PROGRAMME GUIDE FOR

Master of Science

Information Technology (M.Sc. IT)



Dr. Babasaheb Ambedkar Open University

Jyotirmay Parisar, Opp. Shri Balaji Temple, Sarkhej-Gandhinagar Highway, Chharodi, Ahmedabad – 382481, Gujarat Operator: +917929796223,24,25 +912717297170 | Toll Free No.: 18002331020 Email: office.scs@baou.edu.in | Web: https://baou.edu.in/ Electronic version of the prospectus
is also available for download at:
https://baou.edu.in

- 1. BAOU is a State Open University established by an Act No. 14 of 1994 passed by Gujarat State legislature. BAOU Degrees/Diplomas/ Certificates are recognised by all the member institutions of the Association of Indian Universities (AIU) and are at par with Degrees/Diplomas/ Certificates of all Indian Universities/Deemed Universities/ Institutions.
- 2. Recognised by AIU-letter no. & date. EV/II(499)/94/176915-177115, dt. 14/1/1994
- 3. Recognised by UGC letter no. & date. F.No. 1-18/2018(DEB-1), dt. 31.12.2018

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Message from the Vice Chancellor

Dear Students,

Greetings from Dr. Babasaheb Ambdkar Open University, Ahmedabad!

It gives me immense pleasure to welcome you all to Dr. Babasaheb Ambedkar Open University (BAOU). I appreciate your urge to attain knowledge, grow and contribute in the growth of the society. John Dewey rightly says, "Education is not preparation for life; education is life itself". We, at BAOU have inculcated this philosophy in our system. I firmly believe a good society is always committed to provide a quality education to every student to serve the public common good resulting in Great Nation Building. As we look to the future, one thing is certain that knowledge will be a key resource and even ours is the society that strongly affirms 'विद्वान् सर्वत्र पूज्यते'. BAOU is committed to provide qualitative education with the objective to create a welfare nation.

BAOU is unique, being the only state Distance Mode-Open University of Gujarat, established by the Government of Gujarat. The prime objective of the university is to equip its learners with knowledge, skills and competencies associated with employability through flexible, learner-centered and technology enhanced way following the basic principles of open and distance education. BAOU has contributed substantially to meet the educational needs of such aspiring students who hail from all strata of the society and wish to gain degrees in distance mode. Due to the nature of the teaching methodology adopted by the university, the infrastructure it possesses and the system it has developed, BAOU serves a large student population spread throughout Gujarat through the network of Regional Study Centers located in every district of the state satisfying strong urge of learning of every learner.

Moreover, BAOU, in very near future, is planning to introduce a set of unique Online Programmes for the students across Gujarat seeking for variety of new, opportunity opener and challenging courses. The university is also going to set a Study Centre at the campus for the students who would like to have an experience of Contact teaching along with Distance Learning and get maximum benefit by consulting the respective teachers.

John F. Kennedy says, "Let us think of education as the means of developing our greatest abilities, because in each of us there is a private hope and dream, which, fulfilled, can be translated into benefit for everyone and greater strength for our nation." Let's all dream big and strive hard to realize it.

I would wholeheartedly attend to the comments and suggestions from academicians, employers and students to enhance the quality and process of imparting education. I invite all stakeholders to join in the Journey of Knowledge, the eternal journey.

Best Wishes.

Prof. (Dr.)Ami Upadhyay Vice Chancellor (I/C)

1. Basic Information

1.1 M.Sc. IT Programme Objectives

The knowledge and skills required to plan, design and build complex application software systems are highly valued in all industry sectors including business, health, education and the services. The basic objective of the Master of Science - Information Technology is to provide to the country a steady stream of competent young men and women with the necessary knowledge, skills and foundations for acquiring a wide range of rewarding careers into the rapidly expanding world of Information Technology.

In today's Global Economic scenario highly skilled versatile professionals with all-round approach for problem solving is need of the hour. Master of Science - Information Technology program of Dr. Babasaheb Ambedkar Open University, Ahmedabad wishes to create such professionals.

Working people who wish to improve their professional skills, Persons deprived of higher education in young age and aspiring to improve their qualifications now

Objectives:

- ✓ The Master of Science Information Technology Program is designed to equip post graduate learners with an integrated set of skills that will allow them to develop their professional careers in this area of information technology.
- ✓ The focus of the program is to equip learners with the theoretical and practical that is necessary to enable them to practical knowledge in the design of complex Computer applications/science.
- ✓ The program not only presents the knowledge in the design and implementation of computer applications but also prepares learners to embrace future developments in the field and has a demonstrated professional relevance.
- ✓ The focus of the program is on skills that are not normally imparted to learners during their course and that will develop post graduate's capacity as leaders in the field.
- ✓ Thus, the Master of Science Information Technology program is intended to prepare post graduates to pursue careers in industry, as software engineers, to establish their own consulting or software development companies.
- ✓ In the ever-changing scenario of information technology, the program helps the learners to acquire the latest skills and build their future capabilities using world-class technology. At the end of this program, the learner will possess strong foundation of computer system and Information Technology.
- ✓ Dexterity in advanced programming languages; Power to build sophisticated software for wide area of applications.
- ✓ Skills to work with higher end applications in Internet Technologies; also managerial ability to analyze, design, develop and to maintain software development.

1.2 Duration of the Programme

The Bachelor of Science - Information Technology programme (M.Sc.IT) is of minimum 2 years to be completed in 4 semesters. However, the maximum duration for completion of the programme is 6 years as stated below:

Minimum Duration: 2 years Maximum Duration: 6 years

1.3 Programme Fee

• For Three Years Bachelor Degree Course The Master of Science - Information Technology programme (M.Sc.IT) Programme, learners will have to pay Rs 7500/- per semester, it has four semesters and for one year it costs Rs. 15000. Total would be Rs. 30000/- for three year

programme.

- Charges for issue of certificates (TC, Migration & Degree) will be according to university rules
- Examination fees will be as per university norms

1.4 Medium of Instruction

The medium of instruction is only in **English**. The course material is also in **English**

1.5 Credit Hours

The University follows the system of assigning 30 hours of study per credit of a course. Therefore, following this norm, a 4-credit course constitutes a total of 120 hours of study.

Out of the total credit hours, a minimum of 10%, i.e., minimum 12 hours of counselling per course is offered to the learners at their respective study centres/ Learner Support Centre.

1.6 Recognition

- BAOU is a State Open University established by an Act No. 14 of 1994 passed by Gujarat State legislature. BAOU Degrees/Diplomas/ Certificates are recognised by all the member institutions of the Association of Indian Universities (AIU) and are at par with Degrees/ Diplomas/ Certificates of all Indian Universities/Deemed Universities/ Institutions.
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1.7 Learner Support Services

The learner support services available in the Master of Science - Information Technology programme (M.Sc.IT) Programme include the following:

- I. Self-Learning Materials covering the entire syllabi,
- II. Counselling sessions at study centers/ learner support centres,
- III. Access to library services at study centers
- IV. Access to University's Library "Vivekananda"
- V. Official Website: We have developed official website www.baou.edu.in for our learners and general public. It provides all the relevant information to the learners.
- VI. Chaitanya Studio: University has its own state of the art HD "Chaitanya" studio for producing high end Audio- Video programmes.
- VII. SWADHYAY TV and SWADHYAY Radio: Audio- Video programmes are made available online on university's official website through SWADHYAY TV.
- VIII. E- SLM: An e-learning portal named OMKAR has been launched by the university. (http://baou.edu.in/kp/omkar/)It is digital repository where the study materials are uploaded for the learners.
 - IX. ASK-ME-Kiosk: Initiative by BAOU, it is a student friendly internet enable digital touch screen device displaying detailed information about the university free of cost
 - X. SMS and e-mail Alert Facility: University has initiated an SMS and e-mail alert facility for learners regarding any news, events and learner-related information of the university.
 - XI. VANDE Gujarat Educational Channel: University broadcasts live/ recorded content on Government of Gujarat's educational channel number 16 VANDE (Video Audio Network for Development and Education) Gujarat.
- XII. Virtual Classroom: A classroom without walls, a Virtual Classroom, facilitates web based learning in an interactive mode. Dr. Babasaheb Ambedkar Open University has established six virtual classrooms across Gujarat and two more is to be established soon. A distance

learner gets a feel of face to face interaction like a conventional classroom setting with facilities like hand rising to ask queries, chatting and power point presentation. A group of learners can be benefitted by interacting with a domain expert present at any remote location of the world. Software facilitates easy recording, retrieving and archival.

XIII. Educational Apps: Five Indigenously designed android mobile educational apps for providing vital information about the university have also been launched. Apps made available by BAOU on Google Play Store.

1.8 Newsletter

BAOUNewsletter can be accessed at https://baou.edu.in/news-announcements

1.9 How to contact the M.Sc. IT Program Coordinator

Learners may contact the **M.Sc. IT** Programme Coordinator by sending a communication through post to the **M.Sc. IT** Programme Coordinator, BAOU, Jyotirmay Parisar, Sarkhej-Gandhinagar Highway, Chharodi, opp. Shri Balaji Temple, Ahmedabad, Gujarat 382481.

2. Instructional System

Through face to face contact programme - Counselling sessions will be conducted at respective study centres/ Learner Support centre on Saturdays, Sundays and on public holidays.

Various others techniques are also used to benefit the learners:

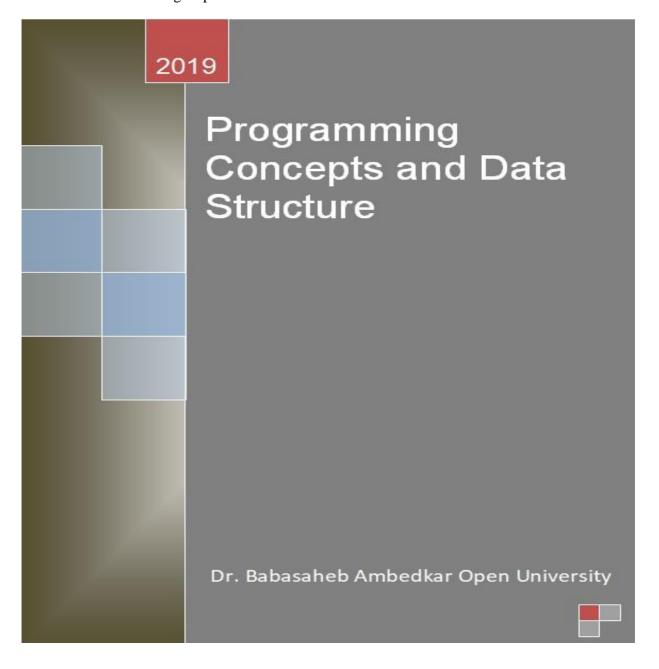
- By providing Self Learning Material
- Swadhyay TV (Video lecture through web portal)
- VANDE Gujarat Educational channel 16 of Govt. of Gujarat

2.1 Print Material (Self Learning Material).

Self Learning Material is the primary form of instructional materials. These are supplied to the learners in the form of 4 booklets called blocks. Each block consists of 3-6 units. The size of a unit is such that the material given therein may be expected to be studied by a student in a session of about 6 to 8 hours of study. Therefore, you are advised to concentrate mainly on the Self Learning Material, which we will distribute to you in a hard copy as well as soft copy as fast pace of computer industry necessitates that students must do some additional readings. Students are advised to study reference books which we have sited after the end of each and every units.

2.2 E-SLMs:

E-SLMs are also available in order to felicitate our learners so that they can study anywhere, any time at ease. Below is the glimpse of the E-SLM.



1.1 LEARNING OBJECTIVE

After studying this unit student should be able to

- . Define Computer system, Data and Information
- . Role of Hardware and Software
- Types of Software
- . Logic building with algorithms and flowcharts
- · Different types of languages

1.2 INTRODUCTION

Before going in to the depth of the subject, we will discuss few terms which is related to the subject Data and File Structure. In this section we will discuss some basic terminologies and concepts.

SYSTEM

System or Computer is a machine which can perform arithmetic and logical operations at a very fast speed. It can store the data and retrieve the data or information as per users' request or instruction.

The term 'Computer' is derived from the word 'Compute' means doing calculations. But today, most of the work done by the Computer in which no computation is involved. For example, we can listen music, watching movies, doing chat with friends, making resume using word processor, sending a mail, searching something on Internet etc., do not have any type of computation. So, we can define today's computer as a data processor which takes data as input and produce information as an output.

DATA

Data is unstructured raw materials and unstructured facts which will provide necessary inputs to the computer system. Here unstructured means value or set of values are not in structured format or not processed.

Data can be available in different formats. For example, numbers (34, 28, 76 etc.), numbers with decimal points (3.14, 78.65, 25.001 etc.), characters ('A', 'a', 'E' etc.),

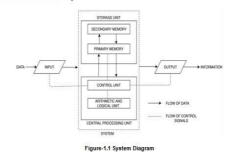
group of characters which also known as strings ("BAOU", "Computer Science", "Data and File Structure" etc.), Date, ISBN number of the book and many other types of formats are available.

Data is a value or set of values which is not processed. For example, "Ram's presence in the class on some date", "Shyam's marks of Maths subject" etc. By mean of one day attendance, we cannot predict that Ram is regular attending the class or not. Similarly, if we have marks of the Shyam of any one subject we cannot predict intelligence of Shyam.

INFORMATION

Information is structured data, or we can say - processed data is information. For example, if we record attendance of the Ram every day for whole semester and after processing it if we find his attendance is 78.20% is an information. If we collect marks of the Shyam for all the subjects of particular semester and generate the grade sheet after processing the marks is information. So, information is nothing but collection of processed data, which produces some meaningful output.

From the above discussion it is clear that data is unstructured facts and input to the system, while information is the processed data in meaningful or summarized format produced as an output by the system. Following figure will clarify the terms 'data' and 'information' more clearly.



2.3 Video Material

BAOU produces high quality audio-visual content at State of the art full HD "Chaitanya" studio with facilities for post production, storage of content and archival of content. Video lectures are recorded by the Professor, Pricipal, Subject Expert, Emminent Personnel, Renowned Teachers across India in order to equip learners with knowledge and skills.

Below is the weblink to watch the video lecture: ttp://14.139.122.7/swadhyaytv/school.aspx?id=2

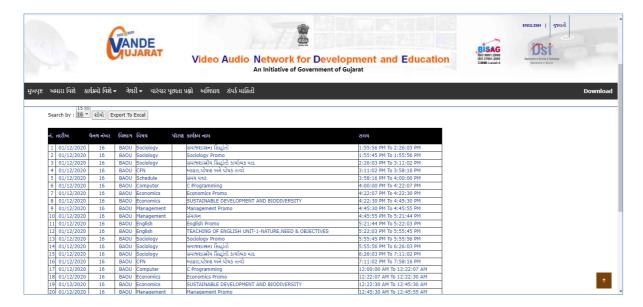
2.4 Vande Gujarat

Government of Gujarat, under the "Vande Gujarat" program, undergraduate education, skill enhancement, women empowerment, computer training, health, agriculture and animal husbandry, departmental training and expansion, digital knowledge, cleanliness campaign etc.

Vande Gujarat URL: https://vande.gujarat.gov.in/Home_guj.aspx



Schedule of Lecture: https://vande.gujarat.gov.in/programlist.aspx



2.5 Swdhyay TV, Swdhyay Radio, OMKAR-e

Today TV and Radio have come up as very powerful mediums of edutainment. They provide education with the fun and concentration of entertainment. Considering the importance and need of imparting quality education and training by TV and Radio production as a part of the curriculum of the University, Dr. Babasaheb Ambedkar Open University, Government of Gujarat has initiated two projects through its state-of-the-art Studio and Radio. They are named as "Swadhyay TV" and "Swadhyay Radio". These innovative project initiatives by BAOU, facilitate web based learning through video and radio. A state of the art High Definition TV and Sound recording studio with post production facilities supplement these initiatives to ensure high quality educational content production. This facility and initiatives will also work towards enriching the archival system for OMKAR-e (Online Courses at BAOU).

The great initiatives facilitates Internet enabled High definition Television called "Swadhyay TV" and Internet enabled Radio station called "Swdhyay Radio" at the "Jyotirmay" campus of University.

The Dr. Babasaheb Ambedkar Open University has established a state-of-the-art HDTV and sound recording studio called "Chaitanya" with post production facilities suitable for premier educational institution with required infrastructure for production of TV and audio content. BAOU utilizes these facilities for preparation of audio/video instruction material for its courses as well as content development of other subjects.

2.6 Counselling Sessions

Counseling sessions are divided into two parts, one is Theory Sessions and the another one is Practical Sessions. Below is the details of the theory and practical Counseling sessions are furnished.

- **2.6.1 Theory Session:** This theory sessions are mainly conducted to solve the quarries of the learners because in ODL system, face-to-face contact between the learners andtheir tutors/counsellors is relatively less. If learners have doubt they can avail the sessions to clarify their doubts that may not be possible through any other means of communication. It also provides learners with an opportunity to meet their fellow students. There are academic counsellors at the Study Centres to provide Counseling and guidance to themin the courses that they have chosen for study. Normally, these sessions will be held at the studycentres on Saturdays and Sundays. The Learner should note that the Counseling sessions would be very different from the classroomteaching or lectures. Counsellors will not be delivering lectures as in conventional teaching.
- **2.6.2 Practical Sessions:** The practical sessions will be held in the computer centres / labs of the Learner Support Centre/ Study Centres. In these computer labs, the participants will have the facility to use the computer and software packages relevant to the syllabus.
- **2.6.3 Practical Training and Practical Manual:** Towards the end of the third year of study, a learner will be examined in the course "Project Work".

Project Work may be done individually or in groups in case of bigger projects. However if project is done in groups, each learner must be given a responsibility for a distinct module and care should be taken to monitor the progress of individual learner.

Learner should take guidance from an internal guide and prepare a Project report on "Project Work" in 2 copies to be submitted to the Project Co-ordinator. Wherever possible, a separate file containing source code listings should also be submitted.

The Project Work should be of such a nature that it could prove useful or be relevant from the commercial / management angle. The project report will be duly assessed by the Internal guide of the subject and marks will be communicated by the Director to the University after receiving the Seat numbers from the University along with marks of the internal credit for theory and practical to be communicated for all other courses.

The project report should be prepared in a format prescribed by the University which also specifies the contents and the method of presentation.

The project work will carry 80 marks for internal assessment and 120 marks for external viva. The external viva shall be conducted by a minimum of two external examiners.

Project Work can be carried out in the Institute or outside with prior permission of the Institute. The external viva-voce examination for Project Work would be held in March/April of the second year of study, by a panel of two external examiners.

Every learner of Bachelor of Science - Information Technology has to undergo a project assignment (industrial training). The training would exclusively focus on software development in commercial application areas. The Project should be aimed at implementing all analysis, designing and programming tools that have been learnt in the course curriculum.

Practical Manuals are provided to the learners which are as follows:

MCIT-101 Programming Concepts and Data Structures

List of Programs

- 1 Develop a C program to print the binary storage of given integer.
- 2 Develop a C program that separates sign, exponent and mantissa of a given floating point number.
- 3 Develop a C program which accepts the string of digits and coverts it into integer number.
- 4 Develop a C program which accepts and integer number and converts it into a string of digits.
- Write a menu driven program for stack of integers with the push() and pop() functions provided in the unit.
- 6 Develop a C program which implements a stack of characters with push and pop operation. Use it to accept a string from keyboard and print it in reverse.
- Develop a C program to implement double stack. Double stack uses one array with two top pointers one moves from start towards end and second moves from end towards start. This is same as implementing two stacks. Push and pop can be performed in any one based on choice. Whenever both pointers are at adjacent location, stack is full.
- 8 Develop a C program having a recursive function to print first N Fibonacci numbers.
- 9 Develop a C function which prints given string in reverse using recursion. Use it in main to reverse a string enter from keyboard.
- 10 Develop a C program which implements a queue of student information like roll number, name and marks. New record is inserted at the end while records are taken from front to process them.
- 11 Develop a C program to implement the priority queue with 5 different priority levels.
- 12 Develop a C function count_odd() to count only nodes having odd value as data in singly linked list. Use it in main() to show its working.
- 13 Develop a C function reverse_list() to reverse a singly linked list. Use it in main() to show its working.
- 14 Develop a C function insert_sort() to insert nodes in singly link list such that list remains in ascending order. Demonstrate its use with main().

- Develop a C function split() to divide given singly linked list into two lists, one containing only nodes with odd values and second containing only nodes with even values from original list. Use it in main() to show its working.
- 16 Develop a C function copy_list() to create a duplicate copy of singly linked list. Use it in main() to show its working.
- 17 Develop a menu driven C program to insert and delete nodes at the end of circular list. Program should also provide option for displaying list.
- 18 Develop a menu driven C program to insert and delete the node from right most position in doubly linked list. Program should also provide option for displaying contents of doubly linked list.

MCIT-302 Mobile Application Development

List of Programs

Practical-1: Activity Life Cycle

Practical-2: TextView, EditText and Button

Practical-3: Multiple Activities and Intent

Practical-4: Checkbox and Radio Button

Practical-5: Date Time Dialog

Practical-6: Spinner-1

Practical-7: Spinner-2

Practical-8: List Activity

Practical-9: Intent

Practical-10: Draw Shape Programmatically

Practical-11: Draw Shape Defined as an XML Resource

Practical-12: Tween Animation

Practical-13: Frame by Frame Animation

Practical-14: Auto Complete Text View

Practical-15: Currency Converter

Practical-16: Multiple Choice List Activity

Practical-17: Gallery View

Practical-18: Service

Practical-19: Alert Dialogbox

Practical-20: Multiple Activities

21: Self Assessment Exercises and Additional Resources

Guidelines to learners (LAB):

- Equipment in the lab for the use of learner's community. Learners need to maintain aproper decorum in the computer lab.
- Learners must use the equipment with care. Any damage is caused is punishable.
- Learners are required to carry their observation / programs book with completed exercises while entering the lab.
- Learners are supposed to occupy the machines allotted to them and are not supposed to talk or make noise in the lab. The allocation is put up on the lab notice board.
- Lab can be used in lab time decided by lab-in charge.
- Lab records need to be submitted on or before date of submission.
- Learners are not supposed to use any USB or other devices.
- Use of computer network is encouraged.

Project Guidelines:

The project work constitutes a major component in most of the professional programmes and it is to be carried out with due care and should be executed with seriousness by the candidates.

Type of Project

As majority of the students are expected to work out a real life project in some industry/research and development laboratories/educational institutions/software companies, it is suggested that the project is to be chosen which should have some direct relevance in day-to-day activities of the candidates in his/her institution. Students are encouraged to work in the areas listed at the end. However, it is not mandatory for a student to work on a real life project. The student can formulate a project problem with the help of Guide.

Project Proposal (Synopsis)

The project proposal should be prepared in consultation with your guide. The project proposal should clearly state the project objectives and the environment of the proposed project to be undertaken. The project work should compulsorily include the software development. The project proposal should contain complete details in the following form:

- 1. Title of the Project
- 2. Introduction and Objectives of the Project
- 3. Project Category (RDBMS/OOPS/Networking/Multimedia/Artificial Intelligence/Expert Systems etc.)
- 4. Analysis (DFDs at least up to second level, ER Diagrams/ Class Diagrams/ Database Design etc. as per the project requirements).
- 5. A complete structure which includes:
 - ✓ Number of modules and their description to provide an estimation of the student"s effort on the project.
 - ✓ Data Structures as per the project requirements for all the modules.
 - ✓ Process Logic of each module.
 - ✓ Testing process to be used.
 - ✓ Reports generation (Mention tentative content of report)
- 6. Tools / Platform, Hardware and Software Requirement specifications
- 7. Are you doing this project for any Industry/Client? Mention Yes/No. If Yes, Mention the Name and Address of the Industry or Client
- 8. Future scope and further enhancement of the project.

2.6.4 Counselling Session Details:

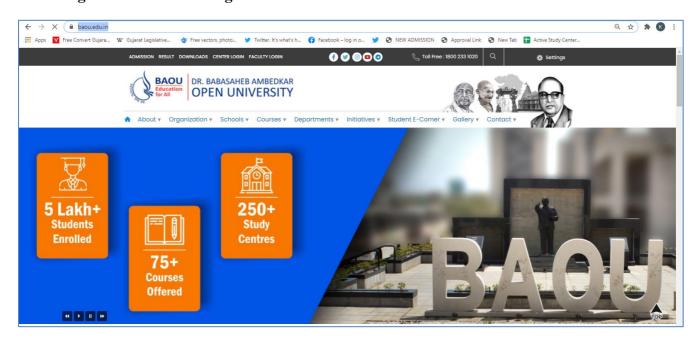
Subject wise Number of Counselling Sessions (Theory/Lab)			
Subject Code	Subject Name	Credits Point	No. of Counselling Sessions
MCIT-101	Programming Concepts and Data Structure	4	4
MCIT-102	Relational Database Management System	4	6
MCIT-103	Internet and Web Designing	4	4
MCIT-104	Fundamental of Operating System	4	6
MCIT-105	Software Engineering	4	4
MCIT-106	Practical based on MCIT-101, MCIT-102 and MCIT-103	4	6
MCIT-201	Object Oriented Concepts and Programming	4	8
MCIT-202	Web Application Development – LAMP	4	8
MCIT-203	Object Oriented Analysis and Design using UML	4	6
MCIT-204	Fundamental of Computer Networking	4	6
MCIT-205	Cloud Infrastructure and Services	4	8
MCIT-206	Practical based on MCIT-201, MCIT-202	2	6
MCIT-301	Web Development Tools	4	6
MCIT-302	Mobile Application Development	4	6
MCIT-303	Object Oriented Technology	4	6
MCIT-304	Cyber Security	4	6
MCIT-305	Practical based on MCIT-301, MCIT-202, MCIT-303	4	10
MCIT-401	Internship cum Software Development Project	12	14

Note: For MCIT -401 course number of counselling sessions will be as per the requirement of the learners.

3. Browsing BAOU's Website

BAOU Website URL: https://baou.edu.in/

3.1 Navigation from Home Page

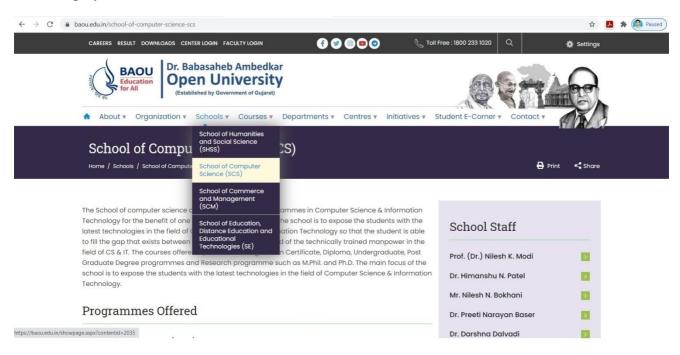


3.2 Navigation of M.Sc. IT pages

Step-1: Visit https://baou.edu.in/ website.



Step-2: Click on 3rd Section which is "School" menu, Click on "School of Computer science" which displays various courses under SCS.



4. Master of Science - Information Technology (M.Sc. IT)

Programme Structure

Cl- Cl-	Carlie of Norma	Credit		
Sub Code	Sub Code Subject Name		Practical	
Semester – I				
MCIT-101	Programming Concepts and Data Structure	4		
MCIT-102	Relational Database Management System	4		
MCIT-103	Internet and Web Designing	4		
MCIT-104	Fundamental of Operating System	4		
MCIT-105	Software Engineering	4		
MCIT-106	Practical based on MCIT-101, MCIT-102 and MCIT-103		4	
		24		
	Semester – II			
MCIT-201	Object Oriented Concepts and Programming	4		
MCIT-202	Web Application Development – LAMP	4		
MCIT-203	Object Oriented Analysis and Design using UML 4			
MCIT-204	Fundamental of Computer Networking 4			
MCIT-205	Cloud Infrastructure and Services	4		
MCIT-206 Practical based on MCIT-201, MCIT-202			2	
		22		
	Semester – III			
MCIT-301	Web Development Tools	4		
MCIT-302	Mobile Application Development	4		
MCIT-303	Object Oriented Technology	4		
MCIT-304	Cyber Security	4		
MCIT-305	Practical based on MCIT-301, MCIT-202, MCIT-303		4	
		20		
	Semester – IV			
MCIT-401	Internship cum Software Development Project		12	

Total Credit Points: 66

5. Evaluation Scheme

The final total assessment of the candidates is made in terms of an internal assessment and an external assessment for each course.

There are two types of evaluations, continuous and term end examination. The weightage for both componets is given below

1) Continuous Evaluation Weightage: 30%

2) Term End Exam Weightage: 70%

Continuous Evaluation: It Will be evaluated based on assignment. Students have to prepare two Tutor marked Assignments (TMA) for each paper. Students need to keep one copy of Tutor marked

Assignments (TMA) with them and they have to submit original copy of Tutor Marked Assignments (TMA) to their learner support center before appearing the exam and should take a receipt of assignment submission. Students have to collect assignment after evaluation from their learner support center.

Term End Exam: For each paper the term end exam weightage will be of 70% of total marks. Students can appear for the term end exam of semester after submitting the required assignments for all papers. If student is not successful in the paper then student can give the exam of that paper in next term end exam within stipulated period of time as per their conveniences.

Passing Criteria: The standard of passing in any paper is to secure 40% in continuous evalution(TMA) as well as in term end examination (TEE)

The Evaluation procedure will be the same as followed by the university.

- ✓ Each paper shall have a weightage of 30% marks for Internal assessment (assessment through assignments) and 70% marks for semester end exams, unless otherwise stated.
- ✓ Examination will be conducted at the end of each semester i.e. during May/June and also in December/January.
- ✓ Every candidate must secure 40% marks in each head of passing.
- ✓ The passing marks for external examination will thus be 28 out of 70 and for internal examination 12 out of 30 and aggregate marks taking both together will be 40 marks.

5.1 Instructions for Assignments

The following guidelines which are required to be followed while answering Assignments:

I. General Instructions for assignments

The assignments provide Knowledge and Awareness on technical topics, it helps in widening their cognitive skill horizons and it improves the writing skills as well. The word limits for answering most of the assignment questions depending on the marks. There are short question type and long question types. It is advisable to keep the following points in mind:

First comes to Plan: First you need to read the whole assignment carefully. Then go through the units on which they are based. Make some points regarding each question and rearrange these in a logical order.

Organise your Answers: Now you need to be selective and analytical and rational before drawing up a rough outline of your answer. In an essay-type question, you need to write the introduction part and conclusionas well. The introduction must offer brief interpretation of the question and how you propose to develop it. The conclusion must summarize your response to the question.

Exhibition: Once you complete the process of writing and if you are satisfied with your answers, you can write down the final version for submission. It is advisable to write each answer tidily and underscoring the points you want to highlight.

II. The following format is to be followed for submission of the assignment:

The top of the first page of your response sheet for each assignment should look like this:

	Babasaheb Ambedkar Open University	
	Course Name:	
	Subject Code:	
	Subject Name:	
me of Stud	dent:	
rollment N	No.:	
	Study Centre:	
	Study Centre:	
ime of the s		
	Code:	
	1000 April 100 A	
	e Code:	
	1000 April 100 A	
	e Code:	

- III. The assignments answers sheets should be hand written. However the s/w coding, snapshots, test cases etc. can be in the printed form.
- IV. The learners should write each assignment separately. All the assignments should not be written in continuity.
- V. The learners should use only A4 size paper for their answers and tag all the pages carefully. Avoid using very thin paper.
- VI. The students should not copy the assignments from others. If copying is noticed, the assignments of such students will be rejected, and disciplinary action will be taken against the students as per rules of the University.
- VII. The completed assignment answers should be sent to the Coordinator of the Learner Support Centre/ Study Centre.
- VIII. Assignments have to submit to center compulsory.

- IX. The Volume of one assignment should be Minimum 30 pages including Text, Tables, Graphs, Photographs, etc. The assignment is apart of continuous assessment system and mandatory for the submission.
- X. In order to seat for the examination, it is must for the students to submit the assignment. Without submission of the assignment students will not allowed to seatfor the examination.
- **6.** Other Useful Information

6.1 Requirement to seat in term end examination

- i. Completion of minimum time duration of the programme after enrollment
- ii. Submission of the assignment in particular time duration
- iii. Filling and submission of the examination form in particular time duration
- iv. If you have appeared in the previous examination and still its result is awaited than it is advisable to fill up the examination form without waiting for the result
- v. Exam form will be uploaded from time to time on the website for Regular and Repeater students for more information browse :: http://www.baou.edu.in/

6.2 Scholarship

Students belonging to Scheduled Caste, Scheduled Tribe, Nomadic Tribes and Denotified Tribes who have accepted Bodh Religion can get the benefit of Scholarship according to the rule of Government. This scholarship is declared by Government of India under the head of Post Matric Scholarship. In this, the included caste in particular course shall get scholarship from concern State Government Department, if the application form of scholarship is approved.

6.3 Rules of fees refund

The University will not refund any fee for any reasons, whatsoever, to any student. Under uncommon cases, the decision of the Vice Chancellor will remain final.

6.4 How to take back the extra fee paid for the programme

For any reason, if the extra amount is paid, than the student has to give an application by enclosing all the required documents (copy of Fee receipt, etc.) within 30 days.

6.5 Allotment of the Learners Support Centre/ Study Centre

To every student, study center is allocated according to their preference by the university. But the student may be allocated to a nearby study centre if the selected study centre does not fulfill the condition of minimum enrollment.

6.6 Changes in Address

Students shall write an application in case if there is change in address. Till the changes are not done in the university records students have to make arrangement to get post from the old address.

6.7 Policy on pursuing two or more programmes simultaneously

The Distance Education Council, in its 40th meeting held on 08 June 2012, approved a policy on pursuing two or more programmes simultaneously in various combination as under.

Two Degree Programmes cannot be allowed to be pursued simultaneously. However, a student can pursue two programmes simultaneously through distance mode or combination of distance and regular mode from the same or different Universities/ Institutions in various combinations, viz., 1 One Degree and one Diploma / P G Diploma / Certificate 2 One P G Diploma and one Diploma / Certificate 3 One Diploma and one Certificate 4 Two P G Diploma 5 Two Diplomas 6 Two Certificates.

6.8 Learner's Communication

If the student is communicating via letter, than it is advisable to write full name, address, enrollment number, study center name and address which shall be addressed to V&P department. Separate letter is to be written for different issues i.e. Admission, study material, assignment and examination.

6.9 Duplicate I-Card

Generally I-Card is issued to the student by the University. But in uncommon situation if I-card is missed than student shall apply for the duplicate I-card. An application for Duplicate I-Card with Rs 25/- in cash if in person or demand draft in favour of Dr. Babasaheb Ambedkar Open University payable at Ahmedabad is to be submitted at University office. Enclose one photograph and any other Photo I-D proof with an application.

6.10 Examination Centre

Generally, student's study / programme center or nearby center will be his/her exam center but the decision of the University will remail final and binding for all the students in the matter of examination center in any circumstances.

6.11 Examination Fees

Repeater student has to pay examination fees (Pay-in slip) at their study center or university, along with an examination form, each time he wishes to appear for the examination. Examination Fees for the repeater student is Rs. 200/- per subject. Examination Forms are available at the University, Study Centre and on Website. Examination Fees covers conduct and result declaration of examination for all those subject for which examination fees is paid.

6.12Programme Coordinator

A person in charge of the administrative and academic affairs at the study center. He/She plans the availability of counsellors, looks after the distribution of self-learning material, arranges and coordinates counselling sessions, etc.

7. Some Useful Address

Sr. No.	Purpose	Concern Department	
1	Admission / Re-Admission /	Concerned Study Center or	
	Lab Manual / I-Card	Student Support Section / Admission Department	
		Dr. Babasaheb Ambedkar Open University,	
		'Jyotirmay' Parisar, S G Highway,	
		Chharodi, Ahmedabad: 382 481	
		Phone: Operator: +917929796223, 24, 25 +912717297170	
		Toll Free No.: 18002331020	
2	Change of Name/	Concerned Study Center or	
	Correction of name/	Student Support Section / Admission Department	
	address/ Contact no.	Dr. Babasaheb Ambedkar Open University,	
		'Jyotirmay' Parisar, S G Highway,	
		Chharodi, Ahmedabad: 382 481	
		Phone: Operator: +917929796223, 24, 25 +912717297170	
		Toll Free No.: 18002331020	
3	Collecting Study Material	Concerned Study Center or	
	(Self Learning Material)	Material Distribution Section	
		Dr. Babasaheb Ambedkar Open University,	
		'Jyotirmay' Parisar, S G Highway,	
		Chharodi, Ahmedabad: 382 481	
		Phone: Operator: +917929796223, 24, 25 +912717297170	

		Toll Free No.: 18002331020
4	Bonofide Certificate	Concerned Study Center or
		Student Support Section / Examination Department
		Dr. Babasaheb Ambedkar Open University,
		'Jyotirmay' Parisar, S G Highway,
		Chharodi, Ahmedabad: 382 481
		Phone: Operator: +917929796223, 24, 25 +912717297170
		Toll Free No.: 18002331020
5	Exam / Hall-Ticket	Concerned Study Center or
		Examination Department
		Dr. Babasaheb Ambedkar Open University,
		'Jyotirmay' Parisar, S G Highway,
		Chharodi, Ahmedabad: 382 481
		Phone: Operator: +917929796223, 24, 25 +912717297170
		Toll Free No.: 18002331020
6	Marksheet / Transcript /	Concerned Study Center or
	Migration / Degree	Examination Department
	Certificate	Dr. Babasaheb Ambedkar Open University,
		'Jyotirmay' Parisar, S G Highway,
		Chharodi, Ahmedabad: 382 481
		Phone: Operator: +917929796223, 24, 25 +912717297170
		Toll Free No.: 18002331020
7	Scholarship	Concerned Study Center or
		Scholarship Section
		Dr. Babasaheb Ambedkar Open University,
		'Jyotirmay' Parisar, S G Highway,
		Chharodi, Ahmedabad: 382 481
		Phone: Operator: +917929796223, 24, 25 +912717297170
		Toll Free No.: 18002331020
8	Assignments /	Concerned Study Center or
	Assignment Submission	Assignment Department
		Dr. Babasaheb Ambedkar Open University,
		'JYOTIRMAY' Parisar, S G Highway,
		Chharodi, Ahmedabad: 382 481
		Phone: Operator: +917929796223, 24, 25 +912717297170
-	G. I	Toll Free No.: 18002331020
9	Submission of Project	Concerned Study Center or
	Reports	Student Support Section
		Dr. Babasaheb Ambedkar Open University,
		'Jyotirmay' Parisar, S G Highway,
		Chharodi, Ahmedabad: 382 481
		Phone: Operator: +917929796223, 24, 25 +912717297170 Toll Free No.: 18002331020
10	Prospectus	
10	Prospectus	Concerned Study Center or Student Support Section
		Dr. Babasaheb Ambedkar Open University,
		'Jyotirmay' Parisar, S G Highway,
		Chharodi, Ahmedabad: 382 481
		Phone: Operator: +917929796223, 24, 25 +912717297170
		Toll Free No.: 18002331020
		1011 17EC NO 10002331020

8. Old Question Papers

Download More Question Paper: https://baou.edu.in/question-paper

-	system		Max. Marks : 70	
	Answer the following (Attempt any thi	ree)	A	(30)
1.	Explain Types of Key.	0		(6.0)
2.	Explain Relational Algebra.			
3. 4.	Explain Data type in SQL. What is Trigger? Explain Types of Trigg	er		
5.	Explain control statements in PL/SQL bl			
		25	20	
		ction	В	(20)
1.	Answer the following (Attempt any for Explain 1 st normal form.	11')		(20)
2.	Explain break command.			
3.	Explain Create Statement.			
5.	Explain Numeric Function Explain Commit Statement.			
6.	Explain For loop in PL/SQL block.			
	Sec Part – A (Multipl	etion le Ch		(10)
1	SQL stand for	ic Ch	one Questions)	(10)
	A Structure Query Language	В	Structure Queue Language	
2	C Software Query Language	D	Structure Query Long	
2	Key is Unique & not Null Key. A Foreign	В	Unique	
	C Primary		Super	
3	Database views are created using the	_	statement.	
	A Create View C Drop View	B	Alter View Join View	
4	of data can be inserted into a view		John View	
	A Row	B		
5	C Data	D	Database	
,	A Order	В	Distinct	
	C Set	D	Where	
6	It is a that causes the trigger to b A SQL Statement C Data	_	d. Database DBMS	
7			DBMS	
	You can fetch rows only when the curso		Doth A & D	
	A Close	В	Both A & B	
0	C Open		None of Above	
8	allows user to define their own			
	A Curser	В	Both A & B	
	C PL/SQL		None of Above	
9	After the is raised. It must be	_		
	A Exception	В	Both A & B	
	C PL/SQL		None of Above	
10	PL/SQL provideskinds of sub	progr	am.	
	A One	В	Two	
	C Three	D	Four	
	Part – B (I	o as	Directed)	(10)
1	Insert command is to Add row in the tab	la /T-	ma/Falca)	
2	Drop command is use for Delete a row.(True/	raise)	
3	What is Curser?			
4	Primary key is a null key? (True/False)	2 020		
5	Delete command is use for Delete a row			
6	Create command is a example of DDL?			
7	The size parameter specifies the maximu	ım ler	igth of the column of the table?	
	(True/False)			
8	What is DBMS?			
9	What is Full form of DML?			
10	What is Full form of DDL?			

9. Forms and Enclosures



Dr. Babasaheb Ambedkar Open University

(Established by Government of Gujarat)
'Jyotirmay' Parisar, Opp. Shri Balaji Temple,
Sarkhej-Gandhinagar Highway, Chharodi, Ahmedabad - 382 481
E-mail: kmro@baou.edu.in Website: www.baou.edu.in

APPLICATION FORM FOR ISSUE OF DUPLICATE I-CARD

1.	NAME:
2.	COURSE: SEMESTER/YEAR:
3.	ENROLLMENT NOCENTER CODE :
4.	STUDENT ADDRESS:
	PIN NO.:
5.	FEE DETAILS : (The fee for Duplicate I-Card is Rs.25/- which is to be paid through
	Demand Draft in favour of 'Dr.Babasaheb Ambedkar Open University' Payable at
	Ahmedabad or Cash at Dr. BAOU Campus.)
	Demand Draft No. :
	Issuing Bank :
	Date : (Signature of Applicant)
	The Filled in form with the requisite fees is to be sent to:-
	Vocational and Professional Department,
	Dr. Babasaheb Ambedkar Open University,
	Jyotirmay Parisar, Sarkhej-Gandhinagar Highway,
	Ahmedabad-382481.



3. 6 Passport Size Photo

Dr. Babasaheb Ambedkar Open University

(Established by Government of Gujarat)
'Jyotirmay' Parisar, Opp. Shri Balaji Temple,
Sarkhej-Gandhinagar Highway, Chharodi, Ahmedabad - 382 481
E-mail: kmro@baou.edu.in Website: www.baou.edu.in

APPLICATION FORM FOR ISSUE OF TRANSCRIPT

1.	NAME :
2.	COURSE: SEMESTER/YEAR:
3.	ENROLLMENT NOCENTER CODE :
4.	STUDENT ADDRESS :
	PIN NO.:
5.	PURPOSE :
6.	FEE DETAILS: (The fee for 5 Copy Transcript is Rs.500/- which is to be paid through
	Demand Draft in favour of 'Dr. Babasaheb Ambedkar Open University' Payable at
	Ahmedabad or Cash at Dr. BAOU Campus.)
	Demand Draft No.:
	Issuing Bank:
	Date : (Signature of Applicant)
	The Filled in form with the requisite fees is to be sent to :-
	Exam Department,
	Dr. Babasaheb Ambedkar Open University,
	Jyotirmay Parisar, Sarkhej-Gandhinagar Highway,
	Ahmedabad-382481.
	Require Documents (Compulsory):
	1. Marksheet Xerox
	2. Degree Certificate Xerox



Dr. Babasaheb Ambedkar Open University

(Established by Government of Gujarat)
'Jyotirmay' Parisar, Opp. Shri Balaji Temple,
Sarkhej-Gandhinagar Highway, Chharodi, Ahmedabad - 382 481
E-mail: kmro@baou.edu.in Website: www.baou.edu.in

<u>APPLICATION FORM FOR ISSUE OF MIGRATION CERTIFICATE</u>

1.	NAME :
2.	COURSE: SEMESTER/YEAR:
3.	ENROLLMENT NOCENTER CODE :
4.	STUDENT ADDRESS :
	PIN NO.:
5.	PURPOSE :
6.	FEE DETAILS: (The fee for Migration Certificate is Rs.100/- which is to be paid through
	Demand Draft in favour of 'Dr.Babasaheb Ambedkar Open University' Payable at
	Ahmedabad or Cash at Dr. BAOU Campus.)
	Demand Draft No.:
	Issuing Bank:
	Date : (Signature of Applicant)
	The Filled in form with the requisite fees is to be sent to :-
	Exam Department,
	Dr. Babasaheb Ambedkar Open University,
	Jyotirmay Parisar, Sarkhej-Gandhinagar Highway,
	Ahmedabad-382481.
	Require Documents (Compulsory):
	1. Marksheet Xerox
	2. Degree Certificate Xerox

3. Passport Size Photo



Dr. Babasaheb Ambedkar Open University

(Established by Government of Gujarat)
'Jyotirmay' Parisar, Opp. Shri Balaji Temple,
Sarkhej-Gandhinagar Highway, Chharodi, Ahmedabad - 382 481
E-mail: kmro@baou.edu.in Website: www.baou.edu.in

APPLICATION FORM FOR ISSUE OF BONAFIDE CERTIFICATE

1.	NAME:
2.	COURSE: SEMESTER/YEAR:
3.	ENROLLMENT NOCENTER CODE :
4.	STUDENT ADDRESS:
	PIN NO. :
5.	PURPOSE:
6.	FEE DETAILS : (The fee for Bonafide Certificate is Rs.50/- which is to be paid through
	Demand Draft in favour of 'Dr.Babasaheb Ambedkar Open University' Payable at
	Ahmedabad or Cash at Dr. BAOU Campus.)
	Demand Draft No.:
	Issuing Bank:
	Date : (Signature of Applicant)
	The Filled in form with the requisite fees is to be sent to :-
	Vocational and Professional Department,
	Dr. Babasaheb Ambedkar Open University,
	Jyotirmay Parisar, Sarkhej-Gandhinagar Highway,
	Ahmedabad-382481.



ડૉ. બાબાસાહેબ આંબેડકર ઓપન યુનિવર્સિટી 'જ્યોતિર્મય' પરિસર, શ્રી બાલાજી મંદિર સામે, સરખેજ–ગાંધીનગર હાઈવે, છારોડી, અમદાવાદ-382 481, ફોન : (02717) 297170 ફેકસ : (02717) 297144 E-mail : <u>feedback@baou.edu.in</u> Website : <u>www.baou.edu.in</u>

પદવી પ્રમાણપત્ર મેળવવા માટેનું અરજીપત્રક (પાછળ દર્શાવેલ સુચનાઓ ધ્યાનથી વાંચ્યા બાદ ફોર્મ ભરવું)

પ્રતિ, કુલસચિવશ્રી, ડૉ. બાબાસાહેબ આંબેડકર અ અમદાવાદ – 382 481	<u>ો</u> પન યુનિવર્સિટી,	
અભ્યાસક્રમનું ડિગ્રી પ્રમાણ , બેંકનું નો મોકલી આપુ છુ. આ ર નકલ સામેલ કરેલ છે. ડિગ્રી પ્રમાણપત્ર મેળવવા માં ∐ું હું ડિગ્રી પ્રમાણપત્ર પ	પત્ર મેળવવા માટે ભરવાની થતી ફ્રી નામશાખા	ા માગું છું.
સ્થળ : તારીખ :		આપનો/આપની વિશ્વાસુ
((નીચેની વિગતો અરજદારે મોટા અને સ્વય	છ અક્ષરોમાં ભરવી)
નામ : <u>અટક</u> નામ :	<u>નામ</u>	યિતા/પતિનું નામ
કાયમી રહેઠાણનું સરનામું :	(અંગ્રેજી કેપિટલ અક્ષરોમાં માર્કશ	
 ફોન નં :	િપન	. કોડ નંબર : ાઈલ :
	અભ્યાસક્રમની વિગત	
અભ્યાસક્રમનું નામ નોંધણી નંબર પરીક્ષા સત્ર માર્કશીટ નંબર પ્રાપ્ત કરેલ વર્ગ પસંદ કરેલ મુખ્ય વિષય	: : જાન્યુઆરી–ફેબ્રુઆરી-20] : :	 16 જૂન–જુલાઈ-2016

ગુ<mark>ણ</mark> યકાસણી માટેની અરજી

અરજી નં	
<u>(</u> કાર્યાલય માટે)	

สเ			સત્રાંત પરીક્ષા : જાન્યુઆરી/જુલાઈ				
નોંધણી નંબર વિદ્યાર્થીનું ના સરનામું		:					
		: _		પીન કોડ :			
ફોન નં . (૨ હે .) (એસ.ટી.ડી. કોડ		:					
મોબાઈલ		:					
અભ્યાસક્રમન્	j નામ	:					
અભ્યાસકેન્દ્રવ	નું નામ	:					
પરીક્ષાકેન્દ્ર કે	ls	:					
જેમાં ગુણ ચક	ાસણી કરાવ	ત્રી છે તે	. પાઠ્યક્રમો :				
	અં. નં.		પાઠ્યક્રમનું નામ	પાઠ્યક્રમ	ન ગુણપત્રક પ્રમાણે મેળવેલ ગુણ		
	નોંધ :- ગુણપ	ાત્રકની	નકલ સાથે બિડવી.				
પાઠ્યક્રમ દીઠ	ં રૂ. લેખે પુન:	યકાસા	ણી ફી ની વિગત : (કૉ. બાબાગ્રાહે ડ્રાફ્ટ મોકલવા		ુ નિવર્સિટી, અમદાવાદની તરફેણ નો ડીમાન્ડ		
	રકમ		ડીમાન્ડ ડ્રાફ્ટ નંબર	તારીખ	બેંકનું નામ		
સ્થળ : _ તારીખ : _					—————————————————————————————————————		

અરજી નીચેના સરનામે મોકલવાની રહેશે

પ્રતિ, નિયામકશ્રી (વિધાર્થી સેવાઓ), ડૉ. **બાબાસાહેબ આંબે**ડકર ઓયન યુનિવર્સિટી, આર. સી. ટેકનીકલ ઈન્સ્ટીટયૂટ કેમ્પસ, સરખેજ—ગાંધીનગર હાઈવે, ગુજરાત હાઈકોર્ટ સામે, સોલા, અમદાવાદ—૩૮૦ ૦૬૦.