ST. XAVIER'S TECHNICAL INSTITUTE

TECH

A JESUIT INSTITUTE

The joy of Excellence
In a World of High Technology

PROSPECTUS 2015-2016

(Govt. Aided Autonomous Minority Institute)

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X-TECH CULTURAL ACTIVITIES



NEXTECH 2015 - PROJECT EXHIBITION EVENT



NEXTECH 2015 - TECHNICAL PAPER PRESENTATION EVENT



NEXTECH 2015 - CIRCUIT BUILDING & POSTER COMPETITION EVENTS

ST. XAVIER'S TECHNICAL INSTITUTE

Founded in 1937

Managed by The Society of Jesus (The Jesuits)

Founded in 1540

This Institute is part of an International Network of Jesuit Educational Institutions which includes more than 38 Universities & over 3700 Educational Institutions worldwide

among them:

* **Georgetown University, Washington DC**
* **Fordham University, New York**
* **Heythrop College, London**
* **Loyola University, Chicago**
* **Marquette University, Milwaukee**
* **Sophia University, Tokyo**
* **Santa Clara University, San Jose**

The Jesuit Educational Network in India includes 29 Colleges, 11 Technical Institutions 92 High Schools & 15 Specialized Institutions

among them:

* **Xavier Institute of Engineering, Mumbai**
* **Loyola-ICAM College of Engineering & Technology, Chennai**
* **St. Xavier's College, Mumbai**
* **Xavier Institute of Management & Research, Mumbai**
* **Xavier Institute of Communications, Mumbai**
* **Xavier Labour Relations Institute, Jamshedpur**
* **Xavier Institute of Management, Bhubaneshwar**
* **St. Xavier's College, Kolkata**
* **St. Joseph's College, Bangalore**
* **Loyola College, Chennai**
* **St. Aloysius College, Mangalore**
* **St. Joseph's College, Tiruchirapalli**
* **St. Joseph's College, North Point, Darjeeling**

Contact Details

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VISION

TO NURTURE THE JOY OF EXCELLENCE
IN A WORLD OF HIGH TECHNOLOGY

MISSION

TO STRIVE TO MATCH GLOBAL STANDARDS
IN TECHNICAL EDUCATION BY

1. INTERACTION WITH INDUSTRY
2. CONTINUOUS STAFF TRAINING AND
3. DEVELOPMENT OF QUALITY OF LIFE OF STAFF AND STUDENTS

INTRODUCTION

St. Xavier's Technical Institute (X-TECH) started operations in the premises of St. Xavier's College (Fort, Mumbai) in 1937 and was transferred to its own building in Mahim, Mumbai, in June 1967.

The aim of the Institute is to develop men and women who are not just top quality engineers but also well developed persons. Our motto therefore is “the joy of excellence in a world of high technology”.

The Institute provides facilities for professional and specialized training in Electronics. In today's world of sophisticated technology there is a demand in industry for persons capable of handling sophisticated electronic equipment, with a focus on the ability to actually operate, maintain and adapt such equipment to customized requirements. The courses are therefore designed to combine up-to-date theory with much of 'hands on' practicals in the labs and workshops.

Further, the highly competitive world of today needs well developed persons and hence developing soft skills (Professional Practices and Academic Skills) and "Vocational Training" in different industries are required subjects in our full-time Diploma. All students are required to join various industries for vocational training after the completion of the fourth semester, during the vacation, for a period of 6 weeks to 8 weeks duration.

X-TECH has made it mandatory for all it’s students to actively participate in Academic Skills and Presentations. Academic skills are the skills necessary to do well, in not just technical education but in any educational system. These skills encompass reading, researching and gathering information, synthesis and analysis of content matter, writing reports, making presentations and delivering them effectively with confidence. Academic skills are necessary for being successful in the educational environment, and more often than not, these skills finally filter into a well developed personality with communication skills for a professional career.

St. Xavier's Technical Institute arranges for conducting **Campus Interviews** for its' Final Year Students as per Industry requirements. Some Companies conduct interviews at their own premises.

St. Xavier's Technical Institute organizes **technical lectures** as well as arranges **industrial visits** every year at Mumbai, Pune, Silvassa, Hyderabad, Chandigarh**,** Bangalore and other places for all the students.

The Government of Maharashtra has accorded Minority Status to this Institute as conducted by the Catholic minority.

St. Xavier's Technical Institute, presently offers a full time three year **Diploma course in Electronics and Telecommunication**. This course is recognized and aided by the Maharashtra State Government and **approved by the A.I.C.T.E.** St. Xavier's Technical Institute has been granted autonomy by the Government and issues its own Diplomas which are recognized by the Government and equivalent to the Diplomas issued by the **Maharashtra State Board of Technical Education (MSBTE).**

ACHIEVEMENTS OF THE INSTITUTE

St. Xavier's Technical Institute started operations in 1937 in the premises of St. Xavier's College offering courses in Electronics and Radio. A year later it started the Marine Radio Officer's course for which it became well known worldwide in the Shipping Industry. The Institute used to provide consultancy to Coast Stations in India and abroad, to various Institutes and Radio Officers for the interpretation of Radio Traffic Regulations. **More than 70% of Radio Officers from India have obtained their certification and licenses from St. Xavier's Technical Institute.** Presently too, the institute offers Marine Courses like ROC, ARPA, GMDSS, etc. to students as well as officers sailing on board ships.

St. Xavier's Technical Institute, after being transferred to its own building in Mahim, in the year 1967, continued its operations in the new premises by providing facilities and specialized training in **Electronics**. The areas covered were Diploma and Certificate courses in the field of **Radio, Television, and Video,** and with advances in technology over the years, progressed into areas of **Radar, Digital Electronics, Microprocessors and Computer Science**.

St. Xavier's Technical Institute sent one faculty member for six months training in Radar Maintenance in Fleetwood and Essex, U.K. in the year 1986, following which the Institute was **the first in India** to offer the **Radar Maintenance Course** to officers sailing on board ships.

St. Xavier's Technical Institute sent five of its faculty members for a **one year post Diploma Programme in Technical Teaching** at Technical Teachers Training Institute (TTTI), under **HRD, Government of India**, at **Bhopal** (presently known as the National Institute of Technical Training and Research (NITTR) in the year 1986.

St. Xavier's Technical Institute was duly admitted by the Executive Council as **Institutional Member** of the Indian Society for Technical Education (Founded in 1967-1968) and is fully entitled to all the privileges granted by the constitution and bye-laws in the year 1989, the Institution Membership No. being IM 189.

St. Xavier's Technical Institute began a full time **Computer Service to Schools** to conduct computer training programmes for school children, both in schools as well as in the Institute, in the year 1989.

St. Xavier's Technical Institute started running a **Ham Radio Club** with station call sign VU2SX, which was in regular contact with many International Stations, during the years 1960 to around 1990. Students of the institute were trained to pass the examination required to operate the station.

St. Xavier's Technical Institute deputed two of its faculty members to **UK** for a two week **Global Maritime Distress and Safety System (GMDSS)** training programme and certification in the year 1992. Following this the Institute was **the first in India** to conduct and impart GMDSS training and certification to marine officers sailing on board ships.

St. Xavier's Technical Institute was granted ***Academic Autonomy by Govt. of Maharashtra (vide GR. No. WB-1093 (2640) (69) / VE-5 dated 30/05/94) in June 1994 and its diplomas recognized by the Government as equivalent to that of MSBTE.*** This is in recognition of the high standards maintained by the Institute in Technical Education. This means that the Institute conducts its own Diploma examinations which are recognized by Government as equivalent to those of the Maharashtra State Board of Technical Education. As an autonomous Institute, the curricula of the Diploma programme can be up-dated frequently in keeping with the rapid changes in technology. The Institute has its own Governing Council and Board of Studies to examine and approve such changes. Whereas a common complaint about technical education is that it lags far behind current technology and teaches much that is obsolete, this academic autonomy allows St. Xavier's to keep its content up-to-date with the latest in technology.

St. Xavier's Technical Institute established a four year linkage / faculty training programme with **Saskatchewan Institute for Applied Science & Technology (SIAST), Canada**, under the Canadian International Development Agency (CIDA) project between April 1993 and March 1997. **During this period ten faculty members (including the then Principal of the Institute) and three administrative staff were sent to Canada in small groups for training in Competency Based Technical Education and usage of Information Technology ranging from 2 to 4 weeks.**

St. Xavier's Technical Institute obtained the approval for the formation of an **ISTE Chapter**, with all privileges granted by the Constitution of the Indian Society for Technical Institution in the year 1995. St. Xavier's Technical Institute received the **Indian Society for Technical Education Narsee Monjee Awards** for Polytechnics in Maharashtra State having the best **Faculty Development** in the year 1995 and also the best **Overall Performance** in the same year.

St. Xavier's Technical Institute was awarded **Quality certification** for its **Marine Department** in 1997 by **Det Norske Veritas (DNV)** and is currently under **ISO 9001:2000 standards**.

St. Xavier's Technical Institute had set up a **Software Development Centre** which was awarded a number of prestigious projects. In 1999 the Directorate of Technical Education of Maharashtra State commissioned St. Xavier's to set up an electronic network of 46 technical institutions all over the state. This included the Directorate itself, the Directorate of Industry-Institute Co-ordination, the Board of Technical Education and 43 other Institutions in the State. This **project was funded by the World Bank**.

St. Xavier's Technical Institute was also awarded a separate project for the **computerization of the Maharashtra State Board of Technical Education** which controls technical examinations in the state.
St. Xavier's Technical Institute was also awarded a Project of providing an **On-line Examination** for the Government employees' confirmatory test by the State Board of Technical Education. This project includes the development of the entire Question Bank for the examination.

St. Xavier's Technical Institute was also awarded a Project for the **computerization of Holy Family Hospital and Research Centre and the new Holy Family Heart Institute** with very modern facilities like MRI and CAT SCAN. This project was successfully completed by the Institute faculty and staff.

St. Xavier's Technical Institute **Alumni Association**, Mumbai became a Member of the **Federation of Jesuit Alumni Associations of India** in November, 2001.

St. Xavier's Technical Institute conducted a course on **Colour TV Servicing and Computer Hardware** for students from **Mizoram** in January 2004. This was conducted under the **World Bank Sponsored Project** initiated by **NPIU**.

St. Xavier's Technical Institute re-organized the IETE Students' Chapter & conducted a **State level MSBTE approved Quiz Competition** in **IT / COMPUTERS** in the year 2008.

St. Xavier's Technical Institute has developed **in-house Lab Manuals** for all subjects. In the academic year 2014-2015, the Institute has developed and set up two new labs, namely the **Project Lab** and the **Circuit Building Lab**.

The Institute conducted a one week **State level Maharashtra State Board of Technical Education (MSBTE) approved** content updating programme on **Biomedical Signals and Safety** in January 2010.

St. Xavier's Technical Institute organized one State Level and four National Level **Technical Paper Presentation & Project Exhibition in the last eight consecutive years from the year 2008.** In March 2012 and February 2013, the Institute also organized a **National Level Robotics and LAN Gaming Competition**, besides the National Level Technical Paper Presentation and Project Exhibition Competitions.

The Institute has been first in hosting a volleyball tournament with participation from students of various autonolous polytechnics from Mumbai.

St. Xavier's Technical Institute received the **Newsmakers Broadcasting and Communications Pvt. Ltd. (NBC) Best Polytechnic award** on May 1, 2012, under the tutelage category.

The Institute has been granted an "Excellent" performance grade by the External Academic Monitoring Committee constituted by the Maharashtra State Board of Technical Education (M.S.B.T.E.) in the last three academic years.

Dr. S. K. Mahajan, Director of Technical Education, Maharashtra State, D.T.E., Mumbai, graced the occasion and inaugurated the new Project Lab at St. Xavier's Technical Institute, for the Diploma Course in Electronics and Telecommunication Engineering, on August 11, 2014.

The Project Lab is one of the best labs in the entire state of Maharashtra and facilitates individual students to work one on one on their project work which is undertaken in the Final Year of the Diploma Course in Electronics and Telecommunication Engineering.

The one of it's kind Project Lab was inaugurated by Dr. S.K. Mahajan on August 11, 2014

Third X-TECH Convocation event held on September 19, 2014

The Third Annual Convocation programme for the final year Diploma in Electronics and Telecommunication Engineering students of the academic year 2012-2013, was held on September 19, 2014, at St. Xavier's Technical Institute, Mahim, Mumbai. Dr. S. K. Mahajan, Director of Technical Education, Maharashtra State, D.T.E., Mumbai, presided as Chief Guest and delivered the convocation address, and also gave away the Diploma awards to the top ranking students.The event was a coming together of Fr. Francis de Melo S.J., Director, Dr. Shivaji Ghungrad, Principal, Dr. Vijay R. Rathod, HOD, Faculty, Staff and the Students of X-TECH to mark the success of the Diploma Achievers of the Institute.

Joel Joy, Maryann Fernandes, and Samson Kajar - Final Year students of the Diploma course in Electronics and Telecommunication Engineering, St. Xavier's Technical Institute, Mahim, Mumbai, were felicitated by the Institute for winning the first prize for their project titled "Smart Bag". The competition was a National Level competiition held at G. H. Raisoni, Jalgaon.

Umesh, Rahul and Manikant - Final Year students of the Diploma course in Electronics and Telecommunication Engineering, St. Xavier's Technical Institute, Mahim, Mumbai, were also felicitated by the institute for winning the first prize for their project titled "Drone Art". The competition was MSBTE sponsored State Level competition held at Amrutvahini Polytechnic, Sangamner. Congratulations for keeping up the winning spirit and the spotlights focused upon St. Xavier's Technical Institute, an Institution that believes in the joy of excellence in a world of high technology.

ADMINISTRATION AND FACULTY

DIRECTOR - Fr. Francis de Melo, S.J.

PRINCIPAL- Dr. Shivaji B. Ghungrad

DEPUTY DIRECTOR - Fr. John Rose, S.J.

ADMINISTRATOR - Fr. Fabian Barreto, S.J.

ADMINISTRATIVE STAFF

Registrar	**Mr. Raviraj T. Ghadge**
Office Superintendent	**Mrs. Helen D. Cerejo**
Sr. Clerk	**1) Mrs. A. L. Monserrate** **2) Mrs. Alzira Gama** **3) Mr. Vijay Bhosale** **4) Mr. G. A. Salgaonkar** **5) Mrs. Sonali A. Salian**
Jr. Clerk	**1) Mr. Nilkanth Phadtare** **2) Mrs. Trupti M. Salvi**

FACULTY

Dr. V. R. Rathod	Head of Department	16 years
Mr. V. M. Vaghela	Lecturer (Selection Grade)	36 years
Mr. K. H. Kamath	Lecturer (Selection Grade)	28 years
Mr. S. N. Jirapure	Lecturer (Selection Grade)	23 years
Mr. R. V. Gheware	Lecturer (Senior Scale)	22 years
Mrs. J. Natarajan	Lecturer (Selection Grade)	17 years
Mrs. S. Datta	Lecturer (Senior Scale)	17 years
Mr. A. C. Gurav	Lecturer (Senior Scale)	12 ½ years
Mr. M. K. Khobragade	Lecturer	9 ½ years
Mr. S. R. Borkar	Lecturer	21 years

Mr. M. M. Munde	Lecturer	13 years
Mr. Vinay Kumar Nagalikar	Lecturer	6 years
Mrs. Ujwala Dalmet	Lecturer	7 years
Mr. Gautam Yadav	Lecturer	4 years 9 months
Mrs. S. Gaoshinde	Lecturer	4 years 9 months
Mr. Rakeshkumar Saroj	Lecturer	2 months
Mr. Abhijit Patil	Lecturer	2 months
Ms. Chevon De Souza	Lecturer	2 months
Mr. R. Titus	Asst. Lecturer	36 years
Mr. F. Chettiar	Asst. Lecturer	34 years
Mrs. R. Sumathi	Librarian	17 years
Ms. Dipti V. Mestry	Controller of Examinations	1 month

TECHNICAL STAFF

Mr. Stevenson D'Souza	Foreman	2 years
Mr. M. S. Gawde	Electrician	19 years
Mrs. A. Samant	Lab Assistant	21 years
Mrs. A. Rajpure	Lab Assistant	19 years
Mr. D. D. Chavan	Lab Assistant	16 years
Mrs. D. C. Jadhav	Lab Assistant	11 ½ years
Mr. Shankar Panasare	Lab Assistant	2 years
Ms. Snehal Mane	Lab Assistant	1 ½ years

DIPLOMA PROGRAMME
in
ELECTRONICS AND TELECOMMUNICATION ENGINEERING (DETE)

Intake: 140 D.T.E. Institute Code: 3023

ADMISSION PROCESS

This course is recognized and aided by the Maharashtra State Board of Technical Education (MSBTE) and approved by the All India Council of Technical Education (AICTE). St. Xavier's has been granted autonomy by the Government and issues its own Diplomas which are recognized by the Government and equivalent to the Diplomas issued by the Maharashtra State Board of Technical Education (MSBTE). The Institute is open to men and women from all parts of India, and neighbouring countries regardless of caste or creed. However because of an order of Maharashtra Government, the Diploma programme is open only to those who have completed the two academic years preceding the qualifying examination in recognized Institutions in Maharashtra State. This requirement is not applicable in the case of sons and daughters of persons holding a domicile certificate and ordinarily resident of Maharashtra though working outside Maharashtra State. Admissions to the Diploma programme are done as per rules of admission issued by the Government of Maharashtra, as applicable to Autonomous Institutions.

CATEGORY OF SEATS AND QUOTA - for first year and direct second year admissions

50% of intake is reserved for Minority (Roman Catholic) applicants.

50% of intake is through the Centralized Admission Process conducted by the D.T.E.

MINORITY (ROMAN CATHOLIC) APPLICANTS:

Applications for admission from Roman Catholic Minority will be accepted on the following conditions:

1) The application form has to be filled by the applicant in the Institute following an internal on-line procedure set up by the Institute on the dates indicated on the Institute's Notice Board. After filling the same, a hard copy will be kept for the Institute reference and a receipt for the same will be issued to the applicant.

2) The Application must be accompanied by:
   a) Attested Mark-sheets; the originals* will be returned after inspection by the Office but must be submitted if selected;
   b) 2 passport size photographs;
   c) Attested copy of Leaving Certificate from School or last Institution attended;
   d) Attested copy of Baptism Certificate.

* The original mark-sheet and Leaving Certificate must be submitted at the time of admission, if selected.

Admissions are granted strictly on merit as per guidelines issued by the Government.

CENTRALIZED ADMISSION PROCESS (C.A.P.) FOR NON-MINORITY APPLICANTS

Admissions are done through Centralized Admission Process (C.A.P.) for Non-Minority candidates. Kindly refer to the guidelines given in the "Rules for Admissions to First Year of Post S.S.C. Diploma courses in Engineering" on the website **www.dte.org.in**. The brochures are also available at all Application Receipt Centres (ARCs).

All other reservations are in accordance with the rules laid down by the D.T.E., Government of Maharashtra.

The dates and other important information will be displayed on the Institute Notice Board and the website.

MINIMUM QUALIFICATION: Secondary School Certificate in Science and Maths subjects with an aggregate of 35% for all candidates. Please note the orders of the Maharashtra Government concerning other conditions for admissions.

Admissions begin after the Std. X results are declared/or as notified by the Director of Technical Education (M.S.).

DURATION : 3 years (6 semesters), Full time from 9.00 a.m. to 5.00 p.m.

DIRECT ADMISSION TO THE SECOND YEAR OF D.E.T.E. :

Kindly refer to the Admission Brochure of the D.T.E. or see the guidelines on the website **www.dte.org.in.**

ADMISSION TO DEGREE & POST DIPLOMA COURSES:

Students who secure 50% and above (45% for reserved category) in the Diploma are eligible to be directly admitted to the Third Semester (Second Year) of a Degree in Engineering in the sub-group branch of Engineering. Students who obtain below 50% are eligible for admission to the First Semester / Year Engineering Degree. Such admissions will be done only after the third round of Degree admissions is over or as decided by the Government.

The students can also opt for Post Diploma programmes in specialized areas like Computer hardware, software, Medical electronics etc.

PAYMENT OF FEES

An Applicant who is selected must pay the Registration Fee, Library Fee, co-curricular activities fee, development fees, caution money, periodic test, manual fees, alumni association, exam fees & tuition fees for the whole year. The total fees and mode of payment will be displayed on the Institute Notice Board and the Institute Website.

If he/she fails to pay within the specified time the provisional admission will immediately be cancelled and his/her seat will be allotted to one of those on the waiting list. Applicants and their Parents (or Guardians) are particularly warned to note the last date for payment so as to avoid embarrassing situations. Refund of fees in case of withdrawal of application/admission for the Diploma programmes is as per the rules of the Government of Maharashtra.

Caution Money will be refunded (after deducting cost for damages, if any, to laboratory instruments, library books etc.) when a student completes (or discontinues) the full programme/course undertaken, and claims the amount within three months after completing the DETE programme/course. The Caution money is refunded only on Wednesdays and Fridays, between 9.30 a.m. and 12.30 p.m..

The Caution Money is a guarantee of intention to pursue the full course. It will be refunded if full fees of the course have been paid.

ATTENDANCE, PROGRESS AND PROMOTION

To check the progress of the students, written, oral or practical tests are held during each semester; the marks thus obtained contribute to the evaluation of the candidate's performance during the semester and, later on, for the entire programme. Students whose theory lectures attendance is less than 75% in any subject, will not be permitted to appear for the theory examination in that particular subject. Also if his/her practicals performance is incomplete or unsatisfactory, his term work will not be granted for that particular subject and will not be permitted to appear for the theory and practical examination for that subject.

REGULAR ATTENDANCE is a necessary condition of eligibility to examinations, and PUNCTUALITY, as training for business life, will be strictly enforced in the Institute.

Prospective candidates, all students and their parents (or guardians) should take careful note of the above regulations and realize that the authorities will insist on their application. In such matters the decision of the Principal is final and no complaint will be entertained if a student fails, for any reason whatsoever, to reach that standard which, in the opinion of the Principal, is required of a student to be allowed to appear for the Final Examination.

PERIODICAL TESTS

Periodic tests are conducted during the semester and for each subject there are **two periodic tests, which carry 20 marks each**, and the average of this is taken into consideration for adding these marks to the marks scored in the final exam paper for that subject, which is of 80 marks. This system of periodic tests provides a measure of continuous assessment and ensures that the student is actively involved with studies throughout the semester, rather than just prepare at the last moment for the final examination.

RULES CONCERNING CONDUCT, PROGRESS, ETC.

1. In order that each student may enjoy the full benefits of the facilities placed at his/her disposal, he/she has to abide by the regulations of the Institute. They are designed solely to safeguard the student's welfare and privileges and those of his/her fellow students, and each student will therefore be expected to conduct himself/herself accordingly.

2. Students are expected to behave with decorum, to obey the regulations of the Institute in all aspects and to pay due respect to its Faculty and Subordinate Officials. Conduct inconsistent with general good order, or persistent neglect of work or failure to respond promptly to official notices may be punished with dismissal.

3. Loud speaking, loitering or congregating in the corridors and staircases is a source of distraction and annoyance to others and is therefore not permitted.

4. Smoking is strictly prohibited on the premises even before or after class periods.

5. Students must realize at the very beginning of their programme/ course that the habit (often acquired in school and college) of studying seriously only in the last month before the Examinations cannot be tolerated in an Institute of Engineering and Technology. Daily study is necessary. The aim of a student should be to become an efficient Engineer or Technician and not merely to pass examinations or acquire a Diploma or Certificate.

6. Students are required to attend punctually all scheduled theory and laboratory periods. Irregular attendance, habitual tardiness or inattentiveness may lead to dismissal. Five consecutive days of absence without reasonable excuse will constitute enough cause for dismissal. Absence must be justified by a note from Parent (or Guardian) or a medical certificate.

7. When a student prematurely terminates his/her training, whatever be the reason, or has been dismissed from the Institute, or has to leave because of unsatisfactory progress and/attendance, any fees already paid to the Institute, including the caution money, will be forfeited.

8. In case of damage to furniture, apparatus or other property of the Institute, the cost of repairs will be charged to the student responsible for the damage.

9. **The Leaving Certificate** for completion of the Programme is issued only to those students who appear for the Final Examinations in all subjects and are declared successful and at the same time all the dues to the Institute have been paid, and Library books returned.

10. **Ragging** is a serious offence and any student violating this rule will be handed over to the police for prosecution under the laws in force.

11. As per Govt. rule, **use of Mobiles in campus is not permitted**.

In all matters concerning the Institute's administration and regulations the decision of the Principal is final and applicants are accepted only after they undertake (in the Application Form for Admission) to abide by these rules and regulations and others made from time to time.

LIBRARY

The Library is open to the Staff and students of the Institute. All are encouraged to make good use of the Library and for the benefit of all, the following rules will be observed:

1. Library books will be issued to our Institute students only on presentation of the Identity Card Library card and after the proper form has been signed.
2. STUDENTS MUST, ON RECEIVING BOOKS, EXAMINE THEM AND IMMEDIATELY REPORT TO THE LIBRARIAN ANY DAMAGE FOUND IN THEM. IF THEY FAIL TO DO SO, THEY WILL BE HELD RESPONSIBLE FOR ANY DAMAGE THAT MAY BE DETECTED LATER.
3. If the book or magazine is returned to the Library soiled, torn or in a bad condition, the Librarian has the right to reject the book; the total cost of the book will be then charged to the student. If the book is not rejected, a fine will be charged equivalent to the damage done.
4. Books issued from the Library may be kept for seven consecutive days only, (or less, in the case of books much in demand). No student will be allowed to have more than two books in his/her keeping.
5. Although a student is allowed the use of books for seven days, he/she is expected to return them as soon as he/she does not need them, for the benefit of other students who may be waiting for them.
6. If a student, for any reason whatever fails to return books or magazines, in due time, a fine of Rs. 2.00 will be charged per book per day of delay inclusive of holidays. For the purpose of this rule, Sundays and holidays are counted.
7. Library fines due to the Institute shall be paid to the Librarian in cash and a receipt obtained.
8. Students can avail the BOOK-BANK facilities by paying Rs. 300/- per year.
9. Ex-students of the Institute can avail of library facilities after paying Rs. 2000/- as a refundable deposit, and Rs. 300/- per year as library fee.
10. After completion of the even semester exams, students must return all books (and pay all fines) to the Library, or else their results will be withheld.
11. Unsuccessful students re-appearing for the exam can avail of library facilities after paying Rs.1000/- towards library deposit.

AUTONOMOUS DIPLOMA RULES

In June 1994 the Government granted autonomy to St. Xavier's Technical Institute. As an autonomous Institute, the curricula of the Diploma programme can be up-dated frequently with the fast changes of technology. The Institute has its own Governing Council and Board of Studies to examine and approve such changes. Whereas a common complaint about technical education is that it lags far behind current technology and teaches much that is obsolete, this academic autonomy allows St. Xavier's to keep its content up-to-date with the latest in technology.

From June 1998, the Institute has introduced the **Competency Based Education** (CBE) System. The curricula were completely revised based on the competencies required by industries as determined by many meetings and 3 conferences held with industry experts. This changed the focus of our Diploma to a combination of needed theory with stronger emphasis on practical applications.

The Credit System allows a student to select from several elective subjects which are offered at various times, together with the compulsory subjects to earn the total credits required for the award of a Diploma, the minimum requirement being 180. At each semester examination a student can choose to register for the course he/she desires. A student can keep terms for the next year while holding a backlog of up to 4 courses of previous year.

All the above options are subject to obtaining prior permission and sanction of the Principal.

HOSTEL

Due to unavoidable circumstances no hostel accommodation can be provided by the Institute. Candidates applying for admission to the Institute must make their own arrangements for boarding and lodging.

SPECIAL COMMITTEES TO ADDRESS STAFF AND STUDENT DIFFICULTIES

In consultation with the guidelines specified by the M.S.B.T.E. and A.I.C.T.E., the following committees have been constituted by the Institute for smooth functioning and addressing any adverse situation arising due to unforeseen circumstances or reasons.

GRIEVANCE COMMITTEE FOR STUDENTS AND STAFF: This committee is comprised of the following faculty and staff:

Chairman: Dr. S.B. Ghungrad, Principal ; **Members:** Dr. Vijay R. Rathod, HOD; Mrs. Janani Natarajan, Lecturer, Selection Grade; Mr. Sanjiv Borkar, Lecturer; Mr. Dattaram Badambe, Peon. **Member Secretary:** Mr. S.N. Jirapure, Selection Grade Lecturer. We also have in the committee Dr. (Fr.) Frazer Mascarenhas, S.J., Principal, St. Xavier's College, as **Ombudsman**.

ANTI-RAGGING COMMITTEE: This committee is comprised of the following faculty and staff:

Chairman: Dr. S.B. Ghungrad, Principal; **Members:** Dr. Vijay R. Rathod, HOD; Mr. K. H. Kamath, Selection Grade Lecturer; Mrs. Janani Natarajan, Lecturer, Selection Grade; Mrs. Sanchita Datta, Lecturer, Senior Scale; Mrs. R. Sumathi, Librarian; Mrs. Anita Rajpure, Lab Assistant; Mr. Darshan Chavan, Lab Assistant; ACP Vijay Bagwe (Mumbai Police); Adv. Vinod Shetty (NGO- Acorn Foundation); Mr. Ram Kohle, Executive Engg.(MSEB); Three Student Representatives: General Secretary, Cultural Secretary, and one Ladies Representative.

FEMALE HARASSMENT COMMITTEE: This committee is comprised of the following faculty and staff:

Chairperson: Mrs. Janani Natarajan, Selection Grade Lecturer; **Members:** Mrs. Helen Cerejo, Office Superintendent; Ms. Dipti V. Mestry, COE; Mrs. Anita Rajpure, Lab Assistant; **Member Secretary:** Mrs. Sanchita Datta, Lecturer, Senior Scale.

D.E.T.E. PROGRAMME: TEACHING AND EXAMINATION SCHEME

SCOPE: The programme provides the student with a good foundation in Engineering Electronics that helps him/her to specialize later in any branches like Electronics, Telecommunications, Electrical Engineering, Computers, Industrial Electronics, Process Control, Microprocessors, Electronic Instrumentation, etc.

On page numbers 19 -24, information related to the Teaching and Examination scheme for all the subjects from Semester 1 to Semester 6 is provided. As mentioned on the previous page pertaining to the Autonomous Diploma Rules, the Institute regularly updates the contents of the syllabus, with reference to the requirements of the industry. Invitees from industry, the Director, the Principal and the members of the Board of Studies conduct meetings twice in a year to review the subjects, credits, contents, teaching scheme and examination scheme.

For instance, before the commencement of this academic year, the Teaching and Examination schemes for Semesters 1 and 2 have been reviewed in the academic year 2014-2015. The Teaching and Examination Schemes for Semesters 3 and 4 were revised in the academic year 2013-2014. Similarly the Teaching and Examination Schemes for Semesters 5 and 6 were revised in the academic year 2014-2015. Thus from time to time, further changes in the curriculum may be incorporated based on the decisions taken at the Board of Studies meetings.

The Institute strives to impart technical education relevant to industry and the Autonomous Diploma Rules provide the Institute with an instrument to regularly update and design an effective curriculum.

LABORATORIES AT X-TECH

Electrical Technology Lab
22 sets of high end CRO's, Function Generators, Regulated Power Supplies, DC Shunt and Series Motors and Generators, HP Transformer, Variac, Resistive Load Bank

Project Lab
44 sets of high end CRO's, Function Generators, Regulated Power Supplies, Soldering Stations, Data Projector, 6 Computers with Internet support

P.C.B. Lab and Workshop
German make fully automated PCB fabricating machine, 28 computers with circuit simulation and PCB design software, Chemical process etching equipment, Soldering Stations, Data Projector

Computer Centre
46 computers, all networked with Internet access, data projector and teacher console, high end printing faciltiy with CANON automated machine, simulation softwares

Circuit Building Lab
Circuit design, PCB layout design and testing of the completed printed circuit boards is an important and relevant activity in industry. Expertise and skills for this activity is imparted to students in the second year of the diploma course, which is facilitated by the establishment of this lab in the academic year 2014-2015.

Project Lab
A new Project Lab has been set up and established in the academic year 2014-2015, which facilitates the final year students of the diploma course to work one on one on their project work. The laboratory has the latest sophisticated equipment that enables individual students to work on innovative projects related to the latest technology in the field of Electronics and Telecommunication.

Communication Lab
Work benches with wave propagation and fibre optic communication testing, data projector with teacher console, analog communication receiver/ transmitter kits for individual students, DSO's, function generators and high end printing facility with CANON automated machine

English Language Lab
24 computers, all networked with Internet access, data projector and teacher console, professional licensed interactive English language training software from Orell Technologies

THE JOY OF EXCELLENCE
IN A WORLD OF HIGH TECHNOLOGY

Basic Electronics Lab
Analog and Digital Multi-meters, Oscilloscopes, DSO's, function generators, AC/DC power supplies, signal generators, FET milli-voltmeters, 20 sets for enabling individual student performance

Microprocessors and Microcontrollers Lab
124 kits for Microprocessors and Micro-controller based application and testing for individual student performance, 24 computers with simulation software and one teacher console with data projector and camera for demonstration and training

Industrial Electronics Lab
Adtron kits for Power Devices experiments, data projector with teacher console, Oscilloscopes, Analog and Digital multi-meters, enabling individual student performance

Control Systems Lab
10 computers with control systems simulation software, data projector with teacher console, Oscilloscopes, DSO's, function generators, 46 kits for control systems laboratory experiences

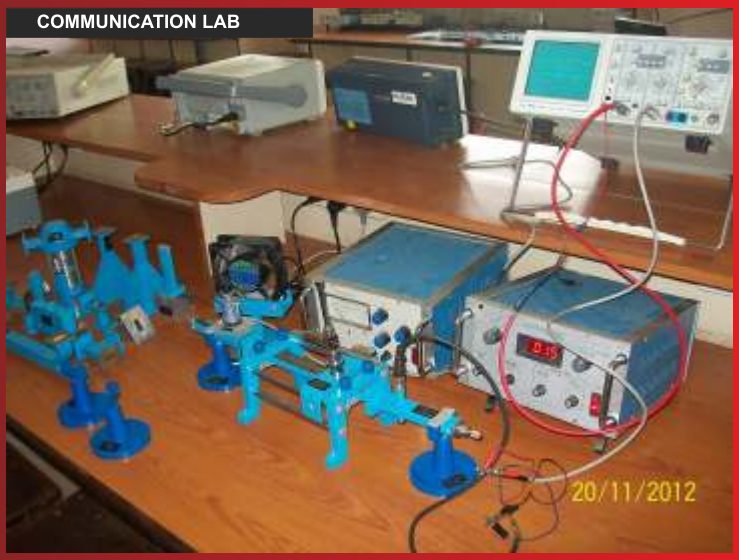
FULLY AUTOMATED PCB LAB

PCB CHEMICAL PROCESS MACHINE

INDUSTRIAL ELECTRONICS LAB

PROJECT LAB

COMMUNICATION LAB



CONTROL SYSTEMS LAB


CONTROL SYSTEMS LAB


BASIC ELECTRONICS LAB


MICROPROCESSORS AND MICROCONTROLLERS LAB

CIRCUIT BUILDING LAB

COMPUTER LAB

COMPUTER LAB

ENGLISH LANGUAGE LAB

ELECTRICAL TECHNOLOGY LAB

ELECTRICAL TECHNOLOGY LAB

ST. XAVIER'S TECHNICAL INSTITUTE, MAHIM, MUMBAI 400 016

Diploma in Electronics and Telecommunication Engineering

Reviewed and Effective from July 2015	TEACHING AND EXAMINATION SCHEME	SEMESTER ONE
Academic Year 2015-2016		

Sr. No.	Subject Title	Subject Code	Teaching Scheme				Examination Scheme									
			TH	TU	PR	CREDITS	PAPER HRS	THEORY		PRACTICAL		ORAL		TERM WORK		TOTAL
								Max	Min	Max	Min	Max	Min	Max	Min	
1	Basic Mathematics	ET-15111	3	1	xx	4	3	100	40	xx	xx	xx	xx	xx	xx	100
2	Basic Electronic Devices	ET-15112	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
3	Basic Electrical Engineering	ET-15113	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
4	Communication Skills	ET-15114	2	2	xx	4	xx	xx	xx	xx	xx	xx	xx	50	20	50
5	Computer Applications	ET-15115	xx	xx	2	2	xx	xx	xx	(On line exam)50	20	xx	xx	25	10	75
6	Electronic Materials & Components	ET-15116	2	2	xx	4	xx	xx	xx	xx	xx	(On line exam)50	20	50	20	100
7	Professional Practices	ET-15117	2	xx	xx	2	xx	xx	xx	xx	xx	xx	xx	50	20	50
8	English Language	ET-15118	3	xx	2	5	3	100	40	xx	xx	xx	xx	50	20	150
	TOTAL		**18**	**5**	**8**	**31**		**400**		**150**		**50**		**275**		**875**

Total Number of Credits, or Student Contact Hours =	31	Total Marks =	875

Abbreviations:

1)	TH	Theory
2)	TU	Tutorial
3)	PR	Practical
4)		No Theory Exam

Note:

1) For progressive and continuous assessment two periodic tests of 20 marks each will be conducted for all the theory subjects. The average of these will be added to the final theory examination marks which will be of 80 marks.
2) All term work marks are Internal.
3) All practical exams/ oral are External and Internal.

ST. XAVIER'S TECHNICAL INSTITUTE, MAHIM, MUMBAI 400 016

Diploma in Electronics and Telecommunication Engineering

Revised and Effective from July 2012	TEACHING AND EXAMINATION SCHEME	SEMESTER TWO

Academic Year 2015-2016

Sr. No.	Subject Title	Subject Code	Teaching Scheme				Examination Scheme									
			TH	TU	PR	CREDITS	PAPER HRS	THEORY		PRACTICAL		ORAL		TERM WORK		TOTAL
								Max	Min	Max	Min	Max	Min	Max	Min	
1	Engineering Mathematics	ET-15211	3	1	xx	4	3	100	40	xx	xx	xx	xx	xx	xx	100
2	Basic Electronic Circuits	ET-15212	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
3	Electronic Devices and Applications	ET-15214	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
4	Engg. Drawing & C.A.D.	ET-15215	xx	xx	2	2	xx	xx	xx	xx	xx	xx	xx	50	20	50
5	Electrical Machines	ET-15216	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
6	Electronic Workshop	ET-15217	xx	xx	2	2	xx	xx	xx	xx	xx	xx	xx	50	20	50
7	Environmental Science	ET-15219	3	xx	2	5	3	100	40	xx	xx	xx	xx	50	20	150
	TOTAL		15	1	12	28		500		150		0		225		875

Total Number of Credits, or Student Contact Hours =	28	Total Marks =	875

Abbreviations:

1)	TH	Theory
2)	TU	Tutorial
3)	PR	Practical
4)		No Theory Exam

Note:

1) For progressive and continuous assessment two periodic tests of 20 marks each will be conducted for all the theory subjects. The average of these will be added to the final theory examination marks which will be of 80 marks.
2) All term work marks are Internal.
3) All practical exams/ oral are External and Internal.

* The new course codes above will be effective from January, 2016 and subjects and contents subject to review in December, 2015

ST. XAVIER'S TECHNICAL INSTITUTE, MAHIM, MUMBAI 400 016

Diploma in Electronics and Telecommunication Engineering

Revised and Effective from July 2014	TEACHING AND EXAMINATION SCHEME	SEMESTER THREE

Academic Year 2015-2016

Sr. No.	Subject Title	Subject Code	Teaching Scheme				Examination Scheme									
			TH	TU	PR	CREDITS	PAPER HRS	THEORY		PRACTICAL		ORAL		TERM WORK		TOTAL
								Max	Min	Max	Min	Max	Min	Max	Min	
1	Applied Mathematics	ET-11311	3	1	xx	4	3	100	40	xx	xx	xx	xx	xx	xx	100
2	Principles of Communication I	ET-11312	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
3	Electronic Test Instruments	ET-11313	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
4	'C' Programming	ET-11314	3	xx	4	7	3	100	40	50	20	xx	xx	25	10	175
5	Linear Integrated Circuits	ET-11315	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
6	Circuit Building I*	ET-11319	xx	xx	4	4	xx	xx	xx	xx	xx	xx	xx	50	20	50
	TOTAL		15	1	14	30		500		200		0		200		850

ET-11317 represents "Academic Skills" which is non-credit and non-exam in 3rd Semester

Total Number of Credits, or Student Contact Hours =	30	Total Marks =	850

Abbreviations:

1)	TH	Theory
2)	TU	Tutorial
3)	PR	Practical
4)		No Theory Exam

Note:

1) For progressive and continuous assessment two periodic tests of 20 marks each will be conducted for all the theory subjects. The average of these will be added to the final theory examination marks which will be of 80 marks.
2) All term work marks are Internal.
3) All practical exams/ oral are External and Internal.

ST. XAVIER'S TECHNICAL INSTITUTE, MAHIM, MUMBAI 400 016

Diploma in Electronics and Telecommunication Engineering

Revised and Effective from Jan 2014	TEACHING AND EXAMINATION SCHEME	SEMESTER FOUR

Academic Year 2015-2016

Sr. No.	Subject Title	Subject Code	Teaching Scheme				Examination Scheme									
			TH	TU	PR	CREDITS	PAPER HRS	THEORY		PRACTICAL		ORAL		TERM WORK		TOTAL
								Max	Min	Max	Min	Max	Min	Max	Min	
1	Entrepreneurship	ET-11411	3	xx	2	5	3	100	40	xx	xx	xx	xx	50	20	150
2	Principles of Communication II	ET-11412	3	xx	2	5	3	100	40	xx	xx	50	20	25	10	175
3	Digital Electronics	ET-11413	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
4	Basic Control Systems	ET-11414	3	xx	2	5	3	100	40	xx	xx	50	20	25	10	175
5	Circuits and Networks	ET-11415	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
6	Software Simulation Techniques	ET-11416	xx	xx	2	2	xx	xx	xx	xx	xx	xx	xx	50	20	50
7	Circuit Building II *	ET-11419	xx	xx	4	4	xx	xx	xx	xx	xx	xx	xx	50	20	50
	TOTAL		15	0	16	31		500		100		100		250		950

Total Number of Credits, or Student Contact Hours = 31

Total Marks = 950

Abbreviations: 1) TH – Theory; 2) TU – Tutorial; 3) PR – Practical; 4) No Theory Exam

Note:

1) For progressive and continuous assessment two periodic tests of 20 marks each will be conducted for all the theory subjects. The average of these will be added to the final theory examination marks which will be of 80 marks.
2) All term work marks are Internal.
3) All practical exams/ oral are External and Internal.

ST. XAVIER'S TECHNICAL INSTITUTE, MAHIM, MUMBAI 400 016

Diploma in Electronics and Telecommunication Engineering

Revised and Effective from July 2014	TEACHING AND EXAMINATION SCHEME	SEMESTER FIVE
Academic Year 2015-2016		

Sr. No.	Subject Title	Subject Code	Teaching Scheme				Examination Scheme									
			TH*	TU	PR	CREDITS	PAPER HRS	THEORY		PRACTICAL		ORAL		TERM WORK		TOTAL
								Max	Min	Max	Min	Max	Min	Max	Min	
1	Microprocessors and Peripherals (E1)	ET-11511	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
2	Signals and Systems	ET-11512	3	xx	2	5	3	100	40	xx	xx	50	20	25	10	175
3	Advanced Communication Systems	ET-11513	3	xx	2	5	3	100	40	xx	xx	50	20	25	10	175
4	Project I **	ET-11514	xx	xx	4	4	xx	xx	xx	xx	xx	xx	xx	50	20	50
5	Industrial Electronics	ET-11515	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
6	Vocational Training	ET-11516	xx	xx	4	4	xx	xx	xx	50	20	xx	xx	50	20	100
7	Circuit Simulation and PCB Design	ET-11517	xx	xx	2	2	xx	xx	xx	50	20	xx	xx	25	10	75
8	PLC Systems and Applications (E1)	ET-11518	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
	TOTAL		12	0	18	30		400		200		100		225		925

ET-11519 represents "Academic Skills" which is non-credit and non-exam in 5th Semester

Total Number of Credits, or Student Contact Hours = 30

Total Marks = 925

Abbreviations:

1)	TH	Theory
2)	TU	Tutorial
3)	PR	Practical
4)		No Theory Exam
5)	E1	Elective One

Note:

1) For progressive and continuous assessment two periodic tests of 20 marks each will be conducted for all the theory subjects. The average of these will be added to the final theory examination marks which will be of 80 marks.
2) All term work marks are Internal.
3) All practical exams/ oral are External and Internal.

ST. XAVIER'S TECHNICAL INSTITUTE, MAHIM, MUMBAI 400 016

Diploma in Electronics and Telecommunication Engineering

Revised and Effective from January 2015	TEACHING AND EXAMINATION SCHEME	SEMESTER SIX
Academic Year 2015-2016		

Sr. No.	Subject Title	Subject Code	Teaching Scheme				Examination Scheme									
			TH*	TU	PR	CREDITS	PAPER HRS	THEORY		PRACTICAL		ORAL		TERM WORK		TOTAL
								Max	Min	Max	Min	Max	Min	Max	Min	
1	Mobile Communication	ET-11611	3	1	xx	4	3	100	40	xx	xx	xx	xx	xx	xx	100
2	Digital Signal Processing	ET-11612	3	xx	2	5	3	100	40	xx	xx	50	20	25	10	175
3	Data Commn. & Comp. Networking	ET-11613	3	xx	2	5	3	100	40	xx	xx	50	20	25	10	175
4	Digital Communication	ET-11614	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
5	Microcontroller and Applications (E2)	ET-11615	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
6	Project II	ET-11616	xx	xx	4	4	xx	xx	xx	xx	xx	50	20	50	20	100
7	Advanced Power Electronics (E2)	ET-11617	3	xx	2	5	3	100	40	50	20	xx	xx	25	10	175
8	Scilab	ET-11618	xx	xx	2	2	xx	xx	xx	xx	xx	xx	xx	50	20	50
		TOTAL	15	1	14	30		500		100		150		150		950

Total Number of Credits, or Student Contact Hours =	30	Total Marks =	950

Abbreviations:

1)	TH	Theory
2)	TU	Tutorial
3)	PR	Practical
4)		No Theory Exam
5)	E2	Elective Two

Note:

1) For progressive and continuous assessment two periodic tests of 20 marks each will be conducted for all the theory subjects. The average of these will be added to the final theory examination marks which will be of 80 marks.
2) All term work marks are Internal.
3) All practical exams/ oral are External and Internal.

* **Theory credits decrease from 4 to 3, New Subject only Practicals – Scilab - ET-11618 introduced & Mobile Commn- ET-11611 – Tutorial introduced – from January 2015**

SUBJECTS AND THEIR RATIONALE

Semester 1

1) ET-15111 Basic Mathematics

This subject comes under the Foundation Course category and will enable the students to learn the basics of Engineering Mathematics. Knowledge of Engineering Mathematics will provide a base for the analysis and understanding of many technical subjects.

2) ET-15112 Basic Electronic Devices

This subject comes under the Core Technology group and will enable the students to comprehend the theory, concepts, characteristics and working principles of basic electronic devices and their applications in electronic circuits. The knowledge of various devices acquired by the students will help them to design, test, troubleshoot and repair electronic circuits.

3) ET-15113 Basic Electrical Engineering

This subject falls under the Core Technology category and will assist the students in understanding the theory, concepts and working principles of basic electrical components and circuits used in electrical systems along with their applications. The knowledge acquired by student will help them to design, test, analyze, troubleshoot and repair electrical systems and installations.

4) ET-15114 Communication Skills

It is important to note that the subject of Communication Skills, which belongs to the Foundation group, is not just about English language, but is concerned with various other aspects of human interaction, since communication is universal and takes place through various languages and means across the world. This subject attempts to bring about various aspects of skills involved in communication, different methods of communication, principles of communication, hindrances to communication, concepts and importance of verbal and non-verbal communication, visual communication, use of appropriate body language and also writing skills. Thus the target of this subject is to inculcate a greater amount of effectiveness in the manner of communication in formal, informal and social situations.

5) ET-15115 Computer Applications

Computer Applications is a Foundation course. This subject will develop the understanding of concepts of operating systems, word processing, electronic spreadsheets, creating PowerPoint presentations, use of internet and will allow the student to apply all these, to assist in the gathering of information, learning, comprehending, presenting and formatting of the content and matter learnt in the other subjects.

6) ET-15116 Electronic Materials & Components

This subject belongs to the Core Technology group and will enable students to comprehend the concepts, construction and working principles of basic electronic components and their applications in electronic systems. The knowledge acquired by the student will help them to design, test, troubleshoot and rectify faults in electronic circuits.

7) ET-15117 Professional Practices

The objective of most diploma programmes is to produce skilled technicians who can efficiently meet industry requirements. Due to globalization and competition in the industrial and service sectors, generally the selection procedure for the job is based on campus interviews or competitive tests. While selecting candidates the normal practice adopted is to scrutinize the general level of confidence, ability to communicate and attitude, in addition to knowledge of basic technological concepts.

The purpose of introducing Professional Practices, which comes under the Foundation group, is to provide an opportunity to students to undergo activities which will enable them to develop confidence to be able to work effectively in a professional environment. Industrial visits, expert lectures, seminars on technical topics and group discussions are the activities in the planned schedule of this subject.

8) ET-15118 English Language

The study of English Language is categorized under the Foundation group. As a language, students have studied English language through their school life, at least as a subject, if they are not from English medium. After some revision of some rules of grammar, this subject attempts to bring about the learning of various aspects of the English Language through practice with numerous examples and comprehension exercises. The practical sessions in the English Language Lab with the Orell Interactive English Software, help in assisting the students in quick learning of grammar, vocabulary and also spoken English. Thus the target of this subject is to inculcate a greater amount of effectiveness in the manner of using the English Language in formal, informal and social situations. The syllabus covered during the lecture hours has a direct reference to the MSBTE syllabus.

Semester 2

1) ET-15211 Engineering Mathematics

This subject is classified under Foundation courses and intends to teach the students the theory, concepts and principles of Advanced Engineering Mathematics. The contents of this subject proceed further with more complex and higher levels of Mathematics related to the Engineering field. The pre-requisite for this subject is Basic Engineering Mathematics covered in the previous semester.

2) ET-15212 Basic Electronic Circuits

This subject is classified under the Applied Technology group and intended to teach the students the concepts, principles and working of basic electronic circuits. It is targeted to provide a basic foundation for technology areas like communication systems, industrial electronics as well as instrumentation, control systems and electronic circuit design.

3) ET-15214 Electronic Devices and Applications

This subject is classified under the Basic Technology group and intended to teach the students theory, concepts and principles of operation of various electronic devices related to their use and working in electronic systems and applications.

4) ET-15215 Engineering Drawing and Computer Aided Design (CAD)

This subject is classified under Applied Technology group and intended to teach the students the requirement and importance of concepts and procedures involved in Engineering Drawing. It will be useful for designing and drawing accurate schematics for simple blocks, orthographic and isometric representations, dimensioning, etc., which will be helpful during project work in later semesters, as well as professionally. The objective of this subject is to familiarize the student with the use of AUTOCAD software as a drawing tool.

5) ET-15216 Electrical Machines

This subject belongs to the Applied Technology group and will enable the students to comprehend the theory, concepts and operating principles of electrical machines, generators, alternators, different types of motors along with starting, switching and control circuits for the same, their applications and use in industry, and real time actual use of these in small and heavy machinery in factories. The knowledge acquired by the students will help them to design, test, trouble-shoot problems in electrical motors and generators.

6) ET-15217 Electronic Workshop

Electronic Workshop is a Foundation course and plays an important role in the field of electronics for technicians. This is a foundation course and intended to teach the students the use of different tools, PCB making, transformer winding, etc. Students are also provided training of soldering and de-soldering of electronic components on printed circuit boards.

7) ET-15219 Environmental Science

It is now understood that the subject dealing with Environmental Science, which comes under the Foundation courses group, is not merely a subject but is closely connected to the quality of our lives and surrounding, which is why the understanding and knowledge of this subject is a must. It would be most appropriate to bring about awareness of the importance of environmental issues amongst adolescents. Together with theoretical knowledge, its implementation in day-to-day life is desirable. Different activities like project work and assignments are included in this subject. "Preservation is better than cure", is the purpose of including this subject in the second semester of the Diploma course.

Semester 3

1) ET-11311 Applied Mathematics

This subject is classified under the Foundation Courses group and proceeds further to application levels of Mathematics to teach students the theory, concepts, principles of Applied Mathematics and the application, importance and use of mathematics in the analysis of concepts in electronics.

2) ET-11312 Principles of Communication I

As a Core Technology subject, this subject attempts to put forth the concepts and principles used in electronic telecommunication. Concepts such as modulation, side band transmission, radiation and propagation, reception and demodulation which are widely used in the field of analog communication are dealt with in this subject. Knowledge of basic electronic devices and circuits is a prerequisite for the learning of this subject.

3) ET-11313 Electronic Test Instruments

Electronic measurements and instruments play an important role in the field of electronics. This subject is classified under Basic Technology group and intended to teach students principles of working, block diagrams and front panel controls of electronic instruments and their applications in the field of electronics. The prerequisite for this subject is knowledge of basic electronic devices and circuits.

4) ET-11314 'C' Programming

This subject is classified under Basic Technology courses and intends to teach students concepts of programming, rules and syntax of 'C' language, arithmetic and logical operations in 'C' language, use of arrays, strings, functions, pointers, structures, unions and files in 'C' programming.

5) ET-11315 Linear Integrated Circuits

Linear Integrated Circuits hold an important unique place in the field of electronics. This subject is classified under Basic Technology group with a focus on imparting concepts, principles and applications of Linear/Analog integrated circuits in the field of Electronics. The prerequisite for this subject is knowledge of basic electronic devices and circuits.

8) ET-11319 Circuit Building I

The objectives of this subject is to involve students in actual practical work of designing, constructing and building analog circuits (using linear integrated circuits) on printed circuit boards and test these circuits for their performance, response and characteristics. This will enable the students to gain confidence with experience and the practical joy of building simple application based circuits with their implementation, so as to bring about a clear understanding of the working of these circuits.

7) ET-11317 Academic Skills

This subject does not carry any credits and there is no examination for the same. It is included as a non-credit Foundation course in the third semester as well as the fifth semester, which gives a double opportunity to students to home in and sharpen their presentation skills on a topic selected by them from the subjects of the diploma course. Academic skills are the skills necessary to do well, in not just technical education but in any educational system. These skills encompass reading, researching and gathering information, synthesis and analysis of content matter, writing reports, making presentations and delivering them effectively with confidence. Academic skills are necessary for being successful in the educational environment, and more often than not, these skills finally filter into a well developed personality with communication skills for a professional career.

Semester 4

1) ET-11411 Entrepreneurship

The objectives of this subject which comes under the Management category are manifold. It will allow the diploma pass-outs to set their sights on profitable, energetic careers of their choice in any given situation and to identify profitable ventures in the ever changing needs of society. The subject steers away from the technology track to a management platform; the curriculum is divided into self contained topics comprising of case studies and assessments of businesses and successful entrepreneurs. The topics include need, scope and characteristics of entrepreneurship, market survey techniques, quality control, PERT and CPM, management of self, and understanding human behavior for effective management techniques. The contents of the subject also deal with coping with uncertainties, stress busting and positive reinforcement.

2) ET-11412 Principles of Communication II

As a Core Technology subject, the content focus is on highlighting the concepts and principles pertaining to Telecommunication systems. Concepts such as Wave Propagation, Transmission and Reception, Television and high frequency communication are covered in this subject. Other important areas covered in this subject are the concepts of construction and working of microwave devices.

3) ET-11413 Digital Electronics

This subject is classified under the Applied Technology group and intended to teach the students basics, concepts, principles and working of digital circuits putting forth the use of a transistor as a switch, number systems, Boolean Algebra, logic gates, counters, timers and so on. The cognition attained in this subject will be useful later for solving problems in technology areas like Microprocessors and Microcontrollers, Communication Systems, Industrial Electronics, Instrumentation as well as Control Systems and their design. The prerequisite for this subject is knowledge of basic electronic devices and circuits which is covered in earlier semesters, although the prerequisite stated here is not absolutely necessary, since the principles of digital electronics have an independent standing of their own, akin to the principles of analog electronics.

4) ET-11414 Basic Control Systems

This subject is classified under the Applied Technology group and is introduced with a view that the students will be exposed to various types of control systems. More emphasis is given for understanding the basic concepts of control systems. Students are required to know the various components of a control system, basic concepts of stability, time domain and frequency domain characteristics, when they are working in process industries.

5) ET-11415 Circuits and Networks

This subject comes under the Basic Technology group and intended to teach students the concepts and methods of analysis of different types of Electronic Circuits and Networks, network theorems and their applications in electrical and electronic circuits. The prerequisite for this subject is knowledge of basic electronics which is taught in the preceding semesters. It is important to note that a good knowledge of mathematics is necessary for a better understanding of this subject due to the depth of coverage, and hence the practice of the contents covered in the mathematics subjects of the first three semesters is also essential.

6) ET-11416 Software Simulation Techniques

This subject belongs to the Applied Technology category. The MATLAB simulation software is universally and widely accepted in all the branches of engineering and not just electronics. It can be used for simulation of circuit operation, waveform analysis, mathematical calculations, etc. The library functions available in this software are very flexible and useful for applying them to simulate real operating conditions and behavior of circuits. Practice on this subject / software will provide the student with a better understanding of all the subjects covered in the earlier semesters, as well as the subjects that will be studied in the fifth and sixth semesters. Knowledge of 'C' Programming will be useful in the use of this software. The experiences designed for this subject will also provide a base and better understanding of using the simulation software in the subject of Basic Control Systems (ET-11414), which also, is included in the fourth semester.

7) ET-11419 Circuit Building II

The objective of this subject is to involve students in actual practical work of designing, constructing designing and building circuits (pertaining to digital electronics) on printed circuit boards after completing the PCB layout design using relevant software, and test these circuits for their performance, response and characteristics. This will enable the students to gain confidence with experience and the practical joy of building simple application based circuits with their implementation, so as to bring about a clear understanding of the working of these circuits.

Semester 5

1) ET-11511 Microprocessors and Peripherals (Elective 1)

This subject comes under the Applied Technology group and provides an introduction to microprocessors. Programming in assembly language is covered in detail to develop a foundation for programming in machine level language. Study of Memory and I/O interface design, programming techniques, study of different microprocessors, their peripheral support components and devices, including CPU architecture, memory interfaces and management, coprocessor interfaces, bus concepts, serial I/O devices, and interrupt control devices are included in the course.

2) ET-11512 Signals and Systems

This subject which comes under the Applied Technology category is designed to provide a platform for engineers and designers who would like to work in the most challenging and emerging field of signal processing. As high speed computational machines are now available for processing, the concepts and techniques allied with signal processing field assume a broader and a versatile approach. Thus the study of signals and systems has opened up a whole new era of solutions to resolve many intricate signal processing problems.

3) ET-11513 Advanced Communication Systems

This subject belongs to the Applied Technology group. As improvement and development in the technology have occurred with tremendous rapidity, in parallel with its increasingly wide scale deployment, Telecommunication and Networking based on Satellite, Microwave and Optical Fiber technology have become major information transmission systems. This has made provisions to improve the transmission standards and fidelity, coupled with an increase in the data rate such that more information is sent and at the same time increasing the transmission distance between relay stations. As a result of accelerating rate of growth of communication technology in research and industry, students who are preparing themselves, and electronics engineers who are working in these areas are faced with the need to understand the theoretical as well as practical design and analysis of communication systems.

4) ET-11514 Project I

Project Seminar comes under Applied Technology group. Project work is undertaken and begins in the fifth semester and continues towards completion in the sixth semester. The Project work undertaken by students in the final year will encompass following activities: Searching for appropriate material; solving problems; analyzing data; maintaining a weekly report book; preparing a report; presenting the project work.

Some of the objectives that the student would achieve by doing project work may be listed as follows:

The student will be able to: plan the project; show decision making skills by taking appropriate decisions at every stage of the project; show problem solving skills by solving problems that may arise at every stage of the project; show confidence to work on one's own and also in a group; Work effectively as a member of a team; use creativity in solving problems and decision making.

5) ET-11515 Industrial Electronics

This subject which comes under the Applied Technology group enables the students to comprehend the theory, construction, concepts and working principles of various basic power electronic devices and circuits and their applications in industry. The knowledge acquired by student will help them to design, test, troubleshoot and repair power electronic circuits and systems that are widely used in heavy industries, switching and control systems, induction heating, resistance welding and so on.

6) ET-11516 Vocational Training

This subject is classified under the Applied Technology category. It is of utmost importance that the student gets exposure to the environment and working conditions in industry. For this purpose, the Institute has introduced the mandatory vocational training programme of 4 to 6 weeks, for all the students, after the fourth semester examinations (during vacation period). The students are placed in various industries / companies in various departments where they are exposed to actual work environment, enabling them to learn various aspects of the functioning of the industry as well as interacting and communicating with people associated with the industry. The objective of this vocational training programme is to instill confidence among students and build their personality, as well as gain work experience in a real-time industry environment.

7) ET-11517 Circuit Simulation and PCB Design

This subject which comes under the Applied Technology group will enable the students to compare the performance of simulated circuits and physical circuits with components mounted on a printed circuit board. The laboratory experiences also provide an opportunity to students to design printed circuit boards after verification of the performance of the designed circuit through simulation using the “Eagle” circuit simulation and design software. This knowledge builds a strong foundation for further development of their project work in the final year.

8) ET-11518 PLC Systems and Applications (Elective 1)

The subject is classified under Applied Technology group. An example of application of this subject would be the automobile industry, in applications such as pick and place, welding, spray painting etc. The objective of this subject is to teach the student different systems used in various industries universally through Programmable Logic Control (PLC) Systems. The subject introduces the common industrial control system elements including programmable logic controller, PC based control and process monitoring. This subject is a multi disciplinary subject.

9) ET-11519 Academic Skills

This subject which belongs to the Foundation category does not carry any credits and there is no examination for the same. It is included in the third semester as well as the fifth semester, which gives a double opportunity to sharpen their presentation skills on a topic selected by students from the subjects if the diploma course. These skills encompass reading, researching and gathering information, synthesis and analysis of content matter, writing reports, making

presentations and delivering them effectively with confidence. The most recent necessary academic skill is being computer savvy. Computers are used for almost everything, including work and learning. In order to compete in the global marketplace, students need to be able to use computers, especially popular software and the Internet. Computer skills are essential for studying, research, and writing, as well as for communication. These same skills become an integral part and parcel of one's life in the work environment without one being even aware of it. Students are required to make a PowerPoint presentation on a topic of their choice and present the same to an audience comprising of staff and students.

Semester 6

1) ET-11611 Mobile Communication

The glorious 21st century marks the growth of the mobile radio communication industry by orders of magnitude. The recent exponential growth in cellular mobile communication needs more skilled technicians for operation, maintenance and servicing of mobile cellular systems. This subject is classified under Applied Technology group and it is based on communication theory, which gives theoretical as well as practical knowledge of different cellular system. It covers digital cellular mobile systems such as GSM, IS – 95 standards, WLL, call processing & basics of mobile communication systems.

2) ET-11612 Digital Signal Processing

Digital Signal Processing continues to play an increasingly important role in the fields that range literally from A (Astronomy) to Z (Zeugmatography, or magnetic resonance imaging) and encompasses applications in areas such as Compact Disc Players, Speech Recognition, echo cancellation in communication systems, image enhancement, geophysical exploration, noninvasive medical imaging, etc. This subject belonging to the Applied Technology group aims to build concepts related to the fundamental principles and applications of Signals, System Transforms and Filters.

3) ET-11613 Data Communication and Computer Networking

This subject is categorized under Applied Technology. After understanding basic communication systems, it is important to proceed further on to the concepts related to Data Communication and Computer Networking. The field of communication is the fastest growing technology and undoubtedly heading towards to a runaway growth in future which makes it important to know how data transfer takes place from one system to another, through different channels and computer networks like LAN, MAN, WAN & the Internet. Protocols and standards along with different switching techniques are some other important issues which are covered in this subject.

4) ET-11614 Digital Communication

This subject comes under the Applied Technology category. Presently, majority of the telecommunication systems operate on the basis of digital principles. It demands that the student has a good working knowledge of fundamentals of pulse and data communication. The subject will help the student in understanding the concepts of various pulse modulation techniques and methods of generating and decoding, in each of the pulse modulation systems, along with error detection and correction methods.

5) ET-11615 Microcontroller and Applications (Elective 2)

This subject which comes under the Applied Technology group will enable the students to comprehend the theory, concepts, working of microcontrollers, their programming and also their applications in electronic systems. The knowledge acquired by student will help them to design, test, troubleshoot and program microcontroller based systems. Knowledge of microprocessors will provide a quicker grasping and understanding of the internal working and operation of microcontroller based control systems in industry.

6) ET-11616 Project II

Project is classified under Applied Technology courses. In continuation to the Project work started by the student in the fifth semester, he/she has to meet the set goals of testing, finalization and completion before the end of the sixth semester. Project work is supposed to be largely a student centered activity. It is a purposeful student activity which is supposed to be planned, designed and performed by a student or a group of students, which ultimately will help them to accomplish higher level cognitive and affective domain activities. It will also help them to achieve psychomotor objectives. The objective of the project work undertaken is to reinforce and integrate previously acquired lower sub-skills and attitudes within a branch and slowly transform them into higher level skills. It will help to develop competencies and confidence to solve open and real life interdisciplinary problems. Project work is supposed to develop thinking, planning and decision making skills with ample scope for using creativity. It presents a challenging and task oriented learning environment with optional solutions, besides developing ability and confidence in accomplishing targets with given time and resources constraints. It is also meant to develop higher level interactive skills and ability of working in teams.

7) ET-11617 Advanced Power Electronics (Elective 2) (Proposed)

This subject is classified under Applied Technology courses. In the past decade there has been a rapid development in the field of Power Electronics with the development of newer and high speed power switching and control devices. This subject attempts to cover these new developments and devices along with their applications in the power industry in detail, along with the theoretical background of the construction, characteristics and working of the s

8) ET-11618 Scilab

Various numerical computations can be done in the Engineering and Mathematics field by providing various continuous inputs to the system over a period of time. This could be observed statistical data. Along with this the trend of the possible output/s can be fed into the system to that the system develops an artificial learning capability. Thus such a system can be useful for analyzing and predicting possible behavior, solutions and outputs for a given problem or task. Thus Scilab provides the basic foundation that can be used to build upon the various intricacies of artificial intelligence. The study of Scilab is therefore an essential requirement for further study and analysis in areas related to artificial intelligence.

Scilab is free and open source software for numerical computation providing a powerful computing environment for engineering and scientific applications.

ST. XAVIER'S TECHNICAL INSTITUTE - D.E.T.E. FEES STRUCTURE Academic Year 2015-2016

Fees are to be paid by TWO Demand Drafts for amounts as indicated in the table below, drawn in favour of "St. Xavier's Technical Institute, Mumbai".

ADMISSION YEAR	CATEGORY	FIRST DEMAND DRAFT AMOUNT	SECOND DEMAND DRAFT AMOUNT
FIRST YEAR	Open & Minority	Rs. 9250/-	Rs. 3000/-
	Reserved Category	Rs. 3250/-	
DIRECT SECOND YEAR	Open & Minority	Rs. 9250/-	Rs. 4100/-
	Reserved Category	Rs. 3250/-	
SECOND YEAR	Open & Minority	Rs. 8750/-	Rs. 3600/-
	Reserved Category	Rs. 2750/-	
THIRD YEAR	Open & Minority	Rs. 8750/-	Rs. 4600/-
	Reserved Category	Rs. 2750/-	

BREAK UP OF FEES DETAILS FOR DEMAND DRAFT ONE #	FIRST YEAR	DIRECT SECOND YEAR	SECOND YEAR	THIRD YEAR
Tuition Fee	6000	6000	6000	6000
Development fee	1000	1000	1000	1000
Co-curricular activities fees	300	300	300	300
Internet and E-mail facilities fee	150	150	150	150
Library fee	100	100	100	100
Caution Money (Refundable)	500	500	0	0
Exam Fees (Rs.600/- per Semester)	1200	1200	1200	1200
TOTAL AMOUNT FOR OPEN & MINORITY CATEGORY**=	9250	9250	8750	8750
TOTAL AMOUNT FOR RESERVED CATEGORY =	3250	3250	2750	2750

** *MINORITY category - Roman Catholic*

BREAK UP OF FEES DETAILS FOR DEMAND DRAFT TWO *	FIRST YEAR	DIRECT SECOND YEAR	SECOND YEAR	THIRD YEAR
Lab Manuals (Rs. 700/- per Semester)	1400	1400	1400	1400
Periodic Tests and Assignment Papers	800	800	800	800
Alumini	500	500	0	0
PCB with Locker for Circuit Building / Project	0	1000	1000	600
Project & Vocational Training Reports Printing (3rd Year only)	0	0	0	600
Convocation,Provisional,Equivalence & Diploma Certificate	0	0	0	600
N E X T E C H	300	400	400	600
TOTAL AMOUNT FOR FIRST YEAR	3000			
TOTAL AMOUNT FOR DIRECT SECOND YEAR		4100		
TOTAL AMOUNT FOR SECOND YEAR			3600	
TOTAL AMOUNT FOR THIRD YEAR				4600

\# As per D.T.E. Guidelines
* As per requirements of Autonomous Institutions

COURSES FOR MARINE OFFICERS

GLOBAL MARITIME DISTRESS AND SAFETY SYSTEM (GMDSS : INDIAN & BRITISH)

In June 1994 St. Xavier's was accepted as a full member of AMERC, U.K., making it the first International Member of AMERC. Now this license has been transferred to Bibby International Services [India] Pvt. Ltd., who under the direct name of Sir Derek Bibby Maritime Training Centre is conducting GMDSS Maritime Courses, DPO Courses. The institute has been awarded ISO 9001:2000 Quality certification for its Marine Department.

In February 2000, St. Xavier's received the approval from the Directorate General of Shipping and the Ministry of Communications to conduct and train candidates for the GMDSS [India Certification] Examinations, the Certificate for which is awarded by the Government of India.The curriculum of this course covers the requirements of the International Maritime Organization for a GMDSS Operator. The Indian course has been approved by the Indian Government and the U.K. by the British authority for conducting the GMDSS course. The Indian examination is conducted by the Directorate General of Shipping and the W.P.C., Ministry of Communications, Government of India.The British examination is conducted by the Association of Marine Electronics and Radio Colleges, U.K. The certificates are issued by the Maritime and Coastguard Agency on behalf of the U.K. Government.

AUTOMATIC RADAR PLOTTING AIDS (ARPA)

The curriculum for the Course is in accordance with and satisfies the relevant regulations / resolutions of IMO / STCW conventions. The Course is approved by the Directorate General of Shipping, Government of India.

RADAR OBSERVATION COURSE (ROC)

The curriculum for the Course is in accordance with and satisfies the relevant regulations / resolutions of IMO/STCW conventions. The Course is approved by the Directorate General of Shipping, Government of India.

RADAR, ARPA & NAVIGATION SIMULATOR COURSE (RANSCO)

The curriculum for the Course is in accordance with and satisfies the relevant regulations / resolutions of IMO/STCW conventions. The Course is approved by the Directorate General of Shipping, Government of India.

DYNAMIC POSITIONING COURSES

Basic Induction Course: Provides basic knowledge to a fresher, about the fundamentals involved in holding precise position of a vessel for various offshore functions like drill support, diving support, cable laying, rock dumping, and recovery of submerged interests.

Advanced Simulator Course: In this course, students practice various operations on a DP vessel using real life simulators same as fitted on DP vessels. It is a 4 day course and uses Kongsberg K-Pos II Simulators. This is going to be upgraded with 'A' Class Simulation.

SEA TIME REDUCTION COURSE

Candidates doing this course get a waiver of 3 weeks sea time.

OFFSHORE LOADING PHASE I, PHASE II

On completion of this course candidates get waiver of 5 weeks sea time.

DGPS

OEM certified course available from Fugro and Vericos

ANCHOR HANDLING ON FULL MACHINE SIMULATOR

This has been a long time requirement of the shipping industry which is now being met.

ECDIS (ELECTRONIC CHART DISPLAY INFORMATION SYSTEM COURSE)

This involves training on the Transas Navi-Sailor 4000 ECDIS which is networked to the Navi-Trainer 5000 Simulator. The Transas ECDIS simulator and ECDIS holds type approval certificates from the BSN, DNV and the Russian Maritime Register of Shipping. The training is conducted in the classroom and cubicles and meets the requirements of ECDIS training for MCA (UK) and DGS (Govt. of India).

2nd OFFICER (FUNCTIONS)

This course prepares the student for the written and oral examination in order to obtain the 2nd mates (COC) (FG). This course is approved by DGS (Govt. of INDIA).

H.E.L.M. - MCA (UK) APPROVED COURSE

This course is for Deck, Engine and Electro Technical Officers (UK COC holders) applying for a new COC at the Operational and Management level.

M.C.R.M.

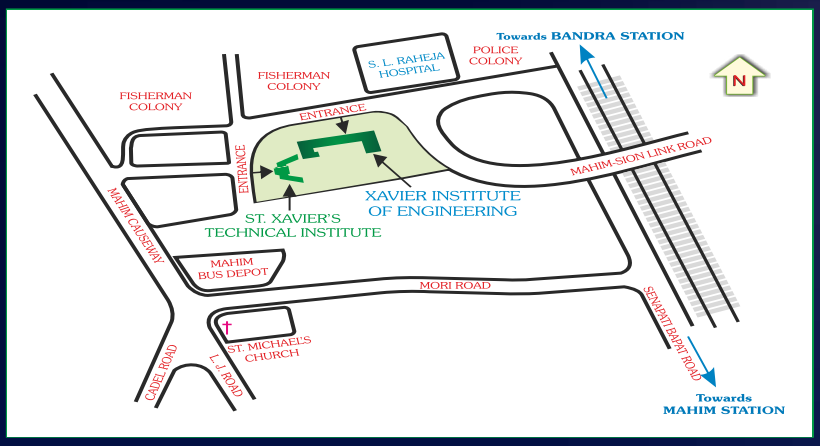
Training programme has been provided under license agreement with Oxford Aviation Academy, UK.






ANNUAL DAY MANTHAN 2015

X-TECH CONVOCATION 2014

ST. XAVIER'S TECHNICAL INSTITUTE

TECH

The Joy of Excellence
In a World of High Technology