portion of the answer was not evaluated or any totaling error is noticed, may point out the same and submit their representation alongwith a copy of the answer script supplied to them within 15 days. No other query regarding evaluation of answer script shall be entertained.
- 6. The students, who intend to apply for photocopy(ies) of the answer script(s) may simultaneously apply for re-evaluation, if they so desire. The last date for submission of application for re-evaluation will not be extended to facilitate them to point out discrepancy in the evaluation.
- 7. Application form must reach within the prescribed dates at the following address except for the answer scripts of CPE & DPE programmes:

The Registrar Student Evaluation Division Indira Gandhi National Open University Maidan Garhi New Delhi – 110 068

8. For the photocopy(ies) of the answer script(s) of CPE & DPE programmes, the application form may be sent to the Regional Centre concerned.



INDIRA GANDHI NATIONAL OPEN UNIVERSITY STUDENT EVALUATION DIVISION

APPLICATION FORM FOR ISSUE OF OFFICIAL TRANSCRIPT

1.	Name:	•••••	••••	••••	•••••	••••	••••	•••••	•••••	•
2.	Programme: Enrolment No:									
3.	Address:	••••	••••		•••••	••••	•••••	•••••	•••••	
		••••••	••••	••••	•••••	••••	••••	••••	•••••	,
	Pin									
4.	Purpose for which:	•••••	••••	•••••	••••	••••	••••	••••	••••	•••
	transcript is required	•••••	••••	••••	•••••	••••	••••	••••	••••	•••
5.	Fee details:									
	Fee for the official transcript:									
	Rs.300/- per transcript, if to be sent to the student/institute in India. Rs.500/- per transcript, if required to be sent to the Institute outside India by the University. (The requisite fee is required to be paid through demand draft drawn in favour of 'IGNOU' & payable at 'New Delhi')					&				
	No. of transcript(s):xRs.300/Rs.500/- Total Amount: Rs									
	Demand Draft No Date Date									
	Issuing Bank									
6.	Whether the transcripts to be mailed by the University: Yes/No (please tick)									
7.	Name & Address of the University/Institute/Employer (In capital letters) to whom transcript is required to be sent (attach a separate list, if required)									
		•••••	••••	••••	• • • • •	••••	••••	••••	••••	•••
	Date:		(Si	gna	ture	of 1	the s	stud	ent)	
	The filled in form with the requisite fee is to be sent to:									
	The Registrar Student Evaluation Division Indira Gandhi National Open University Maidan Garhi New Delhi – 110 068									

Note: The students are required to enclose same number of legible photocopies of both sides of the statement of marks/grade card issued to them, as the number of transcripts required.

5. DETAILS OF CORE COURSES

1. Programming & Data Structures (MMT-001)

This course is an introduction to the C programming language and basic data structures. The course provides the foundation in programming necessary for the other courses in the programme. The aim of this course is not to produce C programmers, but mathematicians who can write programs in C for research purposes. In this course, the emphasis is heavily on the practicals. The course does not assume any previous knowledge in programming. This course has 3 blocks and a laboratory manual. The first two blocks give an introduction to C programming. The third block is an introduction to data structures using the C language. The laboratory manual gives guidance on the practical component of the course. Practical component of this course is worth 2-credits.

Syllabus

Block 1: Introduction to C Programming Language

- Unit 1 Getting Started
- Unit 2 Data Types in C
- Unit 3 Operators and Expressions in C
- Unit 4 Decision Structures in C
- Unit 5 Control Structures-I

Block 2: Programming in C

- Unit 6 Control Structures-II
- Unit 7 Pointers and Arrays
- Unit 8 Functions-I
- Unit 9 Functions-II
- Unit 10 Files and Structs, Unions and Bit-fields

Block 3: Data Structures

- Unit 11 Introduction to Data Structures; Array
- Unit 12 Lists
- Unit 13 Stacks and Queues
- Unit 14 Trees
- Unit 15 Files

Block 4: Laboratory Mannual

- Unit 16 Introduction to Computers
- Unit 17 Introduction to Programming
- Unit 18 List of Practical Sessions

2. Linear Algebra (MMT-002)

This short course has been designed, keeping in mind the requirements of the applications that you would be coming across later in this programme. It aims to give you some background in the Jordan form, similarity, orthonormal bases, the Spectral Theorem for normal operators and some decompositions of matrices, all of them with a variety of applications.

While creating this course we have assumed that you have studied at least one semester course in Linear Algebra at the undergraduate level. In particular, we assume that you would have studied the content of the IGNOU course, MTE-02, 'Linear Algebra'. For your information, a copy of this material will be available at your programme centre.

Syllabus

Block 1: Jordan Canonical Form

2 credits

4 credits

Unit 1 Similarity

Unit 2 Jordan Form

Unit 3 Applications of the Jordan Form

Block 2: Applications of Unitary Matrices

- Unit 4 Unitary Similarity
- Unit 5 Positive Definiteness
- Unit 6 Matrix Decompositions

3. Algebra (MMT-003)

4 credits

This course delves into abstract algebraic structures such as groups, rings, and fields, aiming to enhance students' understanding of their properties and applications. The curriculum is designed to foster analytical skills and a deep comprehension of algebraic concepts, which are foundational to advanced studies in mathematics and computer science.

As in the other courses, we assume that you have the knowledge of the content of the IGNOU course MTE-06, 'Abstract Algebra'. For your information, a copy of this material will be available at your programme centre.

Syllabus

Block 1: Group Theory

Unit 1	Basic Group Theory- A Review
Unit 2	Group Actions
Unit 3	The Sylow Theorems

Block2: Special Groups and Semigroups

Unit 4	Matrix Groups
Unit 5	Abelian Groups
Unit 6	Group Presentations
Unit 7	Applications of Semigroups

Block 3: Ring Theory

- Unit 8 Basic Ring Theory- A Review
- Unit 9 Special Integral Domains
- Unit 10 Congruences

Block 4: Field Theory

- Unit 11 An Introduction to Field Theory
- Unit 12 Spliting Fields Finite and Infinite
- Unit 13 A Gateway of Galois Theory
- Unit 14 Fundamental Theorem of Galois Theory

4. Real Analysis (MMT-004)

4 credits

This course on Real Analysis assumes the knowledge of undergraduate Real Analysis and Calculus courses presented in IGNOU undergraduate mathematical electives MTE-07 and MTE-09 respectively. The topics are chosen with a special emphasis on applications. In this course we have discussed basics of metric space theory, multivariable calculus and measure and integration theory. We have also discussed topics like Fourier Series and Integrals, Wavelets, Signals and Systems. The material is presented in three blocks.

This course consists of three blocks divided into various units. In **Block 1**, we introduce you to the concept of metric spaces. Then, we define the related concepts of continuity, convergence, compactness and connectedness for metric spaces and discuss some characterization properties of these concepts.

In **Block 2**, we study differentiability for functions defined from Euclidean space \mathbf{R}^n to Euclidean space \mathbf{R}^m . We discuss the ways for extending the concept of derivative as well as the related concepts of partial derivatives and directional derivatives from \mathbf{R}^2 to higher dimensional spaces \mathbf{R}^n . We also discuss chain rule, higher derivatives, Taylor's theorem, Implicit and Inverse function theorems.

In **Block 3**, we introduce you to the concepts of Lebesgue measure and Lebesgue integration. We discuss Fourier Series and Fourier integral of certain functions which are very fundamental to the development of modern analysis. With the progress in computer technology and effective interplay between computers, mathematics and science, very interesting developments have occurred in recent times in Image Analysis and Signal processing. In this block, we familiarise you with some of these aspects.

Syllabus

Block 1: Metric Spaces

- Unit 1 Introduction to Metric-space
- Unit 2 Convergence and Completeness
- Unit 3 Compactness
- Unit 4 Connectedness

Block 2: Calculus in Rⁿ

- Unit 5 Derivatives in Rⁿ
- Unit 6 Higher order Derivatives
- Unit 7 Implicit and Inverse Function Theorem

Block 3: Measure and Integral

- Unit 8 Lebesgue Measure
- Unit 9 Lebesgue Integral
- Unit 10 Fourier Integral
- Unit 11 Signals and Systems

5. Complex Analysis (MMT-005)

2 credits

The study of complex variable theory is of great importance in applications. In the study of Laplace transform, the inverse Laplace transform is obtained easily as a contour integral in a complex plane. The evaluation of a wide class of definite integrals (even along the real axis) is facilitated by the use of the complex integral calculus. Another important application is the use of conformal mapping to solve boundary value problems in two-dimensional potential theory.

We have started the discussion in Unit 1 by introducing the notion of a complex valued functions of a (single) complex variable and defined the concept of limit, continuity and differentiability of the function. Analytic and harmonic functions and their applications in fluid flow, steady heat conduction and electrostatics are discussed here. Complex integrals or contour integrals are discussed in Units 2 and 3. Singularities and series representation of a complex valued function in terms of Taylor and Laurent series are discussed in Unit 4. Unit 5 introduces you to the concept of residue of a complex valued function. Evaluation of definite, trigonometric and improper integrals in terms of the sums of the residues are also discussed here. Finally, Unit 6 deals with elementary transformations viz., linear, inverse and bilinear transformations and conformal mapping. Application of conformal mapping to steady-state temperature problem is also discussed here.

Syllabus

Block 1: Introduction to Analytic Funtions

Unit 1	Complex Functions
Unit 2	Analytic Functions

Unit 3	Elementary Functions
Unit 4	Complex Integration-I
Unit 5	Complex Integration-II
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Unit 6 Power Series

Block 2: Applications of Analytic Functions

- Unit 7 Residue and Poles
- Unit 8 Applications of Residue
- Unit 9 Conformal Mapping
- Unit 10 Applications of Harmonic Functions and Conformal Mapping of Physical Problems

6. Functional Analysis (MMT-006)

4 credits

This course is a 4-credit course. In this course we introduce you to a branch of mathematics known as Functional Analysis. In functional analysis we study function spaces which are sets of functions with additional structures. This provides a major link between mathematics and its applications. The important notions that are dealt in this course are Banach spaces, Hilbert spaces and linear functionals on these spaces. This course assumes the knowledge of linear algebra and basic metric space theory presented in IGNOU undergraduates course on "Linear Algebra" MTE-02 and Block 1 of MMT-004. The course is developed as **wrap-around** material around the book. **"Functional Analysis" by B. V. Limaye** (New Age International (P) Ltd., 2nd Edition). In order to help you to study the text book, a study guide is developed which consists of five units. Each unit in these blocks is a guided tour through the relevant parts of the text book. The material also consists of worked out examples, exercises, some application and some explanations on certain portions in the Text Book that we felt that you may find difficult to grasp.

The wrap-around material is divided into 5 units. In **Unit 1**, we discuss some basic concepts in Functional analysis. We introduce to the concept of a "norm" which is another distance measuring concept like a metric. Any linear space having a norm defined on it is called a normed space. Any norm function defines a metric on a normed space and thereby any normed space is a metric space. In this unit, we consider maps which are linear and bounded (also called continuous). We define continuous linear maps from one normed space to another. We also familiarize you to one of the important theorems in Functional Analysis, known as Hahn Banach theorem. **Unit 2** deals with Banach Spaces. Normed spaces. The Banach spaces plays a cruicial role in the study of function spaces. Here we consider four important theorems – Open mapping theorem, Closed graph theorem, Uniform boundedness principle and Bounded inverse theorem. **Unit 3**, deals with space of bounded linear maps defined from a normed space to the space **K**, the scalar field of real or complex numbers. These spaces are called dual spaces. We also consider dual of dual spaces which are called reflexive spaces.

Unit 4 and 5 introduce you to another type of normed spaces known as inner product spaces. An inner product space which is complete, under the norm induced by the inner product, is called a Hilbert space. In Unit 4, we discuss the fundamental properties of inner product spaces more specifically for Hilbert spaces. The inner product enables us to introduce the concept of orthogonality. Unit 4 is devoted to orthonormal sets. Another important theorem for Hilbert spaces namely, Riesz representation theorem is studied in this unit. Finally in **Unit 5** we consider operators on Hilbert spaces. Here we define adjoint of an operator and study three important clauses of operators, namely, self-adjoint, unitary and normal operators. We also discuss two important subclauses of self-adjoint operators, viz, positive operators and compact self-adjoint-operator.

Syllabus

Block 1: Normed Linear Spaces

Unit 1	Inner Products and Norms
Unit 2	Continuous Linear Maps and Fundamentals
Unit 3	Hahn-Banach Theorems

Block 2: Banach Spaces

Unit 4	Completeness
Unit 5	Uniform Boundedness Principle and Applications
Unit 6	Open Mapping Theorem and Closed Graph Theorem
Unit 7	Dual Spaces

Block 3: Hilbert Spaces

Unit 8	Geometry of Hilbert Spaces
Unit 9	Orthonormal Sets
Unit 10	Operators on Hilbert Spaces

Block 4: Spectral Theory of Operators on Hilbert Spaces

Unit 11	Compact Operators
Unit 12	Spectral Theory of Compact Self Adjoint Operators

7. Differential Equations & Numerical Solutions (MMT-007) 4 credits

This course discusses both analytical and numerical methods of solving differential equations. This course assumes the knowledge of the undergraduate IGNOU course "Differential Equations" (MTE-08) and undergraduate IGNOU course "Numerical Analysis" (MTE-10). The course MMT-005 on complex analysis is a co-requisite for this course. This course is divided into four blocks. The first two blocks discuss the analytical methods of solving differential equations, whereas, numerical methods are discussed in Blocks 3 and 4. Blocks 3 and 4 also involve **practical work** worth 1 credit to be done using C-programming, which you have already learnt in your MMT-001 course "Programming and Data Structure". Practical exercises are given at the end of the units in Blocks 3 and 4.

In Block 1, the Picard's theorem on existence and uniqueness of the solution of initial value problems is proved. After discussing the power series methods of solving linear, homogeneous differential equations with variable coefficients, the Legendre, Hermite, Laguerre polynomials and Bessel functions are discussed in detail. Applications of these polynomials to physical situation like steady-state heat conduction, linear harmonic oscillator, vibrating membrane problems etc., are also illustrated.

Block 2 deals with the Laplace and Fourier transform methods of solving initial and boundary value problems and applications of transform methods to diffusion, wave and Laplace equations.

In Block 3, we have discussed numerical methods of finding solutions of ordinary differential equations, both initial and boundary value problems whereas, finite difference methods and finite element methods for solving partial differential equations are discussed in Block 4.

All the concepts given in the blocks are followed by a lot of examples as well as exercises. These will help you get a better grasp of the techniques discussed in this course.

Syllabus

Block 1: Ordinary Differential Equations (ODEs)

- Unit 1 First and Higher Order Equations
- Unit 2 Power Series Solutions
- Unit 3 Legendre, Hermite and Laguerre Polynomials
- Unit 4 Bessel Functions
- Unit 5 Green's Function Methods

Block 2: Partial Differential Equations (PDEs)

- Unit 6 Laplace Transform Method
- Unit 7 Fourier Transform Method

Block 3: Numerical Solutions of ODEs

Unit 8 Singlestep Methods for Solving IVPs

- Unit 9 Multistep and Predictor-Corrector Methods for Solving IVPs
- Unit 10 Second Order BVPs

Block 4: Numerical Solution of PDEs

Unit 11 Finite Difference Methods

Unit 12 Finite Element Methods

8. Probability and Statistics (MMT-008)

8 credits

This course "Probability and Statistics" is a 8-credit course on Stochastic Processes and Multivariate Analysis. IGNOU undergraduate course "Probability and Statistics" (MTE-11) is a prerequisite for this course. The course consists of eight blocks. The first four blocks of this course are presented to bridge the gap between the theory and applications of stochastic processes. The proofs of theorems which are either too involved or do not help in understanding concepts are omitted. The theorems are supported with applications. In the last four blocks, multivariate analysis has been presented which includes the practical component. This deals with the observation and analysis of two or more than two statistical variables at a time. The practical assignments session-wise are given at the end of corresponding units

Syllabus

Block 1:	Markov	Chains
	Unit 1	Conditional Probability
	Unit 2	Basics of Markov Chains
	Unit 3	Stationary Markov Chains
Block 2:	Markov	Processes with Countable State Spaces
	Unit 4	Branching Processes
	Unit 5	Continuous Time Markov Processes-I
	Unit 6	Continuous Time Markov Processes-II
Block 3:	Renewa	l Processes
	Unit 7	Renewal Processes-I
	Unit 8	Renewal Processes-II
	Unit 9	Renewal Processes-III
	Unit 10	Renewal Processes-IV
Block 4:	Queuein	ng Theory
	Unit 11	Poisson Queues
	Unit 12	Non-Poisson Queues
	Unit 13	Network of Queues
Block 5:	Basics of	f Multivariate Normal (MVN)
	Unit 14	Some Linear Algebra
	Unit 15	Definition and Properties of MVN-I
	Unit 16	Definition and Properties of MVN-II
Block 6:	Distribu	tions Associated with MVN
	Unit 17	Distribution of Correlation Coefficients
	Unit 18	Orthogonal Transformation
	Unit 19	Inference-I
	Unit 20	Inference-II
Block 7:	Applicat	tions of MVN
	Unit 21	Inference-III
	Unit 22	Inference-IV
	Unit 23	Applications of MVN-I

Block 8: Additional Application of MVN

- Unit 24 Principal Component Analysis
- Unit 25 Factor Analysis
- Unit 26 Canonical Covelation
- Unit 27 Conjoint Analysis

9. Mathematical Modelling (MMT-009)

2 credits

The use of mathematics in solving real-world problems has become widespread especially due to the increasing computational power of digital computers and computing methods both of which have facilitated the handling of lengthy and complicated problems. This process of translating the real world problems into mathematical problems (mathematical model), solving the mathematical problems and interpreting these solutions in the language of the real world is called "modelling process". Mathematical modelling is used in almost all the disciplines in Science, Engineering and Technology. Topics in physics like gravitation, mechanics, heat transfer, transfer of energies etc., problems in astro and bio-physics, problems in chemical sciences like kinetics of reaction, industrial chemistry etc. are all studied through modelling. In life sciences and medicine, the subject of mathematical modelling is not very old, but the same is growing rapidly with the advent of computer applications. There are number of topics like ecology, air and water pollution, physiology including cardio-vascular circulation, epidemiology and pharmaco-kinetics which are now studied through mathematical modelling and computer simulation. In this course we have considered some real world problems from population dynamics, environmental systems, finance and economics. This course assumes the knowledge of the undergraduate IGNOU course "Differential Equations" (MTE-08). Also, the knowledge of "Mathematical Modelling" (MTE-14) course will help you in better understanding of some of the models considered in this course.

The course is divided into two blocks. The first block introduces you to the concept of mathematical modelling. After discussing different types of modelling and various steps involved in formulating a model we have discussed models from finance and probability theory. Block 2 deals with the model from population dynamics, ecology, air pollution, medicine and optimization. This course also involve some practical assignments which are to be done using C-programming and constitute the part of your continuous evaluation. These assignments are given at the end of the units in the blocks.

Syllabus

Block 1: Introduction to Mathematical Modelling

- Unit 1 Mathematical Modelling An Overview
- Unit 2 Model Formulation
- Unit 3 Data Analysis and Fitting Models to Data

Block 2: Mathematical Models in Biology and Economics

- Unit 4 Single Species Population Models
- Unit 5 Modelling Environmental
- Unit 6 Modelling in Medicine
- Unit 7 Socio-Economic Models

6. DETAILS OF ELECTIVE COURSES

1. Graph Theory (MMTE-001)

4 credits

Graph theory is the study of mathematical structures used to model relationships between objects in a collection, represented by vertices and edges. It originated with the Königsberg Bridge Problem in the 18th century, solved by Leonard Euler, marking the start of graph theory.

Graphs can be undirected (where edges have no direction) or directed (edges have a direction). They have various real-life applications, including optimizing telecommunications, finding the fastest routes, and scheduling events. Graph theory is also important in computer science, offering solutions to complex problems through graph representations.

Syllabus

Block 1: Fundamentals of Graph Theory

Unit 1	Fundamentals Concepts
Unit 2	Degree Sequences and Graph Representation
Unit 3	Trees
Unit 4	Optimisation of Trees

Block 2: Graph Tracing and Colouring

Unit 5	Eulerian and Hamiltonian Graphs
Unit 6	Colouring of Graphs
Unit 7	Planner Graphs

Block 3: Matchings, Connectivity and Flows

Unit 8	Matchings and Cover
Unit 9	Connectivity
Unit 10	Network Flows

2. Design and Analysis of Algorithms (MMTE-002)

4 credits

This is an introduction to the design and analysis of computer algorithms an important area of theoretical computer science which has a mathematical flavour. This course discusses algorithms for specific problems like string matching, network flow etc. and explains how to analyse them. This course doesn't have any practical component.

Syllabus

Block 1: Introduction to Algorithm Analysis

- Unit 1 Introduction to Analysis of Algorithms
- Unit 2 Recursion and Recurrence Relations
- Unit 3 Binary Search
- Unit 4 Sorting Algorithms

Block 2: Data Structures

Unit 5	Trees
Unit 6	Balanced Trees
Unit 7	Priority Queues and Binary Helps

Block 3: Algorithms Design Techniques

Unit 8	Divide and Conquer Techniques
Unit 9	Greedy Algorithms
Unit 10	Dynamic Programming Techniques-I
Unit 11	Dynamic Programming Techniques-II

Block 4: Graphs Algorithms

Unit 12	Graph Representation and Search
Unit 13	Minimum Spanning Trees
Unit 14	Shortest Paths in Graphs

Block 5: Intractability

Unit 15	Polynomial Reducibility
Unit 16	NP Completeness

3. Pattern Recognition & Image Processing (MMTE-003)

4 credits

The course MMTE-003, Pattern Recognition and Image Processing, is an elective course of the M.Sc (MACS) programme and is worth 4 credits. This course has theory as well as practical component.

Image processing and pattern recognition are important fields which are advancing rapidly. These areas have lot of applications in Sciences and Technology like medical imaging, remote sensing, robotics etc. In this course topics like image digitization, image enhancement, and supervised/unsupervised learning image restoration are discussed. This course involves practical component worth 1-credit. These practicals are to be done with Sci-lab.

Syllabus

Block 1: Digital Images

Unit 1	Introduction to Digital Image
Unit 2	Image Transforms – I
Unit 3	Image Transforms – II
Unit 4	Colour Image Processing

Block 2: Image Improvements – I

Unit 5	Image Enhancements in Spatial Domain
Unit 6	Histogram Modeling
Unit 7	Neighbourhood Operations

Block 3: Image Improvements – II

Unit 8	Image Enhancements in Frequency Domain
Unit 9	Image Restorations – I
Unit 10	Image Restorations – II

Block 4: Pattern Recognition

Unit 11	Image Segmentation	
Unit 12	Unsupervised Learning	
Unit 13	Pattern Classification	
Unit 14	Supervised Learning	

Block 5: Scilab Manual

Unit 15	Introduction to	Scilab
Unit 16	Introduction to	SVIP Toolbox

Sessions for Lab Manual

4. Computer Graphics (MMTE-004)

2 credits

The filed of computer graphics deals with methods and tools for generating images. It has applications in diverse areas as science, engineering, medicine, business, industry, art, entertainment, advertising, education and training etc. This course gives you an introduction to computer graphics. The different kinds of graphics display systems are described. It discusses algorithms for generating some two and three dimensional shapes and transformations for these shapes. This course assumes the knowledge of undergraduate IGNOU courses on elementary algebra (MTE-04), geometry (MTE-05) and calculus (MTE-01). The course also involves practical work to be done using C-programming which you would have learnt in MMT-001.

Syllabus

Block 1: Fundamentals of Computer Graphics

Unit 1	Basics of Inputs/Output Devices
Unit 2	Generating Graphics Primitives
Unit 3	Filling Algorithms

Block 2: 2D Transformations and Clipping

Unit 4	2D Transformations
Unit 5	Clipping Algorithms

Block 3: 3D Transformations and Viewing

Unit 6	3D Transformations
Unit 7	Display Methods

5. Coding Theory (MMTE-005)

4 credits

This subject has its origins in a classic paper by Claude Shannon in 1948. In this paper he wrote, "*The fundamental problem of communication is that of reproducing at one point either exactly or approximately a message selected at another point.*" In telecommunication, and many other areas like computer networking, data has to be transferred from one point to another (for example, from a satellite to an earth station) in the form of bits, i.e., binary digits. Due to various disturbances, the message could get modified in transit; some of the 0s may become 1s and vice-versa. So, the message received at the destination may be different from the message sent. Coding theory provides tools and techniques for correcting the errors that appear during transmission. In this course, we provide an introduction to this subject. This course has practical component worth 1 credit.

Syllabus

Block 1: Basics of Coding Theory

- Unit 1 Introduction to Codes
- Unit 2 Linear Codes
- Unit 3 Decoding of Linear Codes
- Unit 4 Bounds

Block 2: Some Well-Known Codes

Unit 5 Hamming CodesUnit 6 Golay CodesUnit 7 Weight Distributions of CodesUnit 8 New Codes from Old

Block 3: Cyclic Codes and Applications

Unit 9 Finite Fields Unit 10 Cyclic Codes Unit 11 BCH and Read-Solomon Codes Unit 12 Applications of Coding Theory

6. Cryptography (MMTE-006)

4 credits

Cryptography is the science of designing secure encryption methods for communication. Earlier, cryptography was of interest to a handful of people like diplomats and those in espionage and counter espionage. However, due to the growth of computer networks and specifically the Internet, this subject has become important from the point of view of data security in the computer networks. This course has three blocks. The first block provides an introduction to classical ciphers and some basics in mathematics. In the second block, the "traditional" symmetric ciphers are discussed. In the third block "two key ciphers" or public key cryptography is discussed. This course has practical component worth 1 credit.

Syllabus

Block 1: Cryptography Basics

- Unit 1 Algebra and Algorithms
- Unit 2 Number Theoretic Algorithms
- Unit 3 Classical Ciphers

Block 2: Block and Stream Ciphers

- Unit 4 Symmetric Key Block Ciphers
- Unit 5 Steam Ciphers
- Unit 6 Hash Functions

Block 3: Public-key Cryptography

- Unit 7 Public Key Encryption
- Unit 8 Digital Signatures
- Unit 9 Practical Sessions

7. Soft Computing and Its Applications (MMTE-007)

4 credits

"Soft Computing and its Applications" is a 4-credit course. This course involves theory component as well as practical component. In this course the three main components of soft computing, fuzzy logic, neural networks and genetic algorithms are presented with applications. The prerequisite dependency for this course is "Probability and Statistics", (MMT-008) which you would have studied during the second semester of the programme. This course comprises four blocks related to soft computing. It begins with fuzzy set, and fuzzy C-mean algorithm in Block 1. The next two blocks discuss neural network with its applications. In the last block, the course concludes with several genetic algorithms. The practical assignments are listed at the end of corresponding unit.

Syllabus

Block 1: Fuzzy Sets

- Unit 1 Introduction to Fuzzy Set
- Unit 2 Fuzzy Mean Algorithms
- Unit 3 Applications of Fuzzy Set
- 59

Block 2: Neural Networks-I

- Unit 4 Introduction to Neural Networks
- Unit 5 Single-layer Perception
- Unit 6 Multi-layer Perception-I

Block 3: Neural Networks-II

- Unit 7 Multi-layer Perception-II
- Unit 8 Radial Basis Function Networks
- Unit 9 Hopfield Networks
- Unit 10 Kohonen's Networks

Block 4: Genetic Algorithms (GA)

- Unit 11 Description of Genetic Algorithms
- Unit 12 Applications of Genetic Algorithms
- Unit 13 Schema Theorem

8. Project Work (MMTP-001)

4 credits

This 4 credits worth of project work provides you an opportunity to get hands-on work experience in some Industry/Organisation/R&D establishments/Institution. A detailed project guide is developed to help you in doing the project work. The guide will give you various steps involved in doing a project. It indicates some of the possible types of projects which can be taken up. Depending upon the expertise and infrastructure available in your region, the Programme Facilitator at your programme centre will identify subject areas for doing projects. You are free to choose any area from these identified areas or you can even choose an area of your choice with the approval of your facilitator. The details regarding the format of project proposal and project report are given in the project guide.

7. LIST OF M.Sc. (MACS) PROGRAMME STUDY CENTRES

Sl. No.	RC Code / Name	Region	Programme Study Centre Code	Programme Study Centre Address	Name of the Programme Facilitator/Incharge
1.	14 Cochin	South	1402	Sacred Heart College, Thevara, Ernakulam 682 013, Kerala	Dr. Tom Varghese M.: 8281342890 Email: tomvakmntm@gmail.com
2.	25 Chennai	South	2578	Guru Nanak College Velachery Road Chennai Tamilnadu-600 042	Dr Nirmala Email: <u>csnirmalamca@gmail.com</u> M.: 8925503653
3.	39 Noida	North	07107	Maharaja Agrasen College Vashundhara Enclave Delhi – 110 096	Dr. T. N. Ojha <u>drtnodu@gmail.com</u> <u>drtnodu@yahoo.com</u> 88003666664, 9810049875
4.	32 Ranchi	East	3645-P	Marwari College Dept. of Mathematics Lake Road, Hindpiri Ranchi Jharkhand-834 001	Dr. B. P. Verma <u>bpv129@yahoo.com</u> <u>drbpverma@gmail.com</u> 09431877584 (Mob.)
5.	28 Kolkata	East	2800	IGNOU REGIONAL CENTRE KOLKATA	Dr. Sujata Dutta Hazarika Emailid: <u>sujata@ignou.ac.in</u> M.: 9957576286
6.	15 Jabalpur	West	1502	R. D. V. V. University Rajshekher Bhavan Art's Block, 2 nd Floor Pachpedi, Jabalpur Madhya Pradesh-482 001	Prof. Vivek Misra <u>vivekmisra3@gmail.com</u> 08463012364 (Mob.) 09425483652 (Mob.)
7.	16 Pune	West	1675-P	University of Pune Dept. of Mathematics Ganeshkhind Road Pune Maharashtra-411 007	Prof. Waphare Balu Nathaji <u>bnwaph@math.unipune.ernet.in</u> 09420179163 (Mob.) 020-25692615 (O)

8. IGNOU REGIONAL CENTRES

SI. No	Regional Centres	RC Code	Address	Regional Directors
01	Ahmedabad	09	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE OPP. NIRMA UNIVERSITY SARKHEJ-GANDHINAGAR HIGHWAY, CHHARODI AHMEDABAD - 382 481 GUJARAT 02717-242975-242976 02717-241579/02717-241580 reahmedbad@ignou.ac.in	Dr. Avani Trivedi (Regional Director)
02	Aligarh	47	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE 3/310, MARRIS ROAD ALIGARH - 202 001 UTTAR PRADESH 0571-2700120 / 2701365 0571-2402147 rcaligarah@ignou.ac.in	Dr. Amit Chaturvedi (Regional Director)
03	Bangalore	13	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE NSSS KALYANA KENDRA 293, 39TH CROSS, 8TH BLOCK JAYANAGAR BANGALORE - 560 070 KARNATAKA 080-26654747/26657376 080-26639711/080-26644848 rcbangalore@ignou.ac.in	Dr. M.S. Parthasarathy (Regional Director)
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05	Bhopal	15	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE 12, ARERA HILLS BHOPAL - 462 011 MADHYA PRADESH 0755-2578455/2578452 0755-2762524/0755-2578454 rcbhopal@ignou.ac.in	Dr K S Tiwari (Regional Director)
06	Bhubaneswar	21	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE C - 1, INSTITUTIONAL AREA BHUBANESHWAR - 751 013 ORISSA 0674-2301348 / 2301250 0674-2301352/0674-2300349 rcbhubaneswar@ignou.ac.in	Dr. Abhilash Nayak (Regional Director)

07	Bijapur	85	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE BLDEA'S OLD ADMINISTRATIVE BUILDING, SMT. BANGARAMMA SAJJAN CAMPUS, SOLAPUR ROAD, BIJAPUR -586103 KARNATAKA 08352-260006 08352-260005 rcbijapur@ignou.ac.in	Dr. S. Radha (Regional Director)
08	Chandigarh	06	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE SCO 208 SECTOR 14 PANCHKULA - 134 109 HAYRANA 0172-2590277,2590278 0172-2590208 0172-2590279 rcchandigarh@ignou.ac.in	Dr. D. B. Negi (Sr. Regional Director)
09	Chennai	25	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE G R COMPLEX THIRD FLOOR 407-408 ANNA SALAI NANDANAM CHENNAI - 600 035 TAMILNADU 044-24312766/24312979 044-24312799 rcchennai@ignou.ac.in	Dr. B. P. R. Narasimharao (Regional Director)
10	Cochin	14	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE KALOOR COCHIN - 682 017 KERALA 0484-2340203 / 2348189 2330891 0484-2340204 rccochin@ignou.ac.in	Dr. M. Rajesh (Regional Director)
11	Darbhanga	46	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE LALIT NARAYAN MITHLA UNIV. CAMPUS, KAMESHWARANAGAR NEAR CENTRAL BANK DARBHANGA - 846 004 BIHAR 06272-251862 06272-251833 06272-253719 rcdarbhanga@ignou.ac.in	Dr. Mirza Nehal A Baig, ARD (Regional Director) (I/C)

12	Dehradun	31	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE NANOOR KHERA, TAPOVAN RAIPUR ROAD DEHRADUN - 248 008 UTTARAKHAND 0135-2789200 0135-2789190 rcdehradun@ignou.ac.in	Dr. Asha Sharma (Regional Director) Dr. Anil Kumar Dimri, (Regional Director)
13	Delhi-1	07	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE PLOT NO J-2-1 BLOCK - B 1 MOHAN COOPERATIVE INDUSTRIAL ESTATE, MATHURA ROAD NEW DELHI - 110 044 DELHI 011-26990082 /26990082-83 011-26990084 rcdelhi1@ignou.ac.in	Dr. Gulab Jha (Regional Director)
14	Delhi-2 (Rajghat)	29	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE GANDHI SMRITI & DARSHAN SAMITI RAJGHAT NEW DELHI - 110 002 DELHI 011-23392374 /23392376 23392377 / 23392737 011-23392375 rcdelhi2@ignou.ac.in	Dr. Sanjeev Pandey, (Regional Director) Dr. M.A. Lashkar (ARD Sr. Most)
15	Delhi-3 (Dwaraka)	38	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE F-634-636 PALAM EXTENSION RAM PHAL CHOWK (NEAR SECTOR 7) DWARKA NEW DELHI - 110 045 DELHI 011-25088964/011-25088983 rcdelhi3@ignou.ac.in	Dr. C. K. Ghosh (Sr. Regional Director)
16	Deoghar	87	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE MANDAKINI SADAN BASUWADIH, ROHINI ROAD DEOGHAR, JASIDIH JHARKHAND 814142 06432-34448 rcdeoghar@ignou.ac.in	Sh. Arvind Manoj Kumar Singh (Regional Director) (I/C) Ms. Moni Sahay ARD

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17	Hyderabad	01	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE	Dr. P. Ashok Kumar (Regional Director)
			PLOT NO 207. KAVURI HILLS	(Regional Director)
			PHASE II, NEAR MADHAPUR PS,	
			JUBILEE HILLS (P.O.)	
			HYDERABAD - 500 033	
			ANDHRA PRADESH	
			040-23117550-53	
			040-23117554	
			rchyderabad@ignou.ac.in	
18	Jabalpur	41	REGIONAL DIRECTOR	Dr. U C Pandey
			IGNOU REGIONAL CENTRE	(Regional Director)
			2ND FLOOR, RAJSHEKHAR	Dr. Vivek Shrivastava
				ARD
			VISHVAVIDVALAVA	
			CAMPUS PACHPEDHI	
			IABALPUR - 482 001	
			MADHYA PRADESH	
			0761-2600411/2609896 2600219	
			0761-2609919	
			rcjabalpur@ignou.ac.in	
19	Jaipur	23	REGIONAL DIRECTOR	Dr. M. K. Dash
			IGNOU REGIONAL CENTRE	(Regional Director)
			70/79, SECTOR - 7	
			PATEL MARG	
			MANSAROVAR	
			JAIPUK - 302 020 DALASTILAN	
			KAJASTHAN 0141 2785730 / 2785750	
			0141-2396427/0141-2784043	
			rciaipur@ignou ac in	
20	Jammu	12	REGIONAL DIRECTOR	Dr. K.K. Bhatt
-			IGNOU REGIONAL CENTRE	(Regional Director)
			SPMR COLLEGE OF	
			COMMERCE	
			AUROBINDO BLOCK 1ST	
			FLOOR	
			CANAL ROAD	
			JAMMU - 180 001	
			JAMMU & KASHMIK 0101 2570572 / 2546520	
			0191-23793727 2340329	
			rciammu@ignou ac in	
21	Jodhpur	88	REGIONAL DIRECTOR	Dr. Mamta Bhatia
	F		IGNOU REGIONAL CENTRE	(Regional Director) (I/C)
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			PAL LINK ROAD	
			OPP. KAMALA NAGAR	
			HOSPITAL	
			JODHPUR	
			RAJASTHAN 342008	
			0291-2012986	
			U291-2980409 rejodbnur@jenou ac in	
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			Staatins of our of Broandonn	

22	Karnal	10	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE 06 SUBHASH COLONY NEAR HOME GUARD OFFICE KARNAL - 132 001 HARYANA 0184-2271514 / 2260075 0184-2255738 rckarnal@ignou.ac.in	Dr. Ashok Sharma (Regional Director)
23	Khanna	22	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE I.T.I. BUILDING BULEPUR (DISTRICT LUDHIANA) KHANNA - 141 401 PUNJAB 01628-229993 / 237361 01628-238284 rckhanna@ignou.ac.in	Dr. Santosh Kumari (Regional Director)
24	Kolkata	28	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE BIKASH BHAWAN, 4TH FLOOR NORTH BLOCK SALT LAKE, BIDHAN NAGAR KOLKATA - 700 091 WEST BENGAL 033-23349850 033-23592719 / 23589323 (RCL) 033-23347576 rckolkata@ignou.ac.in	Dr. Kiran Sankar Chakraborty (Regional Director)
25	Koraput	44	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE DISTRICT AGRICULTURE OFFICE RD BEHIND WOMEN'S COLLEGE AT/PO/DISTTKORAPUT ORISSA-764 020 06852-251535/06852-251535 06852-252503 rckoraput@ignou.ac.in	Dr. S. K. Tripathy (Regional Director)
26	Lucknow	27	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE 5-C/INS-1, SECTOR - 5 VRINDAVAN YOJNA, TELIBAGH LUCKNOW-226 029 UTTAR PRADESH <u>rclucknow@ignou.ac.in</u>	Dr. Manorama Singh (Regional Director) Dr. Ashwini Kumar (Deputy Director)

27	Madurai	43	REGIONAL DIRECTOR	Dr. S. Mohanan
			IGNOU REGIONAL CENTRE	(Regional Director)
			SIKKANDAR CHAVADI	09445195550
			AI ANGANALLUR ROAD	0,101,0000
			MADURAL625.018	
			TAMIL NADU	
			1 AMIL NADU 0452 2280287 / 2270722	
			0452-238038772370733	
			0452-2370588	
			rcmadurai@ignou.ac.in	
28	Mumbai	49	REGIONAL DIRECTOR	Dr. A Varadarajan
			IGNOU REGIONAL CENTRE	(Regional Director) (I/C)
			2nd AND 3rd FLOOR	07710047750
			KAPPEESH BUILDING	
			M. G. ROAD	
			OPP TO MULUND RLY.	
			STATION	
			MULUND (WEST)	
			MUMBAI- 400 080	
			MAHARASHTRA	
			022-25025540 / 25023150	
			022-259255407 25925159	
			022-23923411	
20	N	26		D DC
29	Nagpur	36	REGIONAL DIRECTOR	Dr. P Sivaswaroop
			IGNOU REGIONAL CENTRE	(Regional Director)
			GYAN VATIKA	09923993311
			14 HINDUSTAN COLONY	
			AMARAVATI ROAD	
			NAGPUR - 440 033	
			MAHARASHTRA	
			0712-2536999,2537999	
			0712-2022000	
			0712-2538999	
			renagpur@ignou ac in	
30	Noida	39	REGIONAL DIRECTOR	Dr S S Jena
50	Tolda	57	IGNOU REGIONAL CENTRE	(Regional Director)
			C 52 SECTOR 62	(Regional Director)
			C-JJ SECTOR 02	09910075392
			NOIDA 201 205	
			NOIDA - 201 305	
			UTTAR PRADESH	
			0120-2405012 / 2405014	
			0120-2405013	
			rcnoida@ignou.ac.in	
31	Panaji	08	REGIONAL DIRECTOR	Dr. Kameshwari Moorty
			IGNOU REGIONAL CENTRE	(Regional Director)
			H. NO. 1576	09764425250
			NEAR P&T STAFF QUARTERS	
			ALTO PORVORIM P.O.	
			GOA-403 521	
			0832-2414553	
			0832-2414550	
			renanaji@jonou ac in	
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32	Patna	05	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE 06 SUBHASH COLONY NEAR HOME GUARD OFFICE KARNAL - 132 001 HARYANA 0184-2271514 / 2260075 0184-2255738	Dr. Qaseemuddin Haider (Regional Director) 08987038880
			rckarnal@ignou.ac.in	
33	Port Blair	02	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE KANNADA SANGHA BUILDING NEAR SYNDICATE BANK 18, TAGORE ROAD, MOHANPURA PORT BLAIR - 744 101 ANDAMAN & NICOBAR ISLANDS 03192-242888 / 230111 03192-230111 rcportblair@ignou.ac.in	Dr. S Vijayaragavan (ARD) (I/C) 09434289907
34	Pune	16	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE MSFC BUILDING, 1ST FLOOR 270, SENAPATI BAPAT ROAD PUNE - 411 016 MAHARASHTRA 020-25671867 / 25651321 020-25671864 rcpune@ignou.ac.in	Dr. Massod Parveez (Sr. Regional Director) 08989536219
35	Raipur	35	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE IGNOU COMPLEX HOUSING BOARD COLONY, KACHNA, POST: SADDU RAIPUR - 492 014 CHHATTISGARH 0771-2428285 / 5056508 0771-2445839/0771-2445839 rcraipur@ignou.ac.in	Dr.H.Sangeeta Majhi (Regional Director) 09424203734
36	Raghunathganj	50	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE BAGAN BARI NEAR DENA BANK, FULTALA MURSHIDABAD RAGHUNATHGANJ WEST BENGAL-742 225 03483-271555 / 271666 03483-271666/03483-271666 rcraghunathganj@ignou.ac.in	Dr. S. Srinivas (Regional Director) 09531830920
37	Rajkot	42	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE SAURASHTRA UNIVERSITY CAMPUS, RAJKOT-360 005 GUJARAT 0281-2572988/0281-2571603 rcrajkot@ignou.ac.in	Dr. Rupal M. Kubavat ARD (I/C) 09824673124

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38	Ranchi	32	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE 457/A, ASHOK NAGAR RANCHI - 834 022 JHARKHAND 0651-2244688 / 2244699 / 2244677 0651-2244677/0651-2244400 rcranchi@ignou.ac.in	Dr. Shiva Kumar G. N. (Regional Director) 09709028976
39	Saharsa	86	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE SAUSHALYA MANSION NAYA BAZAR, SAHARSA-852201 BIHAR 06478-219014,219015 06478-219018 rcsaharsa@ignou.ac.in	Dr. S. S. Singh (Regional Director) 09431801113
40	Shimla	11	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE CHAUHAN NIWAS BUILDING, KHALINI SHIMLA-171 002 HIMACHAL PRADESH 0177-2624612 / 2624613 0177-2624611 rcshimla@ignou.ac.in	Dr. Punam K. Singh (Regional Director) 09459981565
41	Siliguri	45	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE 17/12 J C BOSE ROAD SUBHAS PALLY SILIGURI - 734 001 WEST BENGAL 0353-2526818/2526819 0353-2526829/0353-2526829 rcsiliguri@ignou.ac.in rcsiliguri45@gmail.com	Dr. Biswajit Bhowmik (Deputy Director) RC (I/C) 09434466968
42	Srinagar	30	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE NEAR LAWRENCE VIDHYA BHAWAN KURSU RAJ BAGH SRINAGAR - 190 008 JAMMU & KASHMIR 0194-2311251/0194-2311258 0194-2311259 rcsrinagar@ignou.ac.in	Dr. Nurul Hasan (ARD) (I/C) 09419016936
43	Thiruvananthap uram	40	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE RAJADHANI COMPLEX OPP PRS HOSPITAL KILLIPPALAM KARAMANA PO TRIVANDRUM - 695 002 KERALA 0471-2344113/2344120 0471-2344115/0471-2344121 rctrivandrum@ignou.ac.in	Dr. V. Girija Devi (Regional Director) 09497721251

44	Varanasi	48	REGIONAL DIRECTOR	Dr. A. N. Tripathi
			IGNOU REGIONAL CENTRE	(Regional Director)
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			B.H.U. CAMPUS	
			VARANASI-221005	
			UTTAR PRADESH	
			0542-2368022 / 2368622	
			0542 25000227 2500022	
			0522-250+875	
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45	Vatakara	83	PECIONAL DIPECTOP	Dr. K. Donnaarsalvom
45	v atakara	05	ICNOU DECIONAL CENTRE	(Dagional Director)
			IGNOU REGIONAL CENTRE	(Regional Director)
			NUT SIREEI (PO)	09723000124
				Dr. Seetha Kakkoth
			KOZHIKODE-8/3104	ARD
			KERALA	09400582022
			0496-2525281	
			0496-2515413	
			rcvatakara@ignou.ac.in	
46	Vijaywada	33	REGIONAL DIRECTOR	Dr. B. Rajagopal
			IGNOU REGIONAL CENTRE	(Regional Director)
			SKPVV HINDU HIGH SCHOOL	09492036146
			KOTHAPET	
			VIJAYAWADA-520 001	
			ANDHRAPRADESH	
			0866-2565253 / 2565959	
			0866-2565253	
			0866-2565353	
			rcvijavawada@ignou.ac.in	
47	Vishakhapatna	84	REGIONAL DIRECTOR	Dr. S. Raja Rao
	m	_	IGNOU REGIONAL CENTRE	(Regional Director)
			2ND FLOOR VUDA COMPLEX	09491198622
			SECTOR-12 MVP COLONY	0,
			USHODAYA IUNCTION	
			VISAKHAPATNAM-530017	
			ANDHRAPRADESH	
			0891-2511200	
			0801 2511200	
			vort-2011000	
1		1	revisaknapamam@ignou.ac.in	

NORTH EAST Regional Centres

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01	Agartala	26	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE M.B.B. COLLEGE COMPOUND P.O. AGARTALA COLLEGE AGARTALA - 799 004 TRIPURA 0381-2519391 0381-2516266 rcagartala@ignou.ac.in	Ms.Namrata Hagjer, (Regional Director) (I/C) 09436503480
02	Aizwal	19	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE HOUSE NO. C-4/5 R. HAUTLUANGA BUILDING UPPER REPUBLIC AIZWAL - 796 001 MIZORAM 0389-2311693 / 2311692 0389-2311789 rcaizwal@ignou.ac.in	Dr. S. R. Zonunthara (Regional Director) 09436151784
03	Gangtok	24	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE 5TH MILE TADONG NH-31A, BELOW CENTRAL REFERAL HOSPITAL, EAST SIKKIM GANKTOK - 737 102 SIKKIM 0359-231102/270923 0359-231103 rcgangtok@ignou.ac.in	Dr. Yonah Bhutia (Regional Director) 09832093223
04	Guwahati	04	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE HOUSE NO 71, GMCH ROAD CHRISTIAN BASTI GUWAHATI-781005 ASSAM 0361-2343771 / 2343785 0361-2343786 0361-2343784 rcguwahati@ignou.ac.in	Dr. Ila Das (Regional Director) 09401250087
05	Imphal	17	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE ASHA JINA COMPLEX NORTH AOC IMPHAL - 795 001 MANIPUR 0385-2421190 / 2421191 0385-2421192 rcimphal@ignou.ac.in	Dr. Salam Dilan Singh (Regional Director) 09856081449

06	Itanagar	03	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE 'HORNHILL COMPLEX' 'C' SECTOR (NEAR CENTRAL SCH.) NAHARLAGUN ITANAGAR - 791 110 ARUNACHAL PRADESH 0360-23517051/2247536 0360-2350990 rcitanagar@ignou.ac.in	Dr. D. J. Kuba (Regional Director) (I/C) 09436272094
07	Jorhat		REGINOAL DIRECTOR IGNOU REGIONAL CENTRE JANAMBHUMI BUILDING TULSHI NARAYAN SARMAH PATH NEAR NEHRU PARK JORHAT - 785001 ASSAM rejorhat@ignou.ac.in 0376-2301116 0376-2301115 0376-2301114	Dr. Anil Chand Borah (Deputy Director) (I/C) 09435300316
08	Kohima	20	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE NEAR MOUNT HERMON SCHOOL DON BOSCO HR.SEC SCHOOL ROAD KENDOUZOU KOHIMA - 797 001 NAGALAND 0370-2260366 / 2260167 0370-2260216 rckohima@ignou.ac.in	Dr. T. Iralu (Regional Director) 09436006683
09	Shillong	18	REGIONAL DIRECTOR IGNOU REGIONAL CENTRE SUNNY LODGE NONGTHYMMI NONGSHILLIANG SHILLONG - 793 014 MEGHALAYA 0364-2521117 / 2521271 0364-2520503 0364-2521271 rcshillong@ignou.ac.in	Dr. A. S. Guha (Regional Director) 09436706305