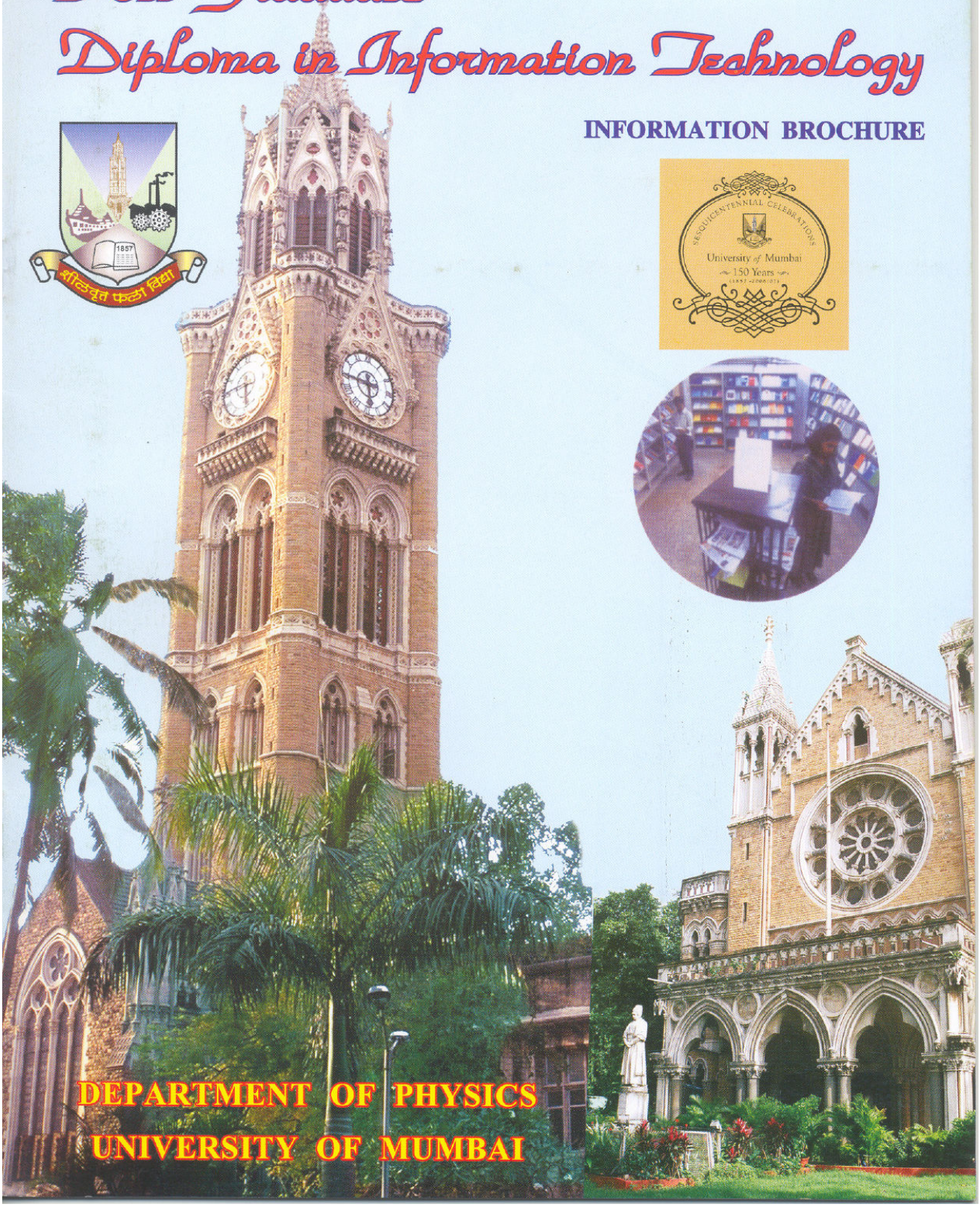
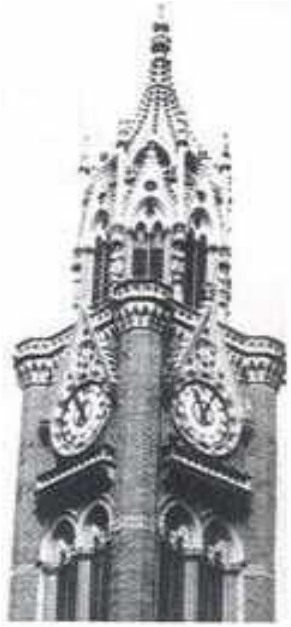
Post Graduate Diploma in Information Technology

INFORMATION BROCHURE



DEPARTMENT OF PHYSICS

UNIVERSITY OF MUMBAI



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FOREWORD

Information Technology (IT) is a fast developing field and has assumed highest importance in our modern society and its progressive use in most of the fields is becoming indispensable. The successful introduction of Information Technology teaching and training ; graduate and post graduate and diploma programs in the Colleges and in the University department has by and large made trained personnel available to the IT industry. The Mumbai University Department of Physics has extensively networked educational, research and developmental programmes. It has established links with industry so as to attract the best professionals in IT for scientific and strategic, partnerships for collaborative training.

Our mission is to introduce world class "Programme of Excellence" in the area of Information Technology and allied Sciences for enhancing University's technological strength In IT and for becoming a trendsetter for other Universities. With the phenomenal growth of the Internet and Intranet concepts across the World, the whole of the lT industry will become progressively dependent on talent and manpower. Keeping in mind the role of our prestigious University in producing such expertise; the Department of Physics, University of Mumbai offers a One Year Post Graduate Diploma Course in Information Technology (PGDIT) to train and educate graduates and engineers of outstanding ability who can become leaders in the industry and profession. The personnel thus trained have a cutting edge in Hardware and Software. This can be useful to develop and promote national and international linkages to work for the creation and development of databases and associated software and courseware for all applications.

The first batch of 53 students completed their training successfully in the academic year 2001-2002 and there has been no looking back since then. They underwent rigorous practical and theoretical training by experienced invited faculty from the IT industry. So far, the IT industry has absorbed around Three hundred plus students of PGDIT with very minimal training needed to tailor these students to suit their requirements the IT industry definitely finds their services very fruitful.

ABOUT THE COURSE-

The course is basically suitable for science and engineering graduates but is offered to graduates from any stream. The first module of the course has broad emphasis on hardware, operating systems, softwares, etc, to familiarize the students with Computer Systems; Internetworking devices and Networking Technologies; Network Administration, Remote Connectivity and Study of Operating Systems such as windows NT, Linux etc. The second module specializes on WEB Technologies, J2ME, Programming tools, Software Engineering and E-Business. Project work forms an integral part of the course.

THE DEPARTMENT

The University Department of Physics was established in the year 1971 as a Post Graduate Department of the University of Mumbai. The Department offers Post graduate courses leading to M.Sc., MPhiL and Ph.D. degrees in Physics.

The M.Sc. programme includes advanced instructions in (i) Electronics & Microprocessors (ii) Electronics & Telecommunication (iii) Solid State Electronics (iv) Nuclear Physics (v) Solid State Physics (vii) Laser & Plasma Physics (viii) Chemical Physics (ix) Astronomy & Space Physics (x) Material Science for teaching and research activities. From the academic year 2001-02 a course leading to the Post Graduate Diploma in Information Technology (PGDIT) has been introduced successfully.

The Department has a close interaction with scientists from BARC, TIFR, IIG, NSC (New Delhi), Nehru Planetarium and IUCAA (Pune) and also with professionals from the Industries. Recently the UOM has signed a MOU and a MOA with DAE. The initiative taken by the department of physics has snowballed into establishing the UM-DAE CBS for conducting 5 yrs integrated M.Sc courses in the various discipline of science in the university campus thus providing for undergraduate training in a post graduate environment.

INFRASTRUCTURE FACILITIES

I) The Department has access to the global information network through Internet The Department of Physics has a High-Speed Network and Internet Access: High Bandwidth Computer network connections with fiber optics and Wi-fi based Internet access. The Internet\Intranet connectivity at the Vidyanagari and Fort Campus of Mumbai University is established through fiber optics.

II) II) The Department boasts of a high-speed fiber optic back bone using state of the art component. The state of the art of networking components like Manageable Switches, Hubs and CISCO Router are used in the circuit. Fiber Optic Backbone Cabling connects the various Departments in the Vidyanagari campus.

FACILITIES FOR PGDIT STUDENTS

- One PC per student: Students admitted to the Course will have individual High Speed Internet Access on their Pentium Dual core Machines.
- Linked Utilization of Internet Browsing, File Transfer facilities during the period of the course.
- Licensed software from Microsoft supporting applications to be used during the course.
- In- house independent library facility.
- Intranet E-library facility for the students with number of e-books on various IT, Networking Programming topics.
- 2Mbps Lease line connectivity to the VSNL

COMPUTATIONAL FACILITIES IN THE DEPARTMENT

A few Digital Alpha workstations are available for large-scale number crunching and other applications, in addition to the large number of Pentium Machines acquired under various research projects. The Intel USA has donated 6 Dell Pentium III XEON 933 MHz (NT servers) with 18GB HOD, 256 MB RAM. 21" color monitors

We have also procured HCL server - Model No. HCL/Infiniti XL line series, processor - AMD Opteron Dual Core, Configuration- Tower, HDD= 2 x 72 ,15000 rpm SAS Hot plug, RAM- 2 GB DDR2 667 MHz .

The lab is equipped with Intel core 2 duo machines with TFT (19”) widescreen monitors and Intel Dual core machines and a LCD projector.

LOCATION

The Department of Physics is housed in Lokmanya Tilak Bhavan and partly in Sant Dnyaneshwar Bhavan located in the well-planned Vidyanagari Campus of the University of Mumbai. The Vidyanagari Campus is off the C.S.T. Road (now known as Vidyanagari Marg) near Kalina and is accessible both from Central Railway and Western Railway. BEST bus route 318, 313 and 37 plying from Kurla [West] (Central Railway) and 318, 313 and 306 from Santacruz [East] (Western Railway) pass via Vidyanagari while 312 & 374 connect to Andheri, Vile-Parle & Sion.

In the very first visit, the student falls in love with the campus environment which was well-laid garderns in a vast area away from the dense, smoky and noisy city which helps to create the necessary atmosphere for innovative activities. Staff quarters, Girls' and Boys' hostels and late evening research workers keep the campus lively also in the evenings. Campus library houses books and journals of almost all the subjects. Canteen offers a common meeting place for students and teachers from various departments. It is a new experience for a Information Technology student to encounter a research worker, deeply involved in other faculties. Summing up, the campus offers an opportunity for an all-round development of the student's personality.

LIBRARY

Jawaharlal Nehru Library at the Vidyanagari Campus is well equipped with books, journals and periodicals. The students enrolled in the Department can avail of both the reading as well as lending facilities offered by this library.

A PGDIT Library has been specially created for the PGDIT students. This facility has around 48 course-specific titles with total of around 450books and also providing the e-library facility.

ADMISSION

The procedure for enrollment of candidates to the One Year Post Graduate Diploma in Information Technology is as follows:-

The application form for admission to the course can be had from the office of the Head Department of Physics, University of Mumbai. Vidyanagari Campus, Santacruz (East), Mumbai- 400 098, along with a copy of the brochure on payment of Rs.200/-The application forms for the entrance test are appended in the brochures and carry serial numbers. The department will not accept any form without a valid number. While filling up the application form for the entrance test, the student should go through the brochure carefully and fill it according to the instructions mentioned there in.

The application forms duly filled in and signed and accompanied with the originals as well as certified copies of the statement of marks, must be submitted to the staff-in-charge of the admissions during the period as specified in the brochure. Incomplete applications without the mark sheet will be rejected.

No individual intimation will be sent to candidates selected for admission including those who are from other universities. The list of students selected for admission to the course will be put up on the notice board of the Department and also on the University web site: www.mu.ac.in Two such admission lists based on Entrance Test merit shall be displayed one after the other as per the schedule announced in this brochure. The selection of candidates would be strictly on Entrance Test merit. Applicants from other universities are required to submit a provisional certificate of eligibility while enrolling for the course. This provisional eligibility certificate can be obtained from the Registrar, Eligibility Section of University of Mumbai, Ambedkar Bhavan. Vidyanagari, Mumbai-400 098, after submitting the application and necessary remittance.

The candidate selected for admission to the course will have to pay the full tuition fees as notified in the list of selected candidates put up on the notice board of the Department. The fee will have to be paid on or before the last date mentioned in the list, failing which the candidate will forfeit his or her claim to the seat allotted in the list.

A candidate who fails to avail of the admission offered to him or her before the last date as mentioned in the list of selected candidates will not be considered for a seat in the subsequent list.

The vacancies that may arise on account of the selected candidates not availing themselves of the admission before the last date or those who might withdraw their admission will be notified through subsequent announcements in the Department and students would be chosen from the merit-based waiting list.

ELIGIBILITY

For being eligible for admission to the Post Graduate Diploma in Information Technology, a candidate must have passed the Bachelor's degree examination of the University of Mumbai or an examination of another University recognized as equivalent thereto by the eligibility section of the University of Mumbai. Knowledge of computers is preferable. Candidates with B.E./B.Tech. Qualifications are also eligible to apply.

Candidates who have appeared for the final year examination and are waiting for their results are also eligible to apply. The selection will be subjected to their passing in those examinations and producing the results before the final admission.

ADDITIONAL FEATURES OF THE PGDIT COURSE

Besides teaching, many activates came along the journey of the students through the PGDIT course viz.:

I. Regular Guest lectures by towering personalities In the IT field such as:

1) Mr. Mukund Pawar[Mumbai Police Cyber Crime Investigation Cell]
2) Mr. Ninad Nawaghare (Territory Manager, Maharashtra, Asian School of Cyber Laws)
3) Shri Rajiv Vaishnav [Vice Président NASSCOM]:
4) Mr. Rajiv Gerela [Wipro Technologies]
5) Mr.Subramaniam (Computer Society of India)
6) Shri Arun Chatterjee [Data Line Integration];
7) Dr.N.S.T.Sai [Mahindra British Telecom];
8) Shri Sunil Soni [Secretary IT, Govt of Maharashtra] and Municipal

Commissioner, Navi Mumbai Municipal Corporation (2002-2003)

9) Shri B. Saha [Manager. MTNL]:
10) Shri Prakash Advani [Netcore solutions];
11) Shri Shankaran [AMD. Athelon. USA]:
12) Dr.V.H.Kulkami[LATEX Software]:
13) Dr. B.V.Joshi [Advanced Processors and Applications]:
14) Shri Dilip Ganeriwal [M.D.-DESS Technologies]:
15) Shri S.R. Mallela [AFL Pvt Ltd]

II Interaction with IT industry bigwigs such as:

1) TIE members including S M Kanwal Rekhi, Chairman TIE international at various TIE events.
2) Shri Harish Mehta. Founder member of NASSCOM and other members at the most informative seminar on lT Security and Encryption in the Onward Novell Auditorium
3) Other members of the IT industry at the major NASSCOM2002 event and the ICT2002 Exhibition on at the World Trade Centre.

III Every year one Seminar is organized on various topics pertaining to IT field:

Below is the list of Seminars Organized in the last three Years

Year	Name of the Seminar
2009-10	Cyber Forensic & web security.
2008-09	Current trends in IT & Telecommunication
2007-08	Industry Academia Interaction

IV The icing on the cake, which the students enjoyed the most, was the three-fold project activity:

1) Area Specific projects in the areas of Real-Time Configuring of Networks: C++, project activity:
2) Database Projects in which the students collect information about the all round activities of the University of Mumbai.
3) Software Engineering Projects under the personal supervision of professionals, Faculties from industries.

Some of the In-House Projects carried out are listed below:

Sr.No.	Name of the Project	Sr.No.	Name of the Project
1	Software Sales Management	12	Human Resource Management
2	Material Requirement Planning	13	Library System
3	Publishing house Planning	14	On- line Train Ticket Reservation
4	Sales Department System	15	Invoicing System
5	Hotel Management	16	Mobile refilling System
6	College Admission Process	17	Account system
7	Housing Society system	18	Payroll Process
8	Finance Processes	19	Sales Agency Management System
9	Inventory management	20	Assets Management
10	Educations system	21	Net Banking
11	SQUID Proxy server	22	Virtual Music studio

SELECTION PROCEDURE

The number of seats available for the course is 50. Reservation policy for reserved category and physically handicapped will be followed strictly as per the Maharashtra govt rules. The admission to the course depends on the performance in the Entrance Test conducted by the Department of Physics, University of Mumbai. Student's performance in the exam will be listed according to the merit, out of which the first 50 students will be listed in the first merit list. The second merit list will be put up only if the seats in the first merit list are vacant.

COURSE STRUCTURE

DURATION: The course consists of two semesters (One Academic Year).

Semester I			
		Theory	Practical
	Topics	Marks	Marks
Paper-I	Network Integration and Data Communication Hardware	100	100
Paper-II	LINUX &Operating System	100	100
Paper-III	Object Oriented Programming and Data base Concepts	100	100
Semester II			
		Theory	Practical
	Topics	Marks	Marks
Paper-IV	Java Programming and Applications	100	100
Paper-V	Web Programming Technology	100	100
Paper-VI	E-Commerce	100	100
Project		200	

TUTION FEES

The tuition fee prescribed for the One Year Post-Graduate Diploma in Information Technology Course is Rs.25, 000/-(to be paid in two installments of Rs. 12,500 per semester) includes the Course and Laboratory fees. A caution money deposit of Rs Five Thousand only (Rs.5000/-) is also to be paid with the first installment of which Rs.4,000/- will be refunded to the student after the completion of course.

In case a student wants to withdraw his/her admission, he/she has to apply at least one week before the commencement of the course. In such a case, administrative charges to the extent of 25% of the first installment will be deducted as cancellation charges. No fees shall be refunded after the commencement of the course.

HOW TO APPLY?

Brochure and application forms can be collected from the office of the Department of Physics, University of Mumbai, Vidyanagari Campus, Tilak Bhavan Building, 2^{nd} Floor for Rs.200 (Rs. Two hundred only). The completed application forms are to be submitted along with Rs.500/-as the entrance examination fees at the above address before the last date specified.

ENTRANCE TEST

Questions will be based on:

- Logical aptitude
- Mathematical aptitude
- Reasoning
- Data Analysis and Interpretation
- General intelligence and aptitude for self-Learning
- Communication abilities
- Computer Concepts

The question paper will contain 50 objective questions to be answered in 60 minutes. Each correct answer will fetch 2 marks and a wrong answer (-1) mark.

Sample Questions

1. If the slope of the tangents equals =2x/yat every point of a certain curve; then the curve is
   a. a parabola b. a straight line c. a an ellipse. d, a circle

2. A bin of PC disks contains a large supply of disks from different manufactures. In how many ways chooses 6 disks from the bin.
   a. 84 b. 28 c. 32 d. None of these.

3. A tunnel is dug along a diameter of the earth. A body is dropped into the tunnel.
   a The body will come out at the other end and remain there,
   b. It will stay at the center of the earth.
   c. It will execute oscillations.
   d. It will escape into space.
4. If the roots of the equation 1/(x+a) +1/x =1Im+1/(m+a} are equal in magnitude but opposite in sign then, a2= __
   a. m b. m2 c.2m2 d. none of these

5. The maximum value of the function Sinx (1+Cosx} is_
   a. 1 b.2 c.3 d.4

For Q.6 & Q.7: Note in each of the questions given below there are two statements followed by few conclusions, you have to decide which of the given conclusions logically follow .Give answers as:

   a. If conclusion one alone is correct
   b. If conclusion two alone is correct.
   c. If conclusion three alone is correct.
   d. If conclusion four alone is correct

6. All plants are flowers. No flowers are leaves.
   a. Some leaves are not plants
   b. Some plants are no leaves
   c. No leaves are plants.
   d. No plants are leaves.

7. All lawyers are doctors, No lawyers are clerks.
   a. Some doctors are not clerks.
   b. All clerk are doctors
   c. Some clerks are not doctors.
   d. No clerks are doctors.

For Q.8 & Q.9: A secret code consists of words that use only vowels -A, E, I, O and U. All words in the code must meet the following requirement.
Any code word must have at-least three letters. But not more than five letters.
Code words do not need to use different letters. Unless otherwise required below.
All code words must begin with letter A,
may not be the last letter in a code word.
If U is the last letter in a code word, then the word must have at least one O.
If E is the second letter ,in a code word, then E must also be the last letter
The letter ,A can appear only once in a code word.

8. Which of the following is a possible code word?
   a. AIIE b. AOAO c. AEE I d. QAIU

9. Which letters may not be the only letters used in a three letter code word,
   a. A and E b. A, E and O c. A. E, and U d .A and U

10 Mountain is related to a Height as Care is to
   a. Depth b. shallow c. Large d. small

Solutions: 1.d 2.b 3.c 4.c 5.b 6.d 7.a 8.a 9.d 10.a

Important Dates for PGDIT 2010-2011

Date Day	Description
07/06/2010	Sale of forms
15/07/2010	Last date for submitting of forms
To be Announce later	Entrance test for PGDIT , **Time-_____**
	Results at ll:30AM
	Display of Merit list (after 2:30 PM)
	Admissions for the I Merit list (up to 1:30PM)
	Display of 2nd Merit list (after 2:30 PM)
	Admission for 2nd Merit list (up to 1:30 PM)
	Display of 3rd Merit list (spot admission if any seats are available after 2:30PM)
	Admission of 3 Merit list (if any seats are available) **Spot admission at 11:30 AM**
	Probable date of commencement of the PGDIT course for the

e-mail:-pgdit@physics.mu.ac.in