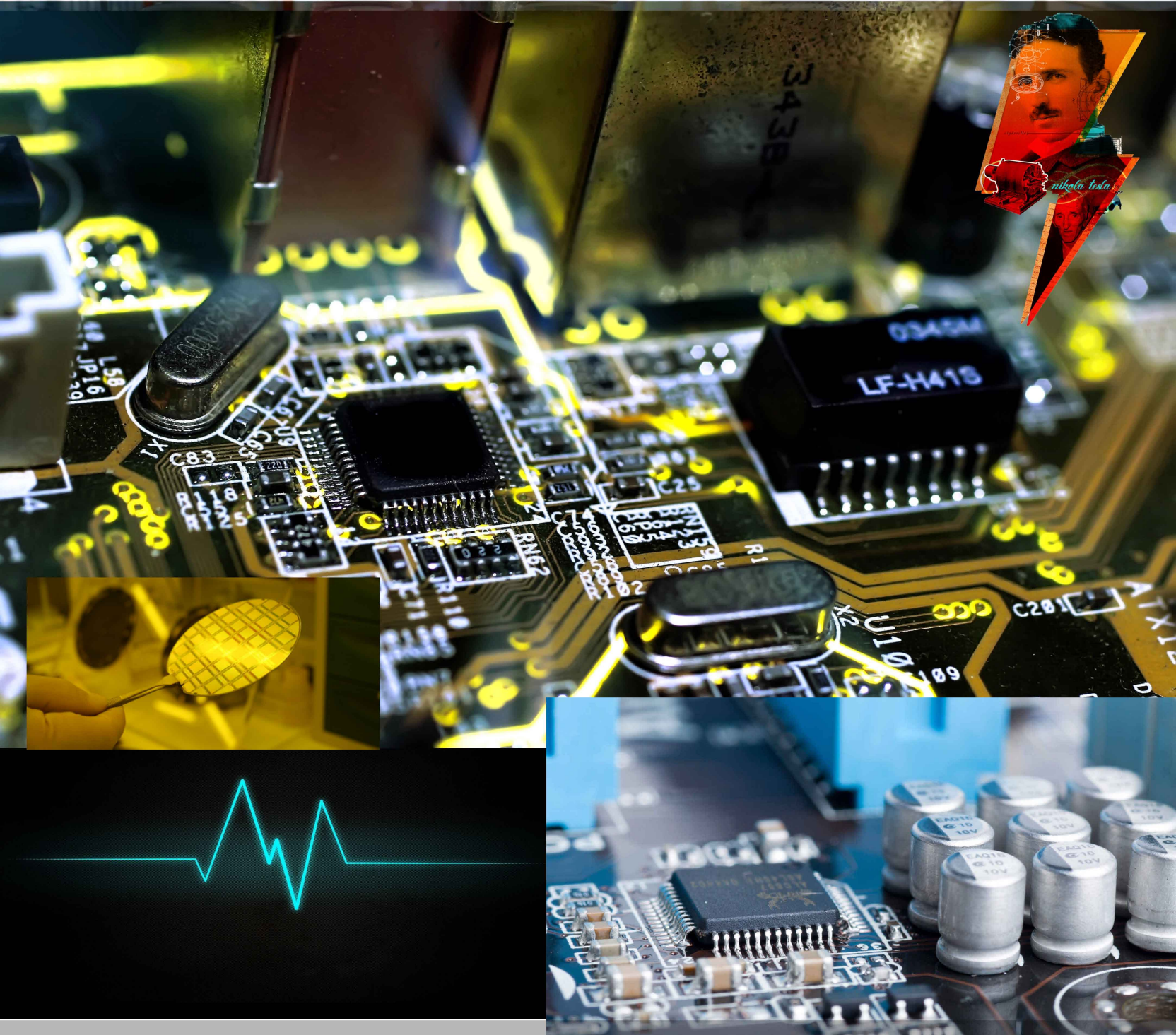


INSPIREEE

INSPIRATIONAL SCRIPTS, PERSONALITIES AND
INNOVATIVE RESEARCH
NEWSLETTER/ EEE/ VOLUME 3: ISSUE 3- JANUARY 2016



K.L.N. COLLEGE OF ENGINEERING

Approved by AICTE and Affiliated to Anna University
An ISO 9001:2008 Certified Institution
Pottapalayam - 630 612, Sivagangai Dt., Tamilnadu.

INSPIREEE

INspirational Scripts, **P**ersonalities and **I**nnovative **R**esearch of **EEE**

VISION

To become a high standard of excellence in Education, Training and Research in the field of Electrical and Electronics Engineering and allied applications

MISSION

To Produce excellent, innovative and Nationalistic Engineers with Ethical values and to advance in the field of Electrical and Electronics Engineering and Allied Areas



K.L.N. College of Engineering

Pottapalayam – 630 612, Sivagangai District, Tamil Nadu, India

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MESSAGE FROM HEAD OF THE DEPARTMENT

Dr. S.M. KANNAN, M.E. Ph.D.,
FIE, MISTE, MIEEE (USA)
Professor & Head, EEE,
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MESSAGE

Most of the articles in this issue focuses on career opportunities available in the field of Electrical and Electronics Engineering and discusses on how to make use of them effectively. State and Central Government, regularly encourages, through their various media, starts ups, benefiting young entrepreneurs, successfully coming out from Engineering Colleges. All these are possible only when one carefully focuses on academic excellence and thinking only on innovations. This requires updating in their curricular, co-curricular and extracurricular activities regularly right from the second year of Degree Course. English proficiency is must for anything possible and it is difficult for slow learners but very easy, if one understands the basics of English grammar. Students are encouraged to do mini-projects that will open their mind for any innovations. They can contact their immediate senior for projects to get an idea. Projects will be recognized only when it is applied for competitions in higher learning institutions, funding agency and patent them. Paper presentation has little impact than project presentation. If the projects are innovative, then, one has greater access to get Inplant training, internship, employment and finally to become an entrepreneur. If everyone develops such qualities there is no need for Engineers to search for jobs, instead, companies will knock your doors and you can become a job provider in future. Keeping in mind, the above, plan and develop an attitude to reach the goal.

Dr. S.M. KANNAN

Head of the Department - EEE

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HOW TO PATENT YOUR PRODUCT

HOW TO PATENT YOUR PRODUCT

CHANDRA K (IV YEAR / EEE/A sec) - 122026

WHAT IS A PATENT?

A patent is a right that is granted for any device, substance, method or process that is new, inventive, and useful. A patent is legally enforceable and gives you (the owner), exclusive rights to commercially exploit the invention for the life of the patent.

APPLY FOR A PATENT :

Before you apply to patent your invention you will need to understand what's involved in the application process.

- **Before you apply** - before applying for a patent, you should make sure you meet the eligibility requirements.
- **Provisional application (what to be included)** - information about what to include as part of your provisional patent application.
- **Standard and innovation applications (what to be included)** - information about what to include as part of your standard or innovation patent application.
- **Search for a patent** - search the patent database AusPat
- **Request for examination** - information about requesting for examination once you've applied for your patent. Once you have chosen an appropriate patent, you must submit your application, and go through an examination process before your patent is enforceable. You can file your completed application with the correct fees in several ways.

WHO CAN APPLY?

Only the person who owns an invention can be given a patent for it. The patent can be owned by:

- the inventor(s)
- the person who has legally obtained rights to the invention from the inventor(s) or an intermediary
- An employer of someone who made the invention in the course of their normal duties.

Although a 'person' is mentioned above, a company or organization can also be granted a patent, but not a firm or partnership. The partners in the firm or partnership can, however, obtain a patent jointly in their own names.

Eligibility requirements

To be eligible to apply for a patent you must be able to prove you are the actual inventor or that you have entitlement from the actual inventor(s).

You must provide an Australian address for legal service and an address for correspondence (which does not have to be in Australia).

PROVISIONAL APPLICATION

Provisional applications are an optional first step in applying for a standard or an innovation patent. A provisional patent application is not examined and will never have a patent granted on it, but it gives you 12 months to decide whether to go further and seek standard or innovation patent protection for your invention.

Your provisional application should include:

- a completed online application (requires login)
- a provisional specification
- The filing fee.

A provisional specification should also:

- be in English
- be on single-sided A4 pages
- have separate pages for drawings (and claims if included)
- Allow sufficient margins (i.e. at least 2.5cm) around the edges of all pages.

The provisional specification should not include photographs.

Although the technical or scientific details of your provisional application are not published we will publish details such as the invention title and applicant name in the Australian Official Journal of Patents at filing.

Remember - filing a provisional application on its own does not give you patent protection

All provisional applications lapse after 12 months. If you do not file a complete application associated with the provisional, or file a PCT application within this 12-month period, you will lose any priority that your provisional application may have provided.

WHAT A COMPLETE SPECIFICATION MUST BE INCLUDED?

A complete specification is the basis for your patent. It must:

- fully describe your invention so that others could reproduce it from the information given

- give the best method of performing your invention
- end with a claim or claims that define the invention the patent is to cover
- be in English
- be on single-sided A4 pages
- have separate pages for claims and drawings
- not include photographs
- Allow sufficient margins (i.e. at least 2.5 cm) around the edges of all page.

PATENT APPLICATION PROCESS

- **SEARCH:** patent databases, sales brochures and magazines to ensure your invention has not been created by someone else. If your invention was publicly known before you apply for a patent, you won't be able to get a patent.
- **DECIDE WHICH TYPE OF PATENT** best suits your invention. You may wish to file a provisional application first; then decide between filing a standard, innovation or an international patent (PCT) application.
- **ONCE IT IS FILED, YOUR APPLICATION IS CHECKED AND PUBLISHED.** Please note that fees are payable at different stages of the patent process. An innovation patent is checked to ensure it satisfies the formality

requirements, then granted and published in the official journal.

EXAMINATION is mandatory before a standard patent can be granted and must be requested by the applicant. An innovation patent will be examined if examination is requested but this is not a requirement for an innovation patent to be granted. Examination of an innovation patent can only happen after it is granted. For either an innovation or standard patent to be enforceable, it must have been examined. Examination can also be expedited for standard patents, or expedited under the Global Patent Prosecution Highway (GPPH).

- **ACCEPTANCE AND GRANT** of an innovation patent occurs if it has satisfied the formality requirements. It is then published as such in the official journal. If examination is requested and found successful then the innovation patent will be certified and published once again

- **PAY ANNUAL FEES** to maintain your patent. Innovation patents can be renewed for up to eight years and standard patents can be renewed for up to 20 years (up to 25 years for pharmaceuticals).

REFERENCE:

<http://www.ipaustralia.gov.au/get-the-right-ip/patents/about-patents/>

<http://www.nolo.com/legal-encyclopedia/getting-patent-yourself-29493.html>

HOW TO PATENT YOUR PRODUCT

NAVANEETHA S (III YEAR / EEE/B sec) - 132026

Step 1: Write down the invention with as much details as possible

Collect all the information about your invention such as:

- Area of invention
- Description of the invention what it does
- How does it work
- Advantages of the invention

Step 2: Include drawings, diagrams or sketches explaining working of invention

The drawings and diagrams should be designed so as to explain the working of the invention in better way with visual illustrations. They play an important role in patent application.

Step 3: Patentability search

The next step would be finding out whether your invention meets all patentability criteria as per Indian patent act? That is,

- Novelty
- Non-obviousness
- Industrial application
- Enabling

Step 4: Decide whether to go ahead with patent

The patentability report and opinion helps you decide whether to go ahead with the patent or not, chances are what you thought as novel might already been patented or know to public in some form of information. Hence this reports saves lots of time, efforts and cost of the inventor by helping him decide whether to go ahead with the patent filing process or not.

Step 5: Draft (write) patent application

In case you are at very early stage in the research and development for your invention, then you can go for provisional specification. It gives following benefits:

- Secures filing date
- 12 months of time to file complete specification
- Low cost

After filing provisional application, you secure the filing date which is very crucial in patent world. You get 12 months of time to come up with the complete specification, up on expiry of 12 months your patent application will be abandoned.

Step 6: Publication of the application

Up on filing the complete specification along with application for patent, the application is published after 18 months of first filing.

An early publication request can be made along with prescribed fees if you do not wish to wait till the expiry of 18 months from the date of filing for publishing your patent application.

Generally, the patent application is published within a month from request for early publication.

Step 7: Request for examination

The patent application is examined only after receiving request for examination that is RFE. Up on receiving this request the controller gives your patent application to a patent examiner who examines the patent application with different patentability criteria like:

- Patentable subject matter

- Novelty
- Non-obviousness
- Inventive step
- Industrial application
- Enabling

Step 8: respond to objections and clearing all objections

Majority of patent applicants will receive some type of objections based on examination report. The best thing to do is analyze the examination report with patent professional (patent agent) and creating a response to the objections raised in the examination report. This communication between controller and patent applicant is to ensure that all objections raised in the patent application are resolved. (If not the patent will not be granted) and the inventor has his fair chance to prove his point and establish novelty and inventive step over existing prior arts.

Step 9: Grant of patent

The application would be placed in order for grant once it is found to be meeting all patentability requirements. The grant of patent is notified in the patent journal which is published time to time.

Get Free preliminary guidance about your patent requirement reach patent experts agent and companies here.

HOW TO PATENT YOUR PRODUCT

MATHANA ATHISHRI R (IV YEAR / EEE/B sec) - 122024

WHO MAY APPLY FOR PATENT?

- According to the law, the inventor, or a person to whom the inventor has assigned or is under an obligation to assign the invention, may apply for a patent, with certain exceptions. If the inventor is deceased, the application may be made by legal representatives, that is, the administrator or executor of the estate.
- If the inventor is legally incapacitated, the application for patent may be made by a legal representative (e.g., guardian). If an inventor refuses to apply for a patent or cannot be found, a joint inventor may apply on behalf of the non-signing inventor.
- If two or more persons make an invention jointly, they apply for a patent as joint inventors. A person who makes only a financial contribution is not a joint inventor and cannot be joined in the application as an inventor. It is possible to correct an innocent mistake in erroneously omitting an Inventor or in erroneously naming a person as an inventor.

APPLICATION FOR PATENT

Non-Provisional Application for a Patent

A non-provisional application for a patent is made to the Director of the United States Patent and Trademark Office and includes:

- (1) A written document which comprises a specification (description and claims);
 - (2) Drawings (when necessary);
 - (3) An oath or declaration; and
 - (4) Filing, search, and examination fees. Fees for filing, searching, examining, issuing, appealing, and maintaining patent applications and patents are reduced by 50 percent for any small entity that qualifies for reduced fees under 37 CFR 1.27(a), and are reduced by 75 percent for any micro entity that files a certification that the requirements under 37 CFR 1.29(a) or (d) are met.
- Small Entity Status: Applicant must determine that small entity status under 37 CFR 1.27(a) is appropriate before making an assertion of entitlement to small entity status and paying a fee at the 50 percent small entity discount.

Fees change each October. Note that by filing electronically via EFS-Web, the filing fee for an applicant qualifying for small entity status is further reduced.

- **Micro Entity Status:** Applicant must determine that micro entity status under 37 CFR 1.29(a) or (d) is appropriate before filing the required certification of micro entity status and paying a fee at the 75 percent micro entity discount. The patent forms Web page is indexed under the section titled Forms, Patents on the USPTO website at www.uspto.gov.
- There are two micro entity certification forms – namely form PTO/SB/15A for certifying micro entity status on the “gross income basis” under 37 CFR 1.29(a), and form PTO/SB/15B for certifying micro entity status on the “institution of higher education basis” under 37 CFR 1.29(d). Effective November 15, 2011, any regular nonprovisional utility application filed by mail or hand-delivery will require payment of an additional \$400 fee called the “non-electronic filing fee,” which is reduced by 50 percent (to \$200) for applicants that qualify for small entity status under 37 CFR 1.27(a) or micro entity status under 37 CFR 1.29(a) or (d). The only way to avoid having to pay the additional \$400 non-electronic filing fee is by

filing the regular nonprovisional utility application via EFS-Web.

Steps to Filing a Patent Application

1. Keep a Careful Record of Your Invention. Record every step of the invention process in a notebook.
2. Make Sure Your Invention Qualifies for Patent Protection.
3. Assess the Commercial Potential of Your Invention.
4. Do a Thorough Patent search
5. Prepare and File an application with the USPTO.

What Can Be Patented

The patent law specifies the general field of subject matter that can be patented and the conditions under which a patent may be obtained.

In the language of the statute, any person who “invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent,” subject to the conditions and requirements of the law. The word “process” is defined by law as a process, act, or method, and primarily includes industrial or technical processes. The term “machine” used in the statute needs no explanation. The term “manufacture” refers to articles that are made, and includes all manufactured articles. The term “composition of matter” relates to chemical compositions and may

include mixtures of ingredients as well as new chemical compounds. These classes of subject matter taken together include practically everything that is made by man and the processes for making the products.

The Atomic Energy Act of 1954 excludes the patenting of inventions useful solely in the utilization of special nuclear material or atomic energy in an atomic weapon. See 42 U.S.C. 2181(a).

The patent law specifies that the subject matter must be “useful.” The term “useful” in this connection refers to the condition that the subject matter has a useful purpose and also includes operativeness, that is, a machine which will not operate to perform the intended purpose would not be called useful, and therefore would not be granted a patent.

Interpretations of the statute by the courts have defined the limits of the field of subject matter that can be patented, thus it has been held that the laws of nature, physical phenomena, and abstract ideas are not patentable subject matter.

A patent cannot be obtained upon a mere idea or suggestion. The patent is granted upon the new machine, manufacture, etc., as has been said, and not upon the idea or suggestion of the new machine. A complete description of the actual machine or other subject

matter for which a patent is sought is required.

HOW TO PATENT YOUR PRODUCT

S. PRIYANKA-142003-II-EEE-‘C’

GETTING A PATENT ON YOUR OWN FOR YOUR PRODUCT:

Here's how to get a U.S. patent on your idea or invention --without a lawyer.

You have a great idea for an invention or product. Do you need to hire a lawyer to apply for a patent? In most cases, the answer is "no." You can do it yourself, and save thousands of dollars on attorneys' fees.

✓ **Filing a Patent Without an Attorney:**

Thousands of inventors have successfully navigated the patent system on their own. In fact, federal law requires patent examiners at the U.S. Patent and Trademark Office (USPTO) to help individual inventors who apply for patents without a lawyer's help.

To obtain a patent, you need to:

- make sure your invention qualifies for a patent, and
- Be able to describe all aspects of your invention.

These aren't "legal" skills, and learning them is no different than learning any other skill, whether its auto repair, deck installation or gourmet cooking. Some steps are easy, others are more difficult. But by taking the process one step at a time, you can acquire a patent.

✓ **Steps to Filing a Patent Application:**

Here's a quick look at the basic steps you need to take before filing a patent application. Nothing about the process requires a lawyer - there's no court, no judge, no "legal"

research. The USPTO has specific rules, but you can follow them just as you would a recipe in a cookbook.

◆ **Keep a Careful Record of Your Invention**

Record every step of the invention process in a notebook. Describe and diagram every aspect and every modification of the invention, including how you came up with the idea for it. Depending on the invention, you may also want to build and test a prototype. Document all of these efforts. Sign and date each entry and have two reliable witnesses sign as well.

◆ **Make Sure Your Invention Qualifies for Patent Protection**

You cannot get a patent just on an idea. You must show how your invention works and your invention must be new. This means it must be different in some important way from all previous inventions. It also cannot be for sale or be known about before you apply for a patent. For more refer,[qualifying for a Patent FAQ.](#)

◆ **Assess the Commercial Potential of Your Invention:**

Applying for a patent is a business decision. Even without a patent attorney or the use of professionally prepared patent drawings, it costs approximately \$1,500 in fees to file and obtain a patent from the USPTO. Before you spend the time and money to file a patent application, you need to research the market you hope to enter and decide whether it's worth the outlay of funds.

◆ **Do a Thorough Patent Search?**

To make sure your invention is new; you need to search all the earlier developments in your field. This involves searching U.S. (and sometimes foreign) patents, as well as other publications like scientific and technical journals, to find related inventions.

application, see Understanding Patent Applications.

Although patent searching is time consuming, it can be mastered with practice. Even if you decide to hire a professional later on in the process, you know the most about your invention, so you are the best person to start the search.

You can start your research on the Internet, but you may also want to visit a Patent and Trademark Depository Library, where you can search earlier patents and get help from a librarian. For more information, see [Patent Searching Online](#).

When you search, you will certainly find other inventions that are similar to yours. In your application, you should show how your invention improves upon or is different from these earlier developments.

◆ [Prepare and File an Application with the USPTO](#)

When you file with the USPTO, you can either file a full-blown regular patent application (RPA) or a provisional patent application (PPA).

Provisional patent application (PPA): A PPA is not an actual application for the patent itself. Filing a PPA simply allows you to claim patent pending status for the invention and involves only a small fraction of the work and cost of a regular patent application.

Regular patent application (RPA): Filing an RPA -- a regular patent application -- starts the examination process at the USPTO that's necessary for getting the actual patent. To learn what's involved in preparing a regular

IDENTIFICATION OF FUNDING AGENCY FOR PRODUCT DEVELOPMENT

IDENTIFICATION OF FUNDING AGENCY FOR PRODUCT DEVELOPMENT

RADHIKA S (132036)

III-year B sec

CROWDFUNDING:

Crowdfunding is a process in which individuals pool money and other resources to fund projects initiated by other people or organizations. Crowdfunded projects may include creative works, products, nonprofit organizations, supporting entrepreneurship, businesses, or donations for a specific purpose (e.g., to pay for a medical procedure). Crowdfunding usually takes place via an online portal that handles the financial transactions involved, and may also provide services such as media hosting, social networking, and facilitating contact with contributors.

All or Nothing (AoN) – When the fund-raising period is over, money is only collected from the contributors if a pre-determined minimum amount of money has been pledged. If the goal is not met, no money is collected.

Keep it All (KiA) – Whether the project goal is met or not, all of the funds collected (minus commission) are handed over to the entrepreneur. If he or she has insufficient funds to meet the objectives, then it is up to the recipient to refund them to the contributors.

KICKSTATER	AoN	Creative projects - Highest funded projects to date
KETTO	KiA	Funding for any kind of project - business, creative, arts, personal, charitable. Largest platform in India.
PIGGYBACKR	KiA	Young children, students, and teams
OFFBEATR	AoN	Projects must first get enough votes from users before they are open for funding
PLANETA.RU	Kia or AoN	Allows a broad range of projects
PLEDGEME	AoN	Allows a broad range of projects
LAUNCHGOOD	Kia or AoN	Allows a broad range of projects - Largely faith-based, focused on the worldwide Muslim community

IDENTIFICATION OF A FUNDING RESOURCES:



A review of the Objectives and Uses and Use Restrictions sections of the Catalog program description can point out which programs might provide funding for an idea. Do not overlook the related programs as potential resources. Both the applicant and the grantor agency should have the same interests, intentions, and needs if a proposal is to be considered an acceptable candidate for funding.

Once a potential grantor agency is identified, call the contact telephone number identified in Information Contacts and ask for a grant application kit. Later, get to know some of the grantor agency personnel. Ask for suggestions, criticisms, and advice about the proposed project. In many cases, the more agency personnel know about the proposal, the better the chance of support and of an eventual favorable decision. Sometimes it is useful to send the proposal summary to a specific agency official in a separate cover letter, and ask for review and comment at the earliest possible convenience. Always check with the Federal agency to determine its preference if this approach is under consideration. If the review is unfavorable and differences cannot be resolved, ask the examining agency (official) to suggest another department or agency which may be interested in the proposal. A personal visit to the agency's regional office or headquarters is also important. A visit not only establishes face-to-face contact, but also may bring out

some essential details about the proposal or help secure literature and references from the agency's library. Federal agencies are required to report funding information as funds are approved, increased or decreased among projects within a given State depending on the type of required reporting. Also, consider reviewing the Federal Budget for the current and budget fiscal years to determine proposed dollar amounts for particular budget functions.

The applicant should carefully study the eligibility requirements for each Federal program under consideration (see the Applicant Eligibility section of the Catalog program description). The applicant may learn that he or she is required to provide services otherwise unintended such as a service to particular client groups, or involvement of specific institutions. It may necessitate the modification of the original concept in order for the project to be eligible for funding. Questions about eligibility should be discussed with the appropriate program officer.

Deadlines for submitting applications are often not negotiable. They are usually associated with strict timetables for agency review. Some programs have more than one application deadline during the fiscal year. Applicants should plan proposal development around the established deadlines.

SCIENTIFIC AND RESEARCH:

- Mission on Nano Science and Technology (Nano Mission) <http://nanomission.gov.in/>
- Fund for Improvement of S&T Infrastructure in Universities and

other Higher Educational Institutions (FIST)

- Sophisticated Analytical Instrument Facilities (SAIFs)
- The various schemes available are:
 - Deep Continental Studies (DCS)
 - Himalayan Glaciology (HG)
 - Indian Climate Research Programme (ICRP)
 - Instrument Development Programme (IDP)
 - International S&T Cooperation (ISTC)
 - Joint Technology Projects under STAC/IS-STAC
 - Monsoon and Tropical Climate (MONTCLIM) & Agro meteorology
 - Natural Resources Data Management System (NRDMS)
 - Pharmaceuticals Research & Development Support Fund (PRDSF) Programme
 - Programme Advisory Committee on Earth Sciences (PAC-ES): R&D Projects Scheme
 - Science & Engineering Research Board (SERB)
 - Science & Society Programmes (SSP)
 - Seismology Programme (SP)
 - State Science & Technology Programme (SSTP)
 - Technology Development Programme (Joint Technology – Technology System Programme)
 - Utilization of Scientific Expertise of Retired Scientists (USERS) SERC Fast Track Scheme For Young Scientists (FAST)

FUNDING AGENCY FOR PRODUCT DEVELOPMENT:

T. MUTHUMATHI, EEE-B, 132023

WHERE TO APPROACH FOR R&D FUNDS?

(1) University Grants Commission (UGC)

I. Introduction

UGC strives to promote teaching and research in emerging areas in Humanities, Social Sciences, Languages, Literature, Pure Sciences, Engineering & Technology, Pharmacy, Medical, Agricultural Sciences etc.

II Name of scheme(s)

Major and Minor Research Projects

Objective(s)

- To promote excellence in research in higher education by supporting research programmes of University and College teachers in various disciplines.
- Traditionally, universities have been the centers of research. Although, the Government has a network of science and technology laboratories for research and development, the major base of researchers in science and technology remains with the universities. Therefore, university and college teachers need to be supported to meet this requirement.

(2) All India Council for Technical Education (AICTE)

I. Introduction

The All India Council for Technical Education (AICTE) has been

performing its regulatory, planning and promotional functions through its Bureaus, namely: Administration; Finance; Planning and Coordination; Under Graduate Studies; Post Graduate Education and Research; Faculty Development;

Quality Assurance; and Research and Institutional Development Bureaus; and through its Regional Offices located in various parts of the country.

II. Name of scheme(s)

i) Research & Institutional Development Schemes

a) Modernization & Removal of Obsolescence Scheme (MODROBS)

- To equip technical institutions with modern infra-structural facilities in laboratory(s)/workshop(s)/computing facilities to enhance functional efficiency for teaching, training and research purposes. Creation of new laboratories is not envisaged. Maximum Funding is Rs. 15 lakhs with 2 years' duration.
- The aims are contemporary Lab Work, relevant project work, indirect benefits to faculty/students of the institution through training programmes and consultancy work.

b) Research Promotion Schemes (RPS)

RPS aims to create research ambience by promoting research in technical disciplines and innovations in established and emerging technologies; and to generate Masters and Doctoral degree candidates. The

three research avenues within RPS are the following:

- Proof of Concept work - Independent research activity which can lead to growth of knowledge/process in an area, which can grow into a major project. Funding for such projects would be limited to a one time grant of Rs. 5-10 lakhs.
- Capacity Building for research – A young faculty (30 years limit) with grant of Rs. 10-12 lakhs, is encouraged to carry out research at Doctoral level in a reputed institution. The funding can be used for both drawing of salary during leave without pay condition and towards purchase of equipment to carry out research in a Novel area.
- Patentable technology development by a group of faculty members, having proven track record, who aim at developing new research facilities, at the parent institution, being motivated chiefly by high-end output such as patentable technologies. Funding to such projects would be limited to a one time grant of Rs. 20 lakhs.

ii) Industry-Institute Interaction Schemes

a) Industry Institute Partnership Cell (IIPC)

To establish institute-industry liaison by encouraging: (1) conduct of industrial training programmes (2) facilitating exchange of resource personnel (3) carry out industrial R&D (4) conduct of industrial visits (5) developing appropriate curricula and (6) undertake consultancy services, etc.

b) Entrepreneurship Development Cells (EDC)

To encourage students to consider self-employment as a career option and provide training in entrepreneurship.

c) National Facilities in Engineering & Technology with Industrial Collaboration (NAFETIC) To establish national level facilities in the frontier areas of Engineering & Technology through collaboration between industry(s) and institutions for product development, basic research, trouble shooting, consultancy, testing & training purposes.

d) Nationally Coordinated Project (NCP)

To plan, coordinate & execute integrated R&D programmes at national level by a group of institutions. The technical/ financial/ administrative deliverables are to be spelled out clearly by the networking institutions with the lead institution being an IIT/IISc/IIM/NIT.

III. Areas of research support

Engineering and Technology, Architecture , Town Planning, Management , Pharmacy, Hotel Management and Catering Technology, Applied Arts and Crafts etc.

(3) Council of Scientific and Industrial Research (CSIR)

I. Introduction

The major functions of CSIR include promotion, guidance and coordination of scientific and industrial research in India; establishment or development of and assistance to existing special

institutions or departments for scientific study of problems affecting particular industries and trades; award of fellowship; utilization of Council's R&D results for industrial development; collection and dissemination of S&T information; and technology generation, absorption and transfer.

The Human Resource Development (HRD) Group of Council of Scientific & Industrial Research (CSIR) has a mandate to develop and nurture S&T manpower at the national level. It also promotes, guides and co-ordinates scientific & industrial research through research grants to Scientists/Professors working in Universities/R&D Institutes of Higher learning.

II. Name of scheme(s) & Objective(s)

1. Research Schemes

To promote research work in the field of S&T including agriculture, engineering and medicine.

Multi-disciplinary projects which involve inter-organizational cooperation (including that of CSIR Laboratories) are also considered. Preference is given to schemes which have relevance to research programmes of CSIR laboratories.

2. Sponsored Schemes

The Directors of CSIR laboratories may invite applications for research grants in specific areas of interest to their respective laboratories. They will forward these to the CSIR HRD Group. The scheme enables the CSIR

laboratories to interact with university system, so that the CSIR laboratory can take the help of the faculty there to undertake part of the work of its core programme, for which it either does not have the time and or expertise.

3. Emeritus Scientist Scheme

To provide support to superannuated outstanding scientists to pursue research in their respective field of specialization and having relevance to the programmes of CSIR.

4. Research Fellowships/ Associateships

CSIR Young Scientist Award

5. Other Science and Technology Promotion Programmes

- CSIR Programme on Youth Leadership in Science
- CSIR Diamond Jubilee Research Interns Award Scheme
- Visiting Associateship Scheme
- Partial Financial Assistance for holding National/International Conferences/ symposium/ Seminar/ Workshops in India
- Partial Travel Grants to Research Scholars
- Entrepreneurship Support to Research Scholars
- Faculty Training Programme and Adoption of Schools and Colleges by CSIR Laboratories

4. Aeronautics Research & Development Board

Government has set up Aeronautics Research & Development Board to coordinate, fund and sensitize futuristic, scientific technological areas having

potential application for aeronautical systems, at academic institutions and national scientific laboratories. For this purpose, Grants-in Aid of Rs. 5 Crores per year has been earmarked. The objectives are:

- the Aeronautics R&D Board has instituted a Grants-in-Aid Scheme to nurture the available research talent and to develop facilities in IITs, Universities, Higher Technological Institutes, Colleges and other research centers including industry in the country for promoting research, design and development programmes in Aeronautics and Allied Sciences, keeping in view the future needs of the country with respect to aircraft, helicopters, missiles and all other air borne vehicles and their operation.

- Besides the projects activities, the Board promotes Centres of Excellence in selected areas like Computational Fluid Dynamics, Systems Design & Engineering and Composite Structures Technology. Some more centers are under consideration.

- The Board also promotes Seminars, Presentation of papers in India & abroad, writing of books, and promoting air mindedness in School children.

(5) Department of Scientific and Industrial Research (DSIR)

I. Introduction

The Department of Scientific and Industrial Research (DSIR) is a part of the Ministry of Science and Technology, which was announced through a Presidential Notification, dated January 4, 1985. The Department of Scientific and Industrial

Research (DSIR) has a mandate to carry out the activities relating to indigenous technology promotion, development, utilization and transfer.

The Technology Promotion, Development and Utilization (TPDU) Programmes are directed towards meeting the specific needs of industry and are of particular relevance in the present context. Programmes and activities under the scheme are centered on promoting industrial R&D, development and commercialization of technologies, acquisition, management and export of technologies, promotion of consultancy capabilities, etc.

II. Name of scheme(s)

Technology Promotion, Development and Utilization Programmes & its Components.

Objective(s)

- Promote and support industry efforts towards R&D.
- Encourage R&D system-industry cooperation.
- Support industry for technology development, demonstration and absorption of imported technology.
- Build indigenous capabilities for development and commercialization of contemporary products and processes of high impact.
- Evaluate the status and performance of technology in selected sectors/areas.
- Facilitate effective transfer and management of technology.
- Promote international technology trade including export of technology projects, services and technology intensive products.

- Promote and strengthen consultancy capabilities for domestic use and export requirements. Support and use mechanisms, both national and international, towards transfer of technology, both within and outside the country and development, demonstration, extension and production in the areas of biomass energy, solar thermal and solar photovoltaics, wind energy and small hydro power. It also promotes and supports studies and research in new technology areas such as tidal energy, geothermal energy, and alternate fuels for transportation, hydrogen energy and fuel cells. The programmes of the Ministry are implemented mainly through the state energy development agencies and state electricity boards. Greater thrust has been given to research and development through active involvement of research institutions, universities, industries and non-governmental organizations.

I. Name of scheme(s) (Under revision)

□ Industry/Institution Participation in Research and Development Projects

To encourage public as well as private industrial sector for research and development in NRSE sector on cost sharing basis.

III. Areas of research support

- New Technologies
 - Solar Thermal
 - Solar Photovoltaics
 - Wind Energy
 - Biomass Energy

(8) Ministry of Power, Central Power Research Institute (CPRI)

I. Introduction

Ministry of Power, Government of India has entrusted the Central Power Research Institute to act as the nodal agency to manage the Research Scheme on Power [RSOP] including the funding for the Research programme. Techno-economic evaluation, monitoring and optimal utilization of resources are the major responsibilities of CPRI. This was earlier carried out by CBI&P and is now being managed by CPRI, since April 2001.

II. Name of scheme(s)

□ Research Scheme on Power (RSOP)

The scheme basically aims to provide fund for carrying out need based research projects in power sector including solving of power system operational problems in the country.

III. Areas of research support

The research areas include but not limited to:

- Power system planning, improvement, studies
- Diagnostic and condition monitoring of power system equipment's.
- Reliability enhancement of power station equipment etc.

However, pertinent projects in the power sector on specific case will also be considered.

- Small Hydro.
- Others

ROLE OF MSME AND FUNDING PROCEDURES

Role of MSME:

SARAVANA KUMAR (142055)-II-EEE-C

The development of the micro, small and medium enterprises (SME) sector is on the priority of Government Agenda. As per the Results-Framework Document (RFD) for Ministry of Micro, Small and Medium Enterprises (2012-2013), the Mission of the government is to – “Promote growth and development of globally competitive Micro, small and Medium Enterprises, including Khadi, Village and Coir industries, in cooperation with concerned Ministries / Departments, State Governments and other stakeholders by providing support to existing enterprises and encouraging creation of new enterprises. To endeavor to achieve a cumulative growth of 40%-50% in the number of registered enterprises by the end of 12th Plan and enhance this sector's contribution to GDP from the present 8% to 10% by the end of 12th Plan.”

The role of micro, small and medium enterprises (MSMEs) in the economic and social development of the country is well established. As per the Report of the Working Group on Micro, Small and Medium Enterprises (MSMEs) Growth for 12th Five Year Plan (2012-2017), the sector accounts 45% of the manufacturing output and 40% of total exports of the country. The sector provides employment to about 69 million persons through 26 million enterprises throughout the country. Over 6000 products ranging from traditional to high-tech items are being manufactured by

The MSMEs in the country. The labor to capital ratio in MSMEs and the overall growth in the sector is much higher than in the large industries. The geographic

distribution of the MSMEs is also more even. Thus, MSMEs are important for the national objectives of growth with equity and inclusion.

Over the years, the small scale sector in India has progressed from the production of simple consumer goods to the manufacture of many sophisticated and precision products like electronics control systems,

Microwave components, electro medical equipment's, etc. The process of economic liberalization and market reforms has further exposed these enterprises to increasing levels of domestic and global competition.

The MSME sector in India is highly heterogeneous in terms of the size of the enterprises, variety of products and services produced and the levels of technology employed. While one end of the MSME spectrum contains highly innovative and high growth enterprises, more than 94% of MSMEs are unregistered, with a large number established in the informal or unorganized sector. The sector has a high growth potential and performs a critical role in the manufacturing and value chains. Micro, small and medium enterprises (MSME) sector is characterized by low investment requirement, operational flexibility and location wise mobility.

As per the quick estimates of 4th All-India Census of MSMEs, the number of enterprises is estimated to be about 26 million and these provide employment to an estimated 60 million persons. Of the 26 million MSMEs,

only 1.5 million are in the registered segment while the remaining 24.5 million (94%) are in the unregistered segment.

The State-wise distribution of MSMEs show that more than 55% of these enterprises are in 6 States, namely, Uttar Pradesh, Maharashtra, Tamil Nadu, West Bengal, Andhra Pradesh and Karnataka. Further, about 7% of MSMEs are owned by women and more than 94% of the MSMEs are proprietorships or partnerships.

MSMEs in the country manufacture over 6,000 products. Some of the major subsectors in terms of manufacturing output are food products (18.97%), textiles and readymade garments (14.05%), basic metal (8.81%), chemical and chemical products (7.55%), metal products (7.52%), machinery and equipment's (6.35%), transport equipment's (4.5%), rubber and plastic products (3.9%), furniture (2.62%), paper and paper products (2.03%) and leather and leather products (1.98%).

The importance and contribution of the SME sector to the economic growth and prosperity is well established. Towards this, Government's policy initiatives like enactment of the Micro Small and Medium Enterprises Development (MSMED) Act, 2006, pruning of reserved SSI list, advising Financial Institutions to increase their flow of credit to the SME sector, are all initiatives

towards boosting entrepreneurship, investment and growth. Reservation of items for exclusive manufacture in MSME sector statutorily provided for in the Industries (Development and Regulation) Act, 1951, has been one of the important policy measures for promoting this sector.

TRAINING GIVEN BY BOAT AND ITS BENEFITS

TRAINING GIVEN BY BOAT AND ITS BENEFITS:

JAWHAR, DHARUN BASKAR S (122007)

FINAL YEAR

EEE - A

OAT (SR) will assess the number of apprentices to be trained in the particular organization based on the technical manpower and training facility available in the industry. After ascertaining the factual information furnished by the industry, the BOAT (SR) will issue notification under section 8(3A) of the Act. Engagement of Apprentices by the Industry / Establishment / Hospital without BOAT's notification will not be considered under the Act.

The Employer shall provide a copy of the training module for 12 months before commencement of the training.

The apprentice shall maintain a record of the work during the period of his apprenticeship training, the employer may forward the details of progress training through proforma, on quarterly basis before 10th of the succeeding Quarter. Employers are requested to prefer online submission of Progress report through www.boat-srp.com

Every employer shall maintain a record of attendance, the progress of training, monthly stipend

disbursement details, leave particulars, accident details etc., and it should be shown to the BOAT (SR) officer during the visit to the organization.

THE OBJECTIVES OF THE BOARD

In the Memorandum of Association of the Board of Apprenticeship Training (Northern Region) registered as Society under the Societies Registration Act 1860, the following objectives have been laid down.

- i. To secure facilities for training in different establishments, under Government, Private and Public Sector Organizations for the products of Technical/ Vocational Institutions.
- ii. To make selections for placement from amongst the applicants who wish to undergo training.
- iii. To make out programme of training for trainees in consultation with them and industry and other agencies concerned.

- iv. To supervise the training so arranged with the help of officers employed by the Board for the purpose.
- v. To provide advisory service in the area of practical training to technical institutions, the industry and agencies requiring the same.
- vi. To undertake documentation of literature of various aspects of practical training.
- vii. To arrange for dissemination of information on various aspects of practical training through lectures, films and other media of communications.
- viii. To award certificates as may be appropriate to those who successfully complete the training course.
- ix. To institute and award stipends, scholarships, fellowships, prizes and medals in accordance with the Rules and Bye-Laws.
- x. To disburse stipend for the trainees and make such other payments as agreed upon by the Govt. of India from time to time.
- xi. To print and publish pamphlets, magazines and periodicals or issue advertisement that may be desirable for the promotion of the objectives of the society.
- xii. To fix and demand such fees and other charges as may be laid down in the bye-laws made under the rules of society.
- xiii. To levy and collect such charges as may be appropriate in respect of technical advice and services rendered to the various agencies by the society under the terms and conditions that may be laid down by the society.
- xiv. To implement the provisions of Apprentices Act 1961 as amended in 1973 & in 1986 so far as they relate to the training of Eng. Graduate, Technician and Technician (Vocational) Apprentices in exercise of powers conferred on the Board under the Act and within the limits specified in it.
- xv. To advise Apprenticeship Adviser and Central Apprenticeship Council for amendment of existing Rules under the Act.
- xvi. To create Administrative, Technical, Ministerial and other posts to ensure proper and satisfactory performance and to make appointments to the posts in accordance with Staff Service Rules and Recruitment Rules as approved by the Board and the Government of India.

EMPLOYMENT OPPORTUNITY IN STATE AND CENTRAL GOVERNMENT SECTOR

EMPLOYMENT OPPURTUNITY IN STATE AND CENTRAL GOVERNMENT SECTOR

Government of Tamil Nadu offering various direct recruitment to the services of the TN state recruiting through Tamil Nadu Public Service Commission (TNPSC) and TN Velai Vaaippu (Employment Exchange). The Tamilnadu state (Capital City: Chennai) run various Public Sector Units, Statutory corporations and Co-operative societies.

About TNPSC: The commission to conduct examinations for direct recruitment of Group 1, Group 2, Group 4, Technical posts and Village Administrative Officers (VAO) vacancies in TN State Various Govt. Departments. Candidates are required to do One-time registration for apply TNPSC Exams

About TN Velai Vaipu: TN Velai Vaippu is an employment and Training Job registration portal of Employment and Training Department, Govt. of TamilNadu. 8th, 10th, 12th, Graduate and Post Graduate TN Jobseekers are required to register TN Velai Vaippu Official website.

Tamilnadu Latest Government Jobs List:

NPCIL Recruitment 2016 Stipendiary Trainee, Assistants (11 Vacancies)

- **GPT College Dharmapuri Jobs 2016 Technical, Record Clerk (17 Vacancies)**
- **NIEPMD Recruitment 2016 Various Posts (11 Vacancies)**
- **TNPL Recruitment 2016 Managers, Staffs (18 Vacancies)**
- **CLRI Chennai Recruitment 2016 Scientist, Technical, Isolated posts**

- **RGNIYD Recruitment 2016 Hindi Translator**
- **TNSCST Recruitment 2016 Scientific, Administrative Posts (14 Vacancies)**
- **IMPCOPS Jobs 2016 Various Posts (31 Vacancies)**
- **VOC Port Trust Recruitment 2016 Tug Master**

TNPSC Job Openings:

- **TNPSC Notification 2016 Block Health Statistician (172 Vacancies)**
- **TNPSC Exam Schedule 2016 (5513 Vacancies Opening)**
- **TNPSC VAO 2016 Exam Apply Online (813 Vacancies) Last Date 31st December 2015**
- **TNPSC Group 2A Notification 2015 Apply Online (Group IIA 1946 Vacancies)**
- **TNPSC Research Assistant Recruitment 2015 Online Application (04 Vacancies)**

Central Govt Public Sector Units in TN:

- * Neyveli Lignite Corporation Limited (NLC), Chennai
- * Bharat Heavy Electrical Limited (BHEL), Trichy
- * Chennai Metro Rail Limited (CMRL), Gopalapuram, Chennai
- * Chennai Petroleum Corporation Ltd. (CPCL), Chennai
- * Nuclear Power Corporation of India Limited (NPCIL), Kancheepuram
- * National Textile Corporation Limited (NTCL), Coimbatore
- * Bharatiya Nabhikiya Vidyut Nigam Ltd., Chennai

- * Ennore Port Ltd., Chennai
- * Hindustan Photo Films Manufacturing Co. Ltd., Ootacamund
- * Madras Fertilizers Limited, Chennai
- * Sethusamudram Corpn. Ltd., Chennai
- * Tamil Nadu Trade Promotion Organization, Chennai
- * United India Insurance Company, Chennai
- * RailTel Corporation of India Limited, Chennai

Tamil Nadu Government Organizing Industries:

- * Tamil Nadu Newsprint and Papers Limited (TNPL)
- * Tamil Nadu Cement Corporation Limited (TANCEM)
- * Tamil Nadu Magnesite Limited (TANMAG)
- * Tamil Nadu Industrial Explosives Limited (TEL)
- * Tamil Nadu Minerals Limited (TAMIN)
- * Tamil Nadu Small Industries Corporation Limited (TANSI)
- * Tamil Nadu Co-operative Sugar Federation (TNCSF)
- * Tamil Nadu Salt Corporation Limited (TNSC)
- * Southern Structurals Limited (SSL)
- * Tamil Nadu Paints and Allied Products Limited (TAPAP)

TN Govt Banks:

- * Tamilnadu State Apex Co-operative Bank (TNSC Bank)
- * Tamilnadu Industrial Cooperative Bank Limited (TAICO Bank)
- * Tamilnadu Co-operative State Agriculture & Rural Development Bank.

Sustainable Employment Opportunities in Governments in India and Public and Financial Sectors

S. RIBU HASSINI-142305-II-EEE-C

Thousands of annual employment opportunities are available in the Governments of India and states like former Andhra Pradesh, and the public and financial sectors. This summarizes the types of jobs available for fresh graduates by broad categories. It also explores emerging employment opportunities in India in specific selected public sectors, and the economy in general. It briefly outlines the minimum educational qualifications, entrance/application procedures, etc. for jobs in central and state governments. It concludes with the suggestion that fresh graduates in India, encouraged by their teachers and employment counsellors, may need to explore more sustainable employment in government and public sectors.

Introduction:

Most students, especially in engineering, management and other disciplines, aspire for employment in domestic and international private/corporate organizations. These aspirations are based primarily on peer group and parental expectations. This is at least partly because they are not equally aware of more sustainable employment opportunities in central and state governments and economic and financial public sectors. Such employment may offer lower salaries compared to the private sectors. But the procedures for recruitment, retention and pro-motion etc. are under prescribed norms,

and guidance of the Union Public Service Commission and Ministry of Human Resource Development, or State Public Service Commissions.

Government Sectors in India

Central Government Services:

Hundreds of employment opportunities for fresh graduates from universities and colleges are annually available in Indian Administrative Service, Indian Police Service, Indian Forest Service, Indian Revenue Service, Indian Foreign Service, Indian Economic Service, Indian Information Service, and in various Central Government ministries, departments and agencies. Furthermore, Central Government owned public enterprises (CPSUs) and banks (CPSBs) offer similar number of annual employment opportunities. Recruitments and promotions in the Central Services are as per the guidelines of Union Public Service Commission. CPSUs and CPSBs have prescribed by their own governing board.

State Governments:

In the Government of Andhra Pradesh (bifurcated in 2015 into Telangana and Andhra Pradesh) general annual openings exist in various departments and agencies, starting with Deputy Collector (Group I), Municipal Commissioner (Group II), Junior Inspector (Group III), and various departments, e.g., Transport, Social Welfare, Medical and Health, Education, Judicial and

many State-owned enterprises. Recruitments and promotions in the State Government are under the directions and guidance of State Public Service Commission and boards of State-owned enterprises. All in all, the number of jobs annually available for fresh graduates and post-graduates in Central Government and State of Andhra Pradesh (now Telangana and Andhra Pradesh) alone may add to thousands. Similar number of annual employment opportunities exist in other States in India, and public enterprises and financial sectors.

Minimum Qualifications and Other Stipulations:

All applicants to Central and State government services except Group IV, mostly manual workers should have at least a Bachelor's degree in any discipline from an academic institution recognized by India's University Grants Commission, Association of Indian Universities. Minimum age limits are generally in the early 20s. There are specified quotas for socio-economically disadvantaged communities like Scheduled Castes and Scheduled Tribes, Other Backward Classes, sometimes also for women and local/state populations. There are also service or post-specific eligibility criteria, advertised application procedures, entrance tests and interviews as per Ministry of Human Resource Development, UPSC, and other concerned central organizations like CPSUs and CPSBs boards, and their counterparts at State levels.

Banking and Financial Sectors:

Banking sector in India is growing rapidly, more and more services adding to the banking services, such as insurance, pension, and other financial products. As the accounts

have increased around 20 percent, there is a scope for increasing employment opportunities in the banking sector. If the employment opportunities increase in proportion to the accounts, for 7.25 lakh employees, the increase would be 1.45 lakhs. No sector has seen such a rapid growth. Unlike in the private sector banks, pay differentials are low and job security is high in the public sector banks. Clearly, these developments offer thousands of annual employment opportunities in the public financial sectors.

Make in India:

"Make in India" is an initiative of the Government of India, launched on 25 September 2014. The initiative is focused on promoting innovation, and manufacturing in the country in the 25 sectors: automobiles, automobile components, aviation, biotechnology, chemicals, construction, defense manufacturing, electrical machinery, electronic systems, food processing, IT and BPM, leather, media and entertainment, mining, oil and gas, pharmaceuticals, ports, railways, renewable energy, roads and highways, space, textiles and garments, thermal power, tourism and hospitality, and wellness. This initiative will not all help attract investments from abroad but also promote local investment, thus adding to employment opportunities.

Concluding Remarks: It has outlined the large number of employment opportunities in government of India, public sector and financial enterprises, infrastructural, energy and banking and financial sectors, and the Indian economy more broadly.

HIGHER STUDIES AND SCHOLARSHIP IN INDIAN UNIVERSITY

Scholarships in India:

BY HEMALATH, SURIYA

Under its Narotam Sekhsaria Scholarship Programme, the Foundation awards **interest free loan scholarships** to Indian students with a consistently good academic record. Scholarships are offered for **postgraduate studies** at prestigious institutions in India and abroad, in the fields of Pure Sciences, Applied Sciences, Social Sciences and Humanities, Law, Architecture and Management.

* HIGHLIGHTS OF THE SCHOLARSHIPS IN INDIA

- A merit-based **interest free loan scholarships** programme
- Designed for the brightest minds who wish to pursue them
- **postgraduate scholarships** for studies in India and abroad
- Selected students to be awarded scholarship amount of up to Rs. 20 lakhs as per the assessment of the Foundation
- A unique mentoring programme designed for the awardees for nurturing and assisting them in achieving their desired goals

* ELIGIBILITY CRITERIA

- Indian national, residing in India
- Students below 30 years of age as on January 31, 2014
- Graduates of a recognized university (Students in the final year of the degree course and those awaiting results are also eligible to apply)
- Students planning to pursue postgraduate studies at prestigious institutions from Fall 2014
- Students who have applied and awaiting a decision from the university are also

eligible to apply but the award of scholarship is subject to securing admission

The JN Tata Endowment for the Higher Education of Indians:

Loan Scholarship Process:

- The J. N. Tata Endowment awards a **one-time loan scholarship** only at the beginning of the course to Indian nationals for full time Postgraduate/Ph.D./Postdoctoral studies abroad and in India, in all fields, irrespective of caste, creed, gender or community. The amount to be awarded to each Scholar by way of the **loan scholarship** is determined on the basis of the norms laid down for the purpose, and does not cover the full cost of studies. The amount awarded as the **loan scholarship** ranges between Rs.1, 50,000/- and Rs.6, 00,000/-. All applicants do not necessarily qualify for the maximum amount. The selected scholars may also qualify for a gift scholarship and travel assistance from our allied Trusts as may be decided at the sole discretion of the Trustees of the concerned Trusts. A gift scholarship can be for a maximum amount of Rs. 10,

00,000/- and the travel grant can be a maximum of Rs. 50,000/-.

Eligibility Criteria:

- Applicants should be Indian nationals who are graduates of a recognized Indian University, with a consistently good academic record and other achievements to their credit. Students in the final year of the degree course and those awaiting results are eligible to apply. Mid-career professionals up to the age of 45, with a good academic record and experience in their fields for further research, specialization or training may also apply. Candidates need not have the admission/offer letters from the Universities to which they have applied for the academic year 2016-2017 at the time of making the application. Candidates going abroad for seminars, conferences and undergraduate studies are not eligible for the J. N. Tata Endowment Loan Scholarship.

NAROTAM SEKHSARIA SCHLORSHIP PROGRAMME:

Scholarship:

The Narotam Sekhsaria Foundation under its Scholarship Programme awards interest-free loan scholarships to Indian students with a consistently good academic record. The scholarship amount (upto a maximum of Rs.

20 lakhs) is decided as per the assessment of the Foundation.

The scholarships are awarded to students who wish to pursue their postgraduate studies in the fields of Pure Sciences, Applied Sciences, Social Sciences and Humanities, Law, Architecture and Management at prestigious Indian and international universities.

Eligibility Criteria

- Indian nationals residing in India.
- Students below 30 years of age.
- Graduates of a recognized university (students in the final year of a degree course and those awaiting their results are also eligible to apply).
- Students having sought admission for a postgraduate degree programme at any prestigious university for the fall intake (Those who are awaiting a decision from a university are also eligible to apply. However, the award of the scholarship is subject to them securing admission)

Application Procedure

- Applications for the Narotam Sekhsaria Scholarships for Higher Studies are invited by the Foundation in the month of January for every academic year.
- The mode of application is online.
- The candidate is required to complete the registration online at <http://pg.nsfoundation.co.in>. Upon registration, the login credentials will be sent to the registered email ID. Once the registration is complete, an application fee of Rs. 500/- is payable either online through Net

Banking or offline by sending a Demand Draft issued in favour of the Narotam Sekhsaria Foundation.

- On receiving the application fee, the candidate will be able to access the form online by logging in with the provided login credentials.
- Completed application forms should be submitted before the closing date.
- Only candidates shortlisted for the next round of the selection process are contacted by the Foundation.
- They are required to produce duly certified supporting documents.
- The next round of the selection process is the interview round, for which candidates are required to come down to the Foundation's office.

Supporting Documents

1. Mark sheets of Std. Xth, XIIth, and all years of the undergraduate programme and degree certificates.
2. Score cards of any qualifying examination taken (Eg. GRE, GMAT, CAT, GATE etc.).
3. Copy of the admission letter(s) from the university, if obtained.
4. Reference letters (in a sealed envelope).
5. Statement of the course fee and any other financial document (this would include any other letter indicating the receipt of a scholarship, other source of funding, fee waiver etc.).
6. Attested copy of the passport.
7. One passport size photograph.
8. Latest Income Tax Returns of parents.

Selection Procedure for the Scholarship

All applications will be screened for shortlisting. Only shortlisted candidates will

be informed between the months of April-May. It is mandatory for all the shortlisted candidates to attend a personal interview in Mumbai in the month of June.

Please note: The interview is the basis for final selection.

Post Selection Formalities

The Foundation announces the final list of scholars towards the end of June or first week of July.

Documentation

It is mandatory for all the scholars to submit attested copies of the following documents within the timeline as decided by the Foundation:

1. The letter confirming admission to the college/ university for the proposed course of study.
2. I-20 in case of students admitted to the universities in the United States and a copy of the letter highlighting the financial support in case of study.

Top 5 scholarships for Indian students aspiring to study abroad.

C.MADUMITHA (142016), EEE-II -YEAR, "B".

The past decade has seen a massive increase in the number of Indian students going abroad for higher studies. Earlier the trend was for Indian students to complete an undergraduate degree in India, work for a few years and then go abroad for a postgraduate education. We see positive changes now, as students aspire to even do their undergraduate study abroad and also opt for vocational job-centric courses in Australian TAFE Institutes.

The important factors that contribute to the increase in numbers of Indian students going abroad for higher studies are:

- ✚ Awareness of value of an international degree
- ✚ Faster approval of study loans by banks
- ✚ Increase in number of scholarships available

This article examines some of the top scholarships on offer for Indian students and their brief descriptions.

Aga Khan Foundation International Scholarship Program:

The Aga Khan Foundation provides a limited number of scholarships each year for postgraduate studies to outstanding students from developing countries who have no other means of financing their studies. Scholarships are awarded on a 50% grant: 50% loan basis through a competitive application process once a year in June or July. The Foundation assists students with tuition fees and living expenses only. The cost of travel is not included in AKF scholarships. Half of the scholarship amount is considered as a loan, which must be reimbursed with an annual service charge of 5%. A guarantor is required to co-sign the loan agreement. The payback period is five

years, starting six months after the study period funded by the Aga Khan Foundation.

Chevening Scholarships:

Chevening Scholarships are the UK government's global scholarship programme, funded by the Foreign and Commonwealth Office (FCO) and partner organizations. The programme makes awards to outstanding scholars with leadership potential from around the world to study postgraduate courses at universities in the UK. The Chevening programme was established in 1983 and has developed into a prestigious international scheme. There are over 42,000 Chevening alumni around the world who together comprise an influential and highly regarded global network. The programme provides full or part funding for full-time courses at postgraduate level, normally a one-year Master's degree, in any subject and at any UK university.

Commonwealth Scholarship and Fellowship Plan:

This is one of the most well-known and popular scholarships available to students from Commonwealth countries. In India this scholarship is managed by the Commonwealth Scholarships Commission, the British Council and the Government of India. Students aspiring to study courses in Engineering and Technology, Science (Pure and Applied), Agriculture and Humanities and Social Sciences are eligible to apply for scholarships. The preliminary selection of candidates for scholarships is carried out in India by the Ministry of Human Resource Development (MHRD), Department of Education, and Government of India. Eligible applications are verified and short-listed and this is followed by personal interviews of the applicants in New Delhi.

Hornby Scholarships:

The A.S. Hornby Educational Trust offers the Hornby Scholarship to students who aspire to study an ELT course in the UK. Applicants need to have an IELTS score of 6.5 or above and should be accepted at an institution in the UK for studying a postgraduate ELT course.

Applicants should have at least five years' hands-on and direct experience as an English language teacher/teacher trainer. Alternatively, they should have been involved in some sort of developmental work as trainers or managers. The scholarship will cover the tuition fee of the course.

USIEF Scholarships:

The United States India Educational Foundation was established to promote academic partnerships between Indian and American universities and provide Indian students the opportunity to study in top American universities. The Tata Scholarship at Cornell University, Brands University Scholarship and The University of California Berkeley Scholarships are some of the popular scholarships offered by USIEF and its partners.

Students are also advised to visit the website of the Ministry of Human Development for details of other scholarships that Indian students are eligible to apply and offered in partnership with other governments.



VISION

To become a high standard of excellence in Education, Training and Research in the field of Electrical & Electronics Engineering and allied applications.

MISSION

To produce excellent, innovative and Nationalistic Engineers with Ethical Values and to advance in the field of Electrical & Electronics Engineering and allied areas.

INSPIREEE

INSPIRATIONAL SCRIPTS, PERSONALITIES AND
INNOVATIVE RESEARCH

NEWSLETTER/ EEE/ VOLUME 3: ISSUE 4- MARCH 2016



K.L.N. COLLEGE OF ENGINEERING

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MESSAGE FROM HEAD OF THE DEPARTMENT

Dr. S.M. KANNAN, M.E. Ph.D.,

FIE, MISTE, MIEEE (USA)

Professor & Head, EEE,

K.L.N. College of Engineering



MESSAGE

Most of the articles in this issue focuses on career opportunities available in the field of Electrical and Electronics Engineering and discusses on how to make use of them effectively. State and Central Government, regularly encourages, through their various media, starts ups, benefiting young entrepreneurs, successfully coming out from Engineering Colleges. All these are possible only when one carefully focuses on academic excellence and thinking only on innovations. This requires updating in their curricular, co-curricular and extracurricular activities regularly right from the second year of Degree Course. English proficiency is must for anything possible and it is difficult for slow learners but very easy, if one understands the basics of English grammar. Students are encouraged to do mini-projects that will open their mind for any innovations. They can contact their immediate senior for projects to get an idea. Projects will be recognized only when it is applied for competitions in higher learning institutions, funding agency and patent them. Paper presentation has little impact than project presentation. If the projects are innovative, then, one has greater access to get Inplant training, internship, employment and finally to become an entrepreneur. If everyone develops such qualities there is no need for Engineers to search for jobs, instead, companies will knock your doors and you can become a job provider in future. Keeping in mind, the above, plan and develop an attitude to reach the goal.

Dr. S.M. KANNAN

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HOW TO PATENT YOUR PRODUCT

HOW TO PATENT YOUR PRODUCT

K. YOGARAJIKA, (142311), EEE- 'C'

Steps to Filing a Patent Application

- Keep a Careful Record of Your Invention. Record every step of the invention process in a notebook. ...

Make Sure Your Invention Qualifies for Patent Protection. ...

Assess the Commercial Potential of Your Invention.

Does a Thorough Patent Search?

Prepare and File an Application with the USPTO

How do I obtain a patent?

To get a U.S. patent, an application must be filed with the U.S. Patent and Trademark Office (USPTO), which determines whether a patent application meets the requirements for issuance.

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3. Filing for a Patent Overseas

Starting the Process

Step 1: Is your invention patentable?

Before you file for a patent, you should determine if your invention can be patented:

An invention cannot be patented if "(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent," or "(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country more than one year prior to the application for patent in the United States..."

Even if the subject matter sought to be patented is not exactly shown by the prior art, and

involves one or more differences over the most nearly similar thing already known, a patent may still be refused if the differences would be obvious. The subject matter sought to be patented must be sufficiently different from what has been used or described before that it may be said to be non-obvious to a person having ordinary skill in the area of technology related to the invention. For example, the substitution of one colour for another, or changes in size, is ordinarily not patentable.

The patent law specifies that the subject matter must be "useful." The term "useful" in this connection refers to the condition that the subject matter has a useful purpose and also includes cooperativeness, that is, a machine which will not operate to perform the intended purpose would not be called useful, and therefore would not be granted a patent.

The United States Patent and Trademark Office (USPTO) strongly recommend that all prospective applicants retain the services of a registered patent attorney or patent agent to prepare and prosecute their applications. The preparation of an application for patent and the conducting of the proceedings in the United States Patent and Trademark Office to obtain the patent is an undertaking requiring the knowledge of patent law and rules and USPTO practice and procedures, as well as knowledge of the scientific or technical matters involved in the particular invention.

Step 2: Conduct a search of prior art

A search of all previous public disclosures ([link is external](#)) (prior art) including, but not limited to, previously patented inventions in the U.S. should be conducted to determine if your invention has been publicly disclosed and thus is not patentable. While a search of the prior art before the filing of an application is not required, it is advisable to do so.

A registered attorney ([link is external](#)) or agent is often a useful resource for performance of a patentability search. After an application is

filed, the USPTO will conduct a search as part of the official examination process. Conducting a thorough patent search is difficult, particularly for the novice. Patent searching is a learned skill. The best advice for the novice is to contact the nearest Patent and Trademark Depository Library (PTDL) (link is external). You should also seek out search experts to help in setting up a search strategy.

Filing for a U.S. Patent
to get a U.S. patent, you must file an application with the U.S. Patent and Trademark Office. A patent application is a complex legal document, best prepared by one trained to prepare such documents.

There are two types of patent applications:

A non-provisional application, which includes: (1) A written document which comprises a specification (description and claims), and an oath or declaration; (2) A drawing in those cases in which a drawing is necessary; and (3) Filing, search, and examination fees. The applicant must determine that small entity status is appropriate before making an assertion of entitlement to small entity status and paying a small entity fee. Fees change each October. The fee schedule is posted on the USPTO Web site.

A provisional application, which was designed to provide a lower cost first patent filing in the United States and to give U.S. applicants parity with foreign applicants. Claims and oath or declaration are not required for a provisional application. Provisional application provides the means to establish an early effective filing date in a patent application and permits the term "Patent Pending" to be

applied in connection with the invention. Provisional applications may not be filed for design inventions. The filing date of a provisional application is the date on which a written description of the invention, and drawings if necessary, are received in the USPTO. To be complete, a provisional application must also include the filing fee and a cover sheet specifying that the application is a provisional application for patent. The applicant would then have up to 12 months to file a non-provisional application for patent as described above. The claimed subject matter in the later filed non-provisional application is entitled to the benefit of the filing date of the provisional application if it has support in the provisional application.

Publication of patent applications is required by the American Inventors Protection Act of 1999 for most plant and utility patent applications filed on or after November 29, 2000. On filing of a plant or utility application on or after November 29, 2000, an applicant may request that the application not be published, but only if the invention has not been and will not be the subject of an application filed in a foreign country that requires publication 18 months after filing (or earlier claimed priority date) or under the Patent Cooperation Treaty. Publication occurs after the expiration of an 18-month period following the earliest effective filing date or priority date claimed by an application. Following publication, the application for patent is no longer held in confidence by the Office and any member of the public may request access to the entire file history of the application.

HOW TO PATENT OUR PRODUCT

Vasumathi.k, (142062), EEE-C, 2nd yr

WHAT IS PATENT?

A patent is a right granted to the owner of an invention that prevents others from making, using, importing or selling the invention without his permission.

A patentable invention can be a product or a process that gives a new technical solution to a problem. It can also be a new method of doing things, the composition of a new product, or a technical improvement on how certain objects work.

Once it is granted, its term of a patent is 20 years from the Date of Filing, subject to the payment of annual renewal fees.

The benefits of registering a patent:

Once you register a patent, apart from using the patent to prevent others from exploiting your invention, you can employ it to raise funds for your business, license it to third parties for commercial returns or sell the patented invention.

The following is not a patentable invention: An invention of a method for the treatment of the human or animal body by surgery or therapy, or of a diagnosis practiced on the human or animal body.

An invention that could encourage offensive, immoral or anti-social behaviour, even if it satisfies the key criteria for patents.

HOW TO PATENT?

There are three types of patents: utility (which covers function), design (which covers aesthetics) and plant (which covers, well, plants--of the botanical variety). That better mousetrap, for example, would require a utility patent the average utility patent application costs \$5,000 to \$10,000 to prepare, but that figure can go much higher depending on the technological complexity of the concept. A 100-page application that requires, say, 50 drawings could easily cost more than \$10,000.

Once an application is filed--at which point your product is considered "patent pending"--the patent office might contest some of your claims. This scenario could lead to a back-and-forth (or patent prosecution) between your patent attorney and a patent examiner. The typical application takes upward of two to five years from filing to granting, according to Wolin, and extensive patent prosecution will only increase your cost. Once granted, a utility patent expires 20 years from the date of filing.

Before you file a patent application, it's imperative that you study the marketplace to make sure that your invention does, in fact, represent a new iteration of mousetrap.

HOW TO PATENT

YUVARAJASRINIVASAN. A. R (142109), II yr

Life can be unpredictable. At any point in time, a brilliant idea could spring into your head. Regardless of the originality, quality and need for your invention, you will never find success, if the research and development do not meet modern standards. When you first sketch down your initial product design, you will likely be unaware of the complex path ahead, but in order to become a success, you need to follow a strict process, which will lead you from your first draft, to patent, and finally to reputable inventor and businessman.

The patent process can be a struggle in itself, since it is corrupted, filled with trolls, and in desperate need of legislative reform. This guide will acknowledge and pave the way to profitable patents.

Research and Development

We live in a society, which runs at one hundred miles per hour. New inventions are developed and launched daily, which can elevate the difficulty of breaking into a specific market.

Your initial step should focus on the crucial research and development stages. Strive to find a product that is original. If you're not passionate about your product, no one else will be. Choose wisely and you will have already developed a strong foundation.

Patent Research

Once you've developed an idea that proves worthwhile, you will need to research the patent database. Pinpoint specific patents, which share similarities to your own design. In order to avoid future lawsuits, it is wise to alter your product to make it stand apart.

While it is important to change your initial design, you should not throw your introductory dream out of the window. Once you've reached the point of a unique and original product, it is vital to raise funds and patent it immediately.

Finding Investors

For most inventors, lack of funding is a major obstacle. In order to fully research and develop a product, you will need investors and funding. It is imperative to build sizeable funding, before you attempt to build a prototype or put together a manufacturing team.

Crowd sourcing offers inventors a unique and effective way to get the money needed, without giving away a percentage of their product's profits. However, this should not be done, until the product is patented, because someone, who has more money, can easily steal your ideal, if they patent it first.

Understand your Market

Depending on your specific ideal, you will have unique types and groups of individuals, who will be interested with your idea. There are many ways for you accomplish this. One of the most common is through Invent Help where you will have access to manufacturers and companies would be inclined to build and sell your products. Remember that this company is not responsible and in no way offers advice regarding your idea's patentability. However, they offer guidance for researching and understanding your market.

Manufacture a Prototype

In order to market your product, you're going to need a prototype. An ideal is wonderful, but consumers make decisions in a hurry, by examining a product intently. Your next step should focus on building your first prototype. If you have not yet patented your product, it is of the utmost importance to seek out and work with only trustworthy individuals. Since you're working with a potentially valuable product design, you must keep everything silent, until a patent has been filed. Remember the patent office works on a first to file basis, which allows anyone an opportunity to steal your idea in the meantime. Once you have a working

prototype, you will be able to begin the marketing process.

Conclusion

From here, it becomes a process of properly advertising and marketing your product or invention. Although it is important to plan for the future, you should take everything one day at a time. If you begin experiencing success, it

is wise to seek out the assistance of a patent attorney, who will be able to protect your investment from the trolls, who benefit from filing bogus patents and then frivolous lawsuits against their targeted company. Although patent reform may correct the problem in the future, it is up to you to protect yourself in the meantime.

HOW TO PATENT YOUR PRODUCT

S. VELAMMAL, II, Year EEE 'C'

You've designed a better mousetrap. And you're anxious to get the production and sales processes snapping so you can sooner start counting your profits. Not so fast. You might first want to think about applying for a patent. Harris A. Wolin, an intellectual property attorney in Morristown, N.J., who has filed patent applications for products ranging from dog toys to lasers, says it's essential for entrepreneurs to consider whether their new product requires a patent to help make it commercially viable. "I've been doing this long enough to know that if you don't have a business discussion, then there's a disconnect," Wolin says.

In legal parlance, a patent is what's known as a negative right. Wolin explains that by granting your patent, the U.S. government endows you with the exclusive right to exclude others from making, using or selling your work. It's a form of protection that enables you to enter your product or idea into the marketplace with some assurance (though no guarantee) that another entrepreneur won't try to claim it as his or her own.

"If you're in a crowded field, the ability to get meaningful protection might be slim," Wolin says. "If you have a breakthrough invention without historical precedent, your ability to get broader patent protection is much greater."

Patents issued by the U.S. Patent and Trademark Office are enforceable only within the States, which means they also cover goods being imported into the country. That's a key distinction, because foreign countries with weak patent laws routinely inundate the market with knockoff products.

"The only way you're going to control your product in the market is if you have the ability to tell others to stop," Wolin says. "In the United States and elsewhere, it's the patent system. That's the only way."

There are three types of patents: utility (which covers function), design (which covers aesthetics) and plant (which covers, well, plants--of the botanical variety). That better mousetrap, for example, would require a utility patent. Wolin says the average utility patent application costs \$5,000 to \$10,000 to prepare, but that figure can go much higher depending on the technological complexity of the concept. A 100-page application that requires, say, 50 drawings could easily cost more than \$10,000.

Once an application is filed--at which point your product is considered "patent pending"--the patent office might contest some of your claims. This scenario could lead to a back-and-forth (or patent prosecution) between your patent attorney and a patent examiner. The typical application takes upward of two to five years from filing to granting, according to Wolin, and extensive patent prosecution will only increase your cost. Once granted, a utility patent expires 20 years from the date of filing. Before you file a patent application, Wolin advises, it's imperative that you study the marketplace to make sure that your invention does, in fact, represent a new iteration of mousetrap.

"You need to be mindful of what the industry is, how crowded it is, what your innovation is and how impactful it is," Wolin says. "You don't need a patent to sell something. I could put something together in my garage and sell it tomorrow. But if you don't have a patent, somebody else might have a patent. Even if you're not going to focus on intellectual property, you have to make sure you're clear of others' intellectual property."

ADMISSION PROCEDURE FOR FOREIGN UNIVERSITY

ADMISSION PROCEDURE FOR FOREIGN UNIVERSITY

Kaleeswari M, 3rd yr

With the right kind of planning and guidance, one can study in abroad at very low costs and even free on a scholarship. Application process makes the vital difference and is the most important criteria.

A good degree is a stamp of excellence that marks you for life. It can enhance your career and prepare you for leadership in your country or anywhere in the world.

Whatever your reason for deciding to study abroad you will find that higher education abroad adds considerable value to your professional development.



A SIMPLE FIVE ADMISSION PROCESS:

- ✚ Understand the requirements
- ✚ Take Competitive exams
- ✚ Prepare applications
- ✚ Submit the application and wait for the decision
- ✚ Apply for visa

WELL IN ADVANCE:

The application process for studying abroad is time consuming and requires

applicants to start preparing well in advance of their anticipated start date. It is very important to begin the admission process early because in many cases application deadlines are far in advance of the start of the semester (sometimes as many as ten months).

STATEMENT OF PURPOSE:

The personal essays, and/or statement of purpose, also play a very important role in the process of evaluating your application for both admission as well as financial aid because it gives the faculty assessing your application their most significant impression of you as an individual.

In the statement of purpose, which must be concise, the student must define his or her academic goals, and/or research plans; it should include justification for choosing the academic program and specialization, and for selecting the particular college as well as the advantages and benefit of studying that particular course.

The 6 basic steps for applying abroad are:

- documents
- Reporting Identifying country, universities and the course of your interest
- Request universities for Application forms
- Taking various required tests
- Arranging and preparing Essays and recommendation letters
- Completing and Sending Application forms along with required various test scores to the universities

Competitive exams to get admissions into Universities abroad: Competitive entrance exams including SAT, MCAT, LSAT, GMAT, GRE, IELTS and the TOEFL are required for admission to study universities and colleges in abroad.

WRITE COMPETETIVE EXAMINATIONS-it is the first thing.



Good performances in competitive ‘study abroad’ exams also help you to win scholarships and other forms of financial aid, no small consideration for a majority of the applicants. Some of the most popular, and most important, international entrance exams include the SAT, MCAT, LSAT, GMAT, GRE, IELTS and the TOEFL. These are required for admission to universities and colleges in various countries across the globe.

TOEFL:

The TOEFL is held throughout the year, usually on weekends; for 2012 in India, the TOEFL is to be held only on weekends, both in the metros and the tier 2 and tier 3 cities. The IELTS, conducted by the British Council, is held in 71 centers spread all over the country, over four times a month.

GRE:

The Graduate Record Examination (GRE) is another popular examination among Indian students aspiring to study in the USA or Canada. It is a fairly standardized test that measures the verbal, mathematical and general analytical skills of the candidate.

SAT:

The Scholastic Aptitude Test (SAT) test, required for entry into some university in US if you have not completed an equivalent, is of two types - the Reasoning Test to check the general writing skills and grammar and the Subject Test to check a candidate's knowledge in the subject chosen.

The SAT is owned, developed and conducted by the College Board of the United States of America. Within the USA, the SAT is offered seven times a year, generally on the first Saturdays of October, November, December, January, March, May

and June. Most other countries follow the same dates.

Competitive entrance exams are a standardized and reliable mode of evaluating the millions of applicants who aspire to study abroad every year!

REQUESTING APPLICATION FORM:

This is the first stage of your application process. At this stage, you can write to the selected 25-30 universities. You can directly request application materials from the universities. There are two ways to get application forms:

1. Requesting Application Forms via Email.
2. Downloading from the university website.

Recommendation letter:

A recommendation letter is a signed statement from a person who knows you well professionally or has taught you in a subject that is related to the course you are applying to. It should list your positive and negative qualities, strengths and weaknesses, your character and integrity and other such information. The author or teacher must indicate his position, how long he/she has known the applicant and in what capacity.

Many universities have their own format and questions that have to be answered by the person who is giving the letter of recommendation on your behalf. Letters, which do not give enough information, can jeopardize a candidate's chances of selection.

Undergraduate:

Students who are applying for a Bachelor program or any other undergraduate course would be required to submit a secondary school report and transcripts (report cards) of the final exams. The report form should be filled out by a school official like the principal, counsellor or headmaster.

Graduate:

Students applying for Graduate courses (MBA, MS etc) are required to submit an official transcript from each college or university that they have attended after secondary school with complete details of the subjects, credits involved and other details like correspondence courses. If the transcripts are in a language other than English, then it must be translated into English only by the issuing authority or university otherwise it may not be acceptable.

Admission Stage:

Universities usually inform students of their admission decisions well in advance of the beginning term. If you have received admission in more than your university, you will have to decide which you want to attend. At this stage, you should compare a few objective and mostly more subjective criteria.

i) Objective Criteria:

- Best program curriculum, length of program, choice of courses
- Best funding offers or best program with respect to costs
- Cost of living
- Strength of related departments/program

ii) Subjective Criteria:

- Overall reputation of university/department/program
- Location-region, safety of neighbourhood
- Climate
- Social life
- Facilities available
- Accommodation & housing

Basically the decision factors at this stage would be mainly three points:

- Best program
- Best funding offer
- Best for your personal goals and needs

What to do once you have been accepted:

Each college will tell you exactly what steps to follow to confirm your acceptance of their offer of admission and how to prepare for your first term. This information will be included with the letter of admission or in materials that will be sent to you shortly thereafter. You must respond with a "yes" or "No" for each offer of admission. You may also be required to submit a financial deposit to the institution that you plan to attend. This is to guarantee your place in the class. Make sure you do not miss any deadlines.

- We realize how important it is to have a safe and comfortable place to live. North Wales is considered to be a very safe area to live and study, with friendly, local people who are sure to give you a warm welcome.

If you are in the waiting list:

You may receive a letter that informs you that you are on a 'waiting list'. This generally means that the admission office determined that you were qualified for admission but there was not enough room to admit all qualified applicants.

If you are placed in the waiting list of a college you wish to attend, you will be asked whether you are interested or not. If you say yes, you may be offered admission if space becomes available.

If you are placed in the waiting list of your first choice college and confirmed in the second choice college, you may do the following steps to remain on the safer side:

Accept the offer of the second choice university and pay the deposit

Accept the offer of remaining in the waiting list of the first choice university

An enjoyable, safe lifestyle for Students:

There are many opportunities to participate in a variety of activities alongside your academic studies, including sports, community activities, and exploring the outstanding countryside around our campus. So, there are tremendous ways to study in abroad.

GRADUATE APPTITUDE TEST FOR ENGINEERING

GRADUATE APTITUDE TEST FOR ENGINEERING

T.K. BOOSUN (122107) – IV year – EEE – A sec

Many of them who are going finish engineering would think about writing GATE exam. For that we must know about it.

About gate exam:

The Graduate Aptitude Test in Engineering (GATE) is an all India examination that primarily tests the comprehensive understanding of various undergraduate subjects in engineering and science. GATE is conducted jointly by the Indian Institute of Science, Bangalore and seven India Institute of Technology (Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee) on behalf of the National Coordination Board – GATE, Department of Higher Education, Ministry of Human Resources Development (MHRD), and Government of India. The GATE score of a candidate reflects the relative performance level of a candidate. The score is used for admissions to various post-graduate programs (e.g. Master of Engineering, Master of Technology, and Doctor of Philosophy) in Indian higher education institutes, with financial assistance provided by MHRD and other government agencies. Recently, GATE scores are also being used by several Indian public sector undertakings (i.e., government-owned companies) for recruiting graduate engineers in entry-level positions. It is one of the most competitive examinations in India.

Eligibility to attend gate exam:

The following are eligible to take GATE: Bachelor 's degree holders in Engineering/ Technology/ Architecture (4 years after 10+2/ Post B.Sc./ Post-Diploma) and those who are in the final year of such programs. Master 's degree holders in any branch of Science/ Mathematics/ Statistics/ Computer Applications or equivalent and those who are in the final year of such programs. Candidates in the second or higher year of Four-year

Integrated Master 's degree programs (Post-B.Sc.) in Engineering/ Technology. Candidates in the fourth or higher year of Five-year Integrated Master 's degree programs or Dual Degree programs in Engineering/Technology. Candidates with qualifications obtained through examinations conducted by professional societies recognized by UPSC/AICTE (e.g. AMIE by iE (i), AMICE (i) by the institute of Civil Engineers (India)-iCE (i)) as equivalent to B.E./B.Tech. Those who have completed section A or equivalent of such professional courses are also eligible.

Gate exam disciplines:

- I. Aerospace Engineering
- II. Geology and geophysics
- III. Agricultural Engineering
- IV. Instrumentation Engineering
- V. Architecture & planning
- VI. Mathematics
- VII. Bio technology
- VIII. Civil Engineering
- IX. Mechanical Engineering
- X. Mining Engineering
- XI. Metallurgical Engineering
- XII. Chemical Engineering
- XIII. Computer science and IT
- XIV. Physics
- XV. Chemistry
- XVI. Production & industrial Engineering
- XVII. Electronics & communication
- XVIII. Electrical Engineering
- XIX. Textile Engineering & fiber science
- XX. Ecology & evolution

The examination is of 3 hours' duration, and contains a total of 65 questions worth a maximum of 100 marks. The question contains both multiple choice question and numerical answer type. There is no negative mark for numerical answer

EMPLOYMENT OPPORTUNITIES IN STATE AND CENTRAL GOVERNMENT SECTOR

EMPLOYMENT OPPORTUNITIES IN STATE AND CENTRAL GOVERNMENT SECTORS

Dharani. P (132043) - III year - A section

Engineering graduates, who pursuing final year or recently completed engineering degree holders most of them are not having proper awareness about the jobs being offered in the state or central government for the engineering students. Here some of the employment opportunities and the qualifications required are given,

Jobs for Electrical Engineers in Maharatna, Navaratna, Miniratna companies...

For recruiting almost all the companies take the Graduate Aptitude Test in engineering score as a standard and along with that based on the company some may also conduct group discussion and interview to fill the entry level vacancies. To apply for these jobs one should have completed their engineering course with good percentage of marks also one should have applied for the GATE examination.

Jobs through UPSC IES exam

Indian railway service of engineers, Indian railway stores service, central engineering service, Indian defences service of engineers, Indian ordinance factories service, central water engineering grade "A" service, central engineering service group A, assistant executive engineer-border roads engineering service, assistant executive engineer P&T building works grade A service, central power engineering service-grade A, Indian telecommunication service.

Research organizations

Opportunities in Defence Research and Development Organization (DRDO), Bhabha Atomic Research Center (BARC), Department of Atomic Energy and Department of Space.

Entrance into BARC through GATE

BARC under the central government offers many scientist level jobs taking GATE score as a standard. DAE graduate fellowship program for engineering graduates is also being offered.

Defence Research and development Organization (DRDO)

DRDO plays a very important role in the research and development of weapons, missiles and other advanced technical equipment to enhance the country's defence system. There are almost 50 laboratories working under its control and there are so many jobs in these centres as junior engineers and scientists.

AP Genco, AP Transco

There are also many opportunities in the Andhra Pradesh Power Generation Corporation and Andhra Pradesh transmission corporation for engineering graduates. Those who have done BE/B tech in Electrical engineering can apply for these posts.

THE ADOPTION OF NEW SMART GRID TECHNOLOGIES

THE ADOPTION OF NEW SMART GRID TECHNOLOGIES

R. POOJAESWARI (122006) Final Year

INTRODUCTION

The transition from the current energy distribution network towards a more sustainable and efficient one by means of the smart grid is expected to result in dramatic changes for energy markets in the short to medium term. It must be considered that the amount of world inhabitants living in cities has not surpassed people living in the countryside until recent years. In addition to that, Earth's human population has become more abundant than ever, measuring more than 7170 million inhabitants as of July 2014. As can be figured out, this huge quantity of human lives demands an equally challenging quantity of energy to ensure the fulfilment of the usual duties of their daily life. Therefore, electricity demand is expected to grow at the same rate as the number of human beings on Earth increases, and since the Earth has profuse, yet limited, resources, it becomes of major importance to rationalize the use of energy, as well as trying out renewable energies that will provide electricity to consume with a lower impact on the planet. A way to help the achievement of this goal is using the smart grid. It has been claimed by Gelling to provide power systems with intelligence by means of "the use of sensors, communications, computational ability and control in some form to enhance the overall functionality of the electric power delivery system". The underlying idea is that with the usage of information and communication technologies, this new power grid will offer a way to: (1) deliver additional energy into the power network, thus increasing the amount of energy that can be utilized; and (2) consume electricity in a more efficient way, as there will be more awareness about its cost. The inclusion of renewable energy sources (RESs) from the end user side implies a pivotal change: electricity consumers are also able to produce electricity now, hence turning them into "procurers" with a different role in the whole power grid system. Not only does the power grid of the future promise to be a dramatic technological, environmental and economic upgrade of its earlier counterpart, but it will be also a more

pervasive technology influencing the common life of users. With this new environment, there are several new services that can be provided and that will constitute a basis for expanding business models where the smart grid plays a major role. For instance, there are three that can be regarded as of significant prominence

Demand response (DR): DR is a collection of policies that has as a target flattening energy consumption during different times of the day, aiming especially to lower energy demand at peak hours. Since these are the most critical working times for a power station, incentives are offered to the end users that will reduce their electricity consumption during those particular moments. End users will get economic compensation for equipping devices to work as load controllers (since any piece of equipment consuming electricity will be regarded as a load). As claimed by the U.S. Federal Energy Regulation Commission, demand response is linked to: changes made by end users in terms of their regular power consumption (basically due to modifications in the price of electricity during a period of time); encouragement on payments tailored to induce lower energy consumption during high wholesale market prices; or as a way to assist the system when its reliability is compromised [4].

Demand side management (DSM): This is another set of policies focused on rationalizing and lowering differences in energy usage peaks. Usually, smart grids encourage the introduction of DSM to allow demand to follow the energy supply pace. DSM is a well-known instrument developed to shift loads from peak periods to other time periods where power demand is lower. Although it is somewhat similar to demand response, DSM is not quite the same concept: DR tackles energy consumption with very little time in advance and is used as a punctual, temporary solution, while DSM is more about a long-term strategy that evaluates methods to save energy and energy planning in general, as, for example, storing energy during off-peak hours and releasing it during peak hours to reduce strain on the power network.

Electricity loads:

This term, as introduced before, implies any sort of hardware device that will consume electricity. Consequently, they must be borne in mind when designing the infrastructure for the smart grid. As electricity becomes more widely available, electricity loads become more varied (plug-in hybrid electric vehicles, etc.).

Furthermore, it must be highlighted that despite minor differences in each country due to their local circumstances, the power grid is operated the same way almost everywhere. In order to find out what business models could arise when deploying the smart grid, it is advisable to understand which entities compose the value chain related to electricity production, distribution and consumption.

Business Opportunities from Smart-Grid Data

This section provides a general taxonomy of possible services and entrepreneurial opportunities that could capitalize on newly available smart-grid data. This is not meant to be a comprehensive guide to all possible opportunities, but rather a discussion of general directions in which the market may move. We discuss two broad categories of opportunities: ventures in support of energy savings and ventures aimed at refinement of disaggregated data.

Energy-Efficiency Ventures The most direct application of real-time consumption data is to guide efforts to improve energy conservation and empower the consumer to save on monthly bills. One valuable service might be conducting data-assisted energy audits in order to identify the best ways to improve energy efficiency. As mentioned earlier, a traditional energy audit is performed by a qualified inspector. It requires physically visiting each home; bringing professional equipment, such as blower doors and infrared cameras; and interviewing homeowners to understand usage patterns. The process is manual, expensive, time-consuming, and simply not scalable to a broad community. A more cost-effective alternative would involve leveraging disaggregated consumption data from smart meters and building asset data to automatically create a living energy model of

any building. Appliance-level consumption data from smart meters avoid the time, cost, and inaccuracy of interviews. These newly available data are also capable of detecting faults in the home without necessitating a home visit. Benchmarking, which is intended to compare efficiency across households in a range of situations, would be immensely more accurate with data from hundreds of other prior energy audits, as well as appliance-level performance data. Once possible conservation measures have been identified, either the utility or a third-party venture could reach out to the consumer with personalized recommendations. A service might entail matching consumers with appliance retailers for new appliances or contractor options for house upgrades. A hypothetical recommendation might be a heater upgrade that can be shown to save 20 percent off the consumer's monthly bill (given the consumer's historical usage patterns) and break even within five years. Such a service would take into account utility rebate programs and tax incentives. There could also be value in behavioral feedback services that monitor behaviour and encourage convenient energy conservation. Such a service might communicate with consumers via text alerts when no optimal behaviour is detected or when the energy supply is constrained. It would rely on observing household behaviour intelligently learning the patterns of the household. It would then offer personalized recommendations for behavioural modifications. The system would continually monitor activity in hopes of constantly refining and maintaining energy savings. **Data Refinement** Given the nascent nature of disaggregated data, prediction of further refinement and application of disaggregated data comes from combining insights from surveying start-up activity in the energy sector with a degree of technological foresight. One trend in companies that deal with issues of big data is a movement toward better data organization and visualization. A visual presentation of electricity consumption and appliance operation may be useful on an individual household level or on a regional level. For utilities, creating visualizations of appliance use within individual households would be an important component of demand response programs. Current web portals depict historically aggregated consumption data with

fairly straightforward graphs and tables, but, with more-granular appliance-level data, proper organization and schematic representation of consumption are critical. In addition, depicting granular consumption data on a regional level aids utilities and other energy service companies in better understanding their customers. This could involve integration of data from disparate sources (e.g., smart meters, network sensors, weather, and utility records) to provide utilities with more situational awareness and control over their net- 24 The Adoption of New Smart-Grid Technologies: Incentives, Outcomes, and Opportunities works. Such control would extend beyond current HVAC remote management into electric car charging and the use of other major appliances. A further refinement of disaggregated data would be to map appliance-

level consumption data into household activity data

Conclusion as an outlook for future works, despite the fact that business models for producers involved in the smart grid are yet to be fully implemented and to become widespread, the number of research works where prosumer business models are involved is on the rise. If a Google Scholar search with the phrase “prosumers business” is performed and the results are filtered for each of the last complete five years, a growing number of results are obtained. These figures should come as no surprise, as the technology, procedures and motivation for prosumer business development are already present, so this becoming significant as a way to obtain energy-related revenues or to reduce energy costs for former end users is a matter of time.

BOAT TRAINING AND BENEFITS

BOAT TRAINING AND BENEFITS

PAVITHRA T, EEE, IV year

What is meant by Apprenticeship training?

Section 2(a) of the Apprentices Act, 1961 defines “apprenticeship training and it means a course of training in any industry or establishment undergone in pursuance of a contract of apprenticeship and under prescribed terms and conditions which may be different for different categories of apprentices”.

What are the qualifications for being engaged as an apprentice?

A person shall be eligible for being engaged as a Graduate or Technician or Technician (Vocational) apprentice if he satisfies one of the minimum educational qualifications specified in Schedule I-A:

1. Graduate Apprentices - (a) A degree in engineering or technology granted by a statutory university.
- (b) A degree in engineering or technology granted by an institution empowered to grant such degree by an Act of Parliament.
- (c) Graduate examination of professional bodies recognized by the Central Government as equivalent to a degree.
- (d) A sandwich course student who is undergoing training in order that he may hold a degree in engineering or technology as mentioned at (a) and (b) above.
2. Technician Apprentice - (a) A diploma in engineering or technology granted by a State Council or Board of Technical Education established by a State Government.
- (b) A diploma in engineering or technology granted by a University.
- (c) A diploma in engineering or technology granted by an Institute recognized by the State Government or Central Government as equivalent to (a) and (b) above.
- (d) A Sandwich Course student who is undergoing training in order that he may hold a diploma mentioned in (a), (b) and (c) above.

3. Technician (Vocational) Apprentices - (a) a Certificate in vocational course involving two years of study after the completion of the secondary stage of school education recognized by the All India Council for Technical Education.

(b) A Sandwich Course student who is undergoing training in order that he may hold a certificate mentioned in (a) above.

How do the employers select the Apprentices?

The methods of selection will be

1. Direct Campus Selection from Engineering / Polytechnic Colleges or 10+2 Vocational Higher Secondary Schools.
2. Through own advertisement by the organization
3. Participating Centralized pattern of Selection of Apprentices organized by BOAT (SR).
4. Online fetching data from BOAT's portal / obtaining panel of candidates from respective state Directorate of Technical or Vocational Education.

What is the period of Apprenticeship Training?

The period of Apprenticeship training for Graduate, Technician apprentices and Technician (Vocational) Apprentices shall be one year and it can be done only one time under the Act.

What is the number of Apprentices for a designated branch of engineering?

There is no fixed ratio as such for Graduate, Technician and Technician (Vocational) apprentices. This is determined on a case by case basis by the Regional Central Apprenticeship Adviser in consultation with the employer.

What are the obligations of employers?

As per the Apprentices Act, 1961 section 12, without prejudice to the other provisions of this Act, every employer shall have the following obligations in relation to an apprentice, namely-

(a) to provide the apprentice with the training in his trade in accordance with the provisions of this act, and the rules made there under;

(b) if the employer is not himself qualified in the trade, to ensure that a person [who possesses the prescribed qualifications] is placed in charge of the training of the apprentice.

(c) to carry out his obligations under the contract of apprenticeship.

What are the obligations of apprentices?

Every Graduate, Technician apprentice and Technician (Vocational) apprentice undergoing apprenticeship training shall have the following obligations, namely,-

(a) to learn his subject field of engineering or technology [or vocational course] conscientiously and diligently at his place of training;

(b) to attend the practical and instructional classes regularly;

(c) to carry out all lawful orders of his employer and superiors in the establishment;

(d) to carry out his obligations under the contract of apprenticeship which shall include the maintenance of such records of his work as may be prescribed.

What are the Hours of work of an apprentice?

The weekly and daily hours of work of an apprentice while undergoing practical training in a workshop shall be such as may be prescribed. Graduate, Technician and Technician [Vocational] apprentices shall work according to the normal hours of work of the department in the establishment to which they are attached for training.

When should the stipend be paid to apprentice?

As per the Apprenticeship Rules, 1992 Rule 12, the stipend for a particular month shall be paid by the tenth day of the following month.

Can the employer deduct stipend when the apprentice goes on leave?

As per the Apprenticeship Rules, 1992 Rule 12, no deduction shall be made from the stipend for the period during which an apprentice remains on casual leave or medical leave. Stipend shall, however, not be paid for the period for which an apprentice remains on extraordinary leave.

Can Apprentices be considered as workers?

As per the Apprentices Act, 1961 (a) every apprentice undergoing apprenticeship training in a designated trade in an establishment shall be a trainee and not a worker; and (b) The provisions of any law with respect to labour shall not apply to or in relation to such apprentice.

What is the procedure to grant leave to apprentices?

In establishments where proper leave rules do not exist or the total leave or different type admissible to their workers is less than thirty-seven-days in a year, the apprentice shall be entitled to the following kinds of leave and subject to the conditions specified under each kind of leave.

Casual	Leave	-	12	days
Medical	Leave	-	15	days
extraordinary leave - 10 days				

What is the stipend details and percentage of reimbursement?

As per the Apprentices Act stipend for Graduate Apprentice ` 3560/-, Technician Apprentice is ` 2530/-, Technician (Vocational)

Apprentice is ` 1970/- and Technician (Sandwich) Apprentice is ` 2070/-. Out of which 50% is reimbursed to the employer.

Can an employer pay higher rate of monthly stipend than the prescribed minimum stipend rate?

The employer can pay more than the minimum prescribed amount to an apprentice. However, the 50% reimbursement is restricted to the prescribed amount only. Most of employers pay higher rate of stipend to attract the candidates for Apprenticeship training and to minimize the attrition.

Can management trainees be considered for Apprenticeship training?

No. Management trainee cannot be considered for Apprenticeship training.

What is the procedure to enroll an organization with BOAT (SR)?

The following documents need to be submitted to register for Apprenticeship Training Scheme with BOAT (SR)

- 1) Survey Information Performa with filled in details (available in our website www.boatsr-apprentice.tn.nic.in)
- 2) Profile of the Company
- 3) Latest Income Tax return
- 4) Certificate of Incorporation
- 5) Structured Training Module of the Apprenticeship Training
- 6) A Covering letter addressed to our Director

What is the procedure to enroll an organization with BOAT (SR)?

The Company should submit the filled in Training Completion Report in all respect and send it to our office. The particular section will verify the records and generate certificate and it is then signed by DIRECTOR and sent to the establishment.

What are the benefits to my organization if it takes apprentices?

- Engaging Apprentice is a
1. Corporate Social responsibility of an organization.
 2. It is an easy way to get trained manpower
 3. 50% stipend reimbursement is paid by Government of India for each apprentice trained.
 4. It is a statutory obligation.

How do I register a contract for an apprentice after getting notified by BOAT (SR)?

An employer has to send the filled in Apprenticeship Contract Registration form with copies of the provisional Degree / Diploma certificate along with the declaration form for registration. BOAT (SR) will issue a unique Apprenticeship Contract Registration Number.

What is the time limit for submission of Apprenticeship Contract Registration Card form?

As per the Apprenticeship Rules, 1992 clause 6(1) Every employer shall send to the Apprenticeship Adviser the contract of apprenticeship for registration within three months of the date on which it was signed.

What is the mechanism for monitoring the process of the trainee and when do the employer can submit claim?

Apprenticeship Training is monitored on quarterly basis once in 3 months. Employer shall submit the progress report once in 3 months along with the claim form. BOAT (SR) will verify the progress report & claim form and make reimbursement within a month.

What action the employer can take if the Apprentice is not showing interest in training?

The employer shall follow the following procedure.

The trainee shall be given proper counseling to correct his / her mistake.

If the trainee has not corrected his / her mistake, a show because notice be issued to trainee giving opportunity to correct / express his / her view. The copy of the same be sent to BOAT (SR), Chennai

An enquiry committee be formed, and based on the recommendation of the enquiry committee, action can be taken under intimation to BOAT (SR), Chennai

What is the flexibility the scheme provides to the employer to utilize the notified training slots?

⌘ Employer can utilize the graduate slots with diploma engineers and vice versa

⌘ Employer can engage more apprentices in one discipline if the find it difficult to get candidates in other discipline

⌘ If the employer wants to engage more apprentices over and above notified training positions they can get approval for addition of required numbers from BOAT (SR).

ADMISSION PROCEDURE FOR FOREIGN UNIVERSITY

PROPABLE IS NOW POSSIBLE

(USA, CANADA is no more a night mare...)

INDIRA.G (132003) EEE-A, III YEAR

Abstract: This document proposes the ways to follow to get admitted in a university in USA.

INTRODUCTION

The first phase of the admission includes the GRE/GMAT and TOFEL/IELTS exams. These two exams are the primary gate way to enter. Apart from just appearance in these above mentioned exams, a good score is mandatory in order to choose a good college/university or to get a scholarship. These exams are written in order to apply for an MS or MBA respectively. The exams mentioned latter are to check the English proficiency of the candidate. The ETS (www.ets.org) plays a vital role that includes a to z process of admissions.

GRE

GRE is Graduate Record Examination that is exclusively required to get through a university abroad. The number of attempts are endless but the duration between two consecutive appearances is 60 days and the validity of GRE score is 5 years. The colleges take up either the first, last or the average score.

IELTS/TOFEL

These exams are written in order to prove the English learning and understanding capability of a candidate. Here IELTS and TOFEL completely differ from each other. IELTS includes a test for British English whereas TOFEL includes a test for American

English. Both comprises of Listening, Speaking, Reading, Writing (LSRW).

CHOOSING THE UNIVERSITY

The major part of the admission process starts from here as the name of the university will be the will be the thing of the day. The universities and colleges are generally ranked under several bases, out of which parameters such as semester fee, availability of hostel within a mile, part time job availability, accommodation, student to teacher ratio, popularity of the department or specialization, research and placement activities etc....

TIME OF APPLICATION

The applying process can be done twice a year. In fall (August) or in spring (February). The choice of the period is up to the students. Semester System will have three semesters every year.

- Spring (Jan)
- Summer (May)
- Fall (August)

PROCEDURE

The application is a pure and complete online process. The procedure can be done only through the respective college websites. The admission process for a season should start nearly 11 months prior to the date of admission in order to complete the entire process successfully. If online application is not available for a particular university, then download paper application from the university's website. Then send the following documents to

university's graduate admission office. Requirements may change from university to university. Visit the university and department website for exact requirements and conditions.

GPA

GPA means Grade Point Average. It is the standard measure of performance of a student in USA. It is similar to the 100% scoring system in India. There is an institution called WES. They will evaluate your transcripts to calculate your GPA and send the reports to universities.

DOCUMENTS REQUIRED FOR APPLICATION

- I. DD/Bank check for Application.
- II. Recommendation letters.
- III. GRE/TOEFL/GMAT/IELTS Score Xerox.
- IV. Bachelor's Degree certificate.
- V. SSC/10th or Equivalent Certificate
- VI. 12th/ intermediate or Equivalent certificates.
- VII. Affidavit and I20 form.
- VIII. Photo Copies of first and last pages of your passport.
- IX. SOP (Statement of Purpose).
- X. Other documents...

STATEMENT OF PURPOSE

Statement of purpose is one of the strongest part of the documents, which decides the career of the candidate. Attempts to copy an SOP may lead to rejection of application.

PASSPORT AND VISA

The passport and VISA are mandatory wherein a special interview has to be

attended to get the VISA to the respective country. Hence the process of applying for visa can be done 3 to 4 months earlier, after the admissions have been finalized in a university.

TRAVEL AND PACKAGING

It's better to have a checklist to get ready with all the essential luggage. The transportation shall be arranged through airways prior to the commencement of the college/university. The luggage should meet out the flight requirements compulsorily.

ADMISSION PROCEDURE FOR FOREIGN UNIVERSITY

N. BRINDHA, A. ROMIKA-3rdyr. -EEE

Competitive exams to get admissions into Universities in abroad

Competitive entrance exams including SAT, MCAT, LSAT, GMAT, GRE, IELTS and the TOEFL are required for admission to study universities and colleges in abroad.

Thousands of aspirants migrate to various parts of the world every year to complete their higher studies. Whilst the global study abroad scene has opened up tremendously to accommodate students of all academic backgrounds and interests, there are still certain present academic standards that need to be met in order to gain admission to a university or college abroad. These are achieved by clearing competitive international entrance exams. Good performances in competitive 'study abroad' exams also help you to win scholarships and other forms of financial aid, no small consideration for a majority of the applicants.

Some of the most popular, and most important, international entrance exams include the SAT, MCAT, LSAT, GMAT, GRE, IELTS and the TOEFL. These are required for admission to universities and colleges in various countries across the globe; at times, the need may be a combination of one or more of these and other tests/examinations specific to that country and its education system.

TOFEL & IELTS

The TOFEL and the IELTS probably top the list with regard to the sheer number of students across the world needing to undertake one or the other to

demonstrate English language proficiency. The widest possible selection of universities and colleges accept TOEFL scores, including the top 100 in the UK, U.S, Canada, Australia and New Zealand. The IELTS is a mandatory exam for Indian and other non-native English speakers, especially in the Commonwealth countries, for entry into most reputed universities and colleges overseas, and occasionally for immigration requirements as well.

The TOEFL is held throughout the year, usually on weekends; for 2012 in India, the TOEFL is to be held only on weekends, both in the metros and the tier 2 and tier 3 cities. The IELTS, conducted by the British Council, is held in 71 centres spread all over the country, over four times a month.

GRE & GMAT

The Graduate Record Examination (GRE) is another popular examination among Indian students aspiring to study in the USA or Canada. It is a fairly standardized test that measures the verbal, mathematical and general analytical skills of the candidate, though the format has undergone quite a few changes over the years. It is an admission requirement for many graduate courses, especially in engineering and the sciences, in the USA. Management aspirants need to take the GMAT, which is an admissions assessment for business colleges. Average GMAT scores are in the range of 570-580; however, for top school admissions a score

of at least 700 is almost mandatory. New sections have been introduced recently, such as Integrated Reasoning, which have made the test more competitive than before.

GRE and GMAT tests are available throughout the world in more than 500 locations, though you will have to book your slot in advance.

SAT

The Scholastic Aptitude Test (SAT) test, required for entry into some universities in the USA if you have not completed an equivalent, is of two types - the Reasoning Test to check the general writing skills and grammar and the Subject Test to check a candidate's knowledge in the subject chosen. The SAT is owned, developed and conducted by the College Board of the United States of America.

Within the USA, the SAT is offered seven times a year, generally on the first Saturdays of October, November, December, January, March, May and June. Most other countries follow the same dates.

MCAT & LSAT

Other competitive study abroad examinations include the MCAT and the LSAT, mandatory for getting into medicine and law respectively in the USA. The MCAT is a multiple-choice test that is designed to evaluate the examinee's aptitude and knowledge about relevant subjects, while the LSAT that is administered by the Law School Admission Council for students who wish to pursue a

career in law in the USA, Australia and Canada.

List of admission tests to colleges and universities

This is a list of standardized tests that students may need to take for admissions to various Universities and Colleges. Tests of language proficiency are excluded here.

Only tests not included within a certain secondary schooling curriculum are listed. Thus, those tests initially focused on secondary-school-leaving, e.g., GCE A-Levels in the UK, or French Baccalaureate, are not listed here, although they function as the de facto admission tests in those countries

Australia

- STAT – Special Tertiary Admissions Test, aptitude test for non-school leavers
- UMAT – Undergraduate Medical Admissions Test, required for undergraduate entry to many Australian and New Zealand undergraduate-entry medical and dental schools
- GAMSAT – Graduate Australian Medical School Admissions Test, required for graduate entry to many Australian graduate-entry medical and dental schools
- PQA – Personal Qualities Assessment, required for entry into health sciences, including undergraduate Medicine, for a growing number of Australian universities
- GAT – General Achievement Test (VCE Students - Victorian Certificate of Education)

United States (and Canada) **[edit]**

- SAT – formerly Scholastic Aptitude Test
 - SAT Subject Tests
- ACT – formerly American College Testing Program or American College Test
- THEA – Texas Higher Education Assessment
- GED – High School Diploma Equivalent
- PERT – Replaced Accuplacer as the standard college placement test in Florida
- CAEL – Canadian Academic English Language Assessment

ADMISSION PROCEDURE FOR FOREIGN UNIVERSITIES

IL. SWATHIKA (142014)-II YEAR -EEE- 'C'

Competitive entrance exams are a standardized and reliable mode of evaluating the millions of applicants who aspire to study abroad every year, so take your time, prepare well and get ready to go places!

International Entrance Exams:

A study abroad program for higher studies has always been considered as an enriching and challenging experience. Along with a rewarding career, students also get an experience about new cultures, customs and ideas that help in molding their personalities. Thus, the reason why hundreds of aspirants migrate to various parts of the world to complete their higher studies goes way beyond academics. To get admission into an American university or that of other countries, you need to clear international entrance exams. Sometimes, you not only appear for these exams entrance to these elite institutes but also to win scholarships. The amount of funding you get also depends upon your performance. Therefore, it is very important to get a good score. There are a plethora of international entrance exams such as SAT, MCAT, LSAT, GMAT, GRE etc. that cater to different educational courses.

MOST POPULAR INTERNATIONAL ENTRANCE EXAMS TO ENTER INTO THE ABROAD COLLEGES:

Listed below are the most important international examinations that secure green cards for the students seeking admission in offshore courses.

- SAT
- MCAT
- LSAT
- GMAT

- GRE
- IELTS
- TOEFEL

SIGNIFICANCE:

- Depending upon the level and course of study, students need to take up a few tests for entry into academic programs abroad such as TOEFL, IELTS (English proficiency tests) and GRE, GMAT or MCAT.
- Each of the above mentioned exams have different test formats, scoring patterns and thus require different preparation strategies.
- International entrance exams are a uniform, standardized and reliable mode of evaluating applicants.
- Every year millions of students, all over the world, send in their applications to foreign universities. It is on the basis of this performance that a deserving few are chosen.
- Select your area of interest, university of choice and the application procedures.

Admissions

Requirements for Post Graduate Courses:

- Students who are seeking admissions for post graduate courses need to have a graduate degree of 3 years' duration in any stream equivalent to the foreign university bachelor degree. Alternatively, students who have successfully completed the undergraduate course in abroad countries can also apply for the post graduate admissions.

- For admission in few post graduate courses, four year degrees like **B.E. or B. Tech** may be required as these are considered equivalent to foreign university bachelor's honors degrees. Successful completion of several Indian master's degrees like **M.A.** and **M.Sc.** are also accepted for post graduate admissions in foreign universities.
- Admission forms can be obtained from the respective university's website, filling them and either submitting them online or through posts. The form need to be supplemented by the complete details of the students' previous academic records from the respective universities or institution. All the details, attested by the registrar, have to be provided.
- If the student has completed the undergraduate course from a non-UK country, then he/she will have to take the **IELTS** English proficiency exam conducted by the British Council or the **TOEFL** exam. If convinced that the student's medium has been English throughout, some universities may waive these tests.

the **previous academic records** to be submitted at the time with the application forms along with the letter of recommendation and a statement of purpose.

All international students who want to enrol themselves in a post graduate management course have to take the **Graduate Management Admission Test (GMAT)** and score well in it. Without a good **GMAT score** (700 or more for top universities), admission in management based courses are hard to accept by foreign universities.

All universities require **complete transcripts/mark sheets/related documents** of

APPLICATION PROCEDURE FOR FOREIGN UNIVERSITY

HEMCHAND, DEEPTHI HASHINI-122012-EEE,

WHY STUDY ABROAD?

No two applicants have the same reason(s) for studying abroad. For one it could be as simple as not getting into the right college/university in India and for the other it can be because there are not very many job opportunities in his/her field of study and for many, an easy way of a secured future.

Whatever your reason for deciding to study abroad you will find that higher education abroad adds considerable value to your professional development. A good degree is a stamp of excellence that marks you for life. It can enhance your career and prepare you for leadership in your country or anywhere in the world. It can broaden your horizons and expose you to a variety of perspectives, the latest technology, and state-of-the-art research and training. You can make contacts with colleagues abroad which may lead to collaborations with leading international researchers after you return to your home country. With the large number and variety of colleges and universities outside India, you are certain to find one that matches your needs and interests, no matter what your criteria.

And what's more, with the right kind of planning and guidance, you can study abroad at very low costs and even free on a scholarship. Application process makes the vital difference and is the most important criteria.

APPLICATION PROCESS

The application process for studying abroad is time consuming and requires applicants to start preparing well in advance of their anticipated start date. It is very important to begin the admission process early because in many cases application deadlines are far in advance of the start of the semester (sometimes as many as ten months). You also need to allow time for scheduling any standardized tests needed for admission and then having the results of these tests sent to schools. There is no uniform world-wide application system. Each college or university establishes its own unique policies.

The 6 basic steps for applying abroad are:

- Identifying country, universities and the course of your interest
- Request universities for Application forms
- Taking various required tests
- Arranging and preparing Essays and recommendation letters
- Completing and Sending Application forms along with required documents
- Reporting various test scores to the universities

For a detailed and printer friendly format calendar and checklist of applying abroad process to help you with your college admissions planning, [Click here](#)

SELECTING UNIVERSITIES

Selecting universities is a very time consuming and important process not only from the admission point of view

but also because applying to universities is very expensive by Indian standards. Hence it has to be restricted to around 6 or 8 universities which are best matched for your requirements.

The best university for you may not be the famous ones, but those that offer you your field of study as well as meet the other criteria important to you. The range of academic options as well as available universities are so wide that it is not possible to select the best in one go and it may take some time.

The basic steps involved in the process of selecting universities are:

Level	Criteria for short-listing	Number of colleges shortlisted
I	Self-Evaluation	50
II	1. Academic Eligibility 2. Academic Record (Grade point Average) 3. Standardized Test Scores 4. Financial Aid Considerations 5. Other issues	25-30
III	Application Stage (After receiving prospectus & forms)	6-8

Self-Evaluation (Level-I)

The first step is identifying your goals and needs which can be done by self-evaluation.

A - Identify your reasons for pursuing higher education abroad

- Are you motivated by career goals, job prospects, academic interest, and personal satisfaction?
- What particular specialization are you interested in?

It is important to match your objectives with what the universities offer. If your aim is research in some particular field, you should apply to universities with specialized departments in that field. If you are interested in practical experience, you should apply to universities located close to the commercial centres and important cities.

B - Realistically assess your academic and professional background

- Are you a competitive student?
- Are you dedicated and hardworking?
- How good is your academic record?
- Do you have any work experience or research work related to your field of study?
- Do you have any credentials in extracurricular activities?

Only if you have a good academic background, you should apply to highly ranked universities. If you feel you are moderately placed, you should apply to mid ranked universities.

C - Get an academic focus

- Do you have a relatively clear idea of your field of study?
- Have you spoken to your professors, read journals to

know more about your field and other new fields?

Education abroad is very different from education in India. Most universities abroad have a very flexible system where you can select your courses and focus more on your field of interest. There are also many specialized courses which may suit your needs.

D - Realistically assess your financial abilities

- Will you get a financial assistance from the university?
- Can you or your family finance your education and stay?
- Do you have an overseas sponsor?
- Are you eligible for funds from educational trusts?

The application process itself costs about Rs. 25,000 - Rs. 30,000/- towards examination fees, postage, university application fees etc. Tuition and living expenses are also high and depend on the country you wish to study in. For a visa, you must be able to demonstrate your ability to fund your education and stay abroad.

Level-II

It is best to narrow down your choice to 25 - 30 universities after this stage by looking at the following:

- Program Offerings (BA, BS, BE, MS, MBA, DA, Ph.D., etc.)
- Specialization, faculty, thrust of the programs
- University Rankings
- Program Length

- Cost -- Tuition, living expenses etc.
- Availability of Financial Assistance to International Students
- Entrance Requirements (Bachelor degree in same field, work experience etc.)
- Tests (SAT, GMAT, TOEFL etc. and minimum scores)
- Accreditation status (Professional accreditation for some programs)
- Student Profile (Percentage of international students, average work experience levels, etc.)
- Enrolment -- Total available seats and the size of the school
- Location (Country, climate, semi-rural, metropolitan city etc.)
- Facilities -- Library, housing, student associations etc.
- Type of Institution -- Public or Private

These are the usual criteria. You could prioritize your criteria out of this list and shortlist the number of universities on that basis to about 30. You could further shortlist your choice on basis of specific issues like tuition fees, availability of financial etc.

Here we give some details of most important criteria for selecting universities -- academic eligibility, standardized tests, Grade Point Average and Financial Aid.

1. Academic Eligibility

Each university and college has its own requirements for admission. There is considerable flexibility in the acceptance policies of most

schools. The requirements are different for different countries. We list here the most common requirements:

Graduate & Postgraduate Programs (MA, MS, MBA etc.) CANADA & U.S.A.

Most Universities require qualifications comparable to a U.S. Bachelor's degree (Four Year Degree Program). A minimum of **16 years** of formal education. In Indian context, it implies either qualifying in professional 4 years course like engineering or other such courses.

If you have completed a 3-year degree program in India, the advisable plan of action to maximize eligibility for U.S. and Canadian graduate schools is to apply for a Post Graduate degree here in India. A one-year university affiliated program will make up for the fourth year of a U.S. Undergraduate degree.

AUSTRALIA & NEW ZEALAND & U.K.

Most New universities **accept** the Indian graduation system of three years for entry into most postgraduate courses. An Indian bachelor degree like B.A., B.Com. Or B.Sc. is equivalent to a Bachelor (Ordinary) Degree.

However, some courses and universities may require a qualification equivalent to Bachelor (Honours) Degree in these countries, which require 16 years of formal education, which would mean another

year after graduation or a four-year degree course like B.E., B. Tech or other such courses'

Confirmation can only be obtained by either writing directly or formally applying to the universities concerned. However, for most Universities, a good first degree from a leading university in India or its equivalent is essential.

2. Academic Record and Grade Point Average

Your past academic record is one of the most important deciding factors in getting admission to a college abroad. Most schools require you to have a reasonably good academic record especially for programs and courses offering a master's or doctoral degree. Each university has its own minimum requirement for its programs, which are flexible depending on the candidate profile.

Universities in each country have their own marking and evaluation systems, which are considerably different from the Indian system. For e.g., U.S. follows the GPA (Grade Point Average) system which are based on 5 points scheme - A, B, C, D & F.

It is advisable not to convert your marks in the Indian system of grading to the American Grade Point Average system or any other system since the conversion may not be accurate. You may attach an explanatory note from your college to indicate your rank in your class and/or university. The letter may also indicate your place as compared to the class and the university average and the number of students in

the class and the number of colleges and students in the university. You may also provide any other information or documents that you feel may help you in the admission process.

3. Standardized Test Scores

Every university has its own minimum requirements and scores with respect to standardized tests. Check out the requirements of the universities and short-list the ones that will accept your scores.

English Proficiency Tests

Fluency in English is mandatory for education abroad whether in U.S., U.K. or any other country. You would be required to take tests like TOEFL, IELTS, TSE or other tests depending on the country, university and program you are applying to. The minimum scores required in these tests vary depending on the college and program. Individual departments and colleges usually set their own minimum requirements for admissions.

Other Tests

Different programs and colleges require you to take certain standardized tests for admission and there is a certain minimum that you have to score in those tests to get admitted to those universities. For a management graduate course, you are supposed to take GMAT and similarly for a graduate course in engineering, you are supposed to take GRE. For undergraduate courses, one has to take SAT.

4. Financial Aid

Most Indians are concerned about the high cost of education abroad and seek information on opportunities for

financial assistance. The expenses for education abroad include tuition fees, living expenses, health insurance, transportation etc. This is an important criterion for selecting the courses as well as universities.

It is important to understand that most universities offer financial assistance to international students based primarily on merit and rarely on need. The amount, and type of assistance offered varies based on the university, department and level of study. Assistance of funds is more likely in Graduate studies and less in Undergraduate courses. Similarly, chances of assistance are more in specific countries like U.S.A. and U.K. Also funds are more likely to be available in fields like Engineering, Physical Sciences and Biological sciences, rather than in courses like Humanities, Social Sciences and Management.

Application Stage (Level III)

Once you start receiving application forms and material, go through in detail for the various requirements and deadlines like the application deadline, minimum scores required in the standardized tests, recommendation letters needed and other such information.

This is the first stage of your application process. At this stage, you can write to the selected 25-30 universities. You can directly request application materials from the universities.

There are two ways to get application forms:

1. **Requesting Application Forms via email:** You can

request application forms from the universities website. Most universities have a form on their website which can be completed online to request application material.

2. **Downloading from the university website:** Many universities have a downloadable and ready to print versions of their application forms on the net. These can be used for applying just as regular forms.

Tabulate all these requirements and compare them with your objectives and group the universities under three categories:

1. Schools that seem to match your requirements
2. Schools that are not suited to your needs
3. Schools that do not completely fit in any of the above two categories

Admission Stage (Level IV)

Universities usually inform students of their admission decisions well in advance of the beginning term. If you have received admission in more than one university, you will have to decide which one you want to attend. At this stage, you should compare a few objective and mostly more subjective criteria. The points you should focus on:

Objective Criteria

- Best program curriculum, length of program, choice of courses
- Best funding offers or best program with respect to costs
- Cost of living

- Strength of related departments/program

Subjective Criteria

- Overall reputation of university/department/program
- Location-region, safety of neighbourhood
- Climate
- Social life
- Facilities available
- Accommodation & housing

Basically the decision factors at this stage would be mainly three points:

- Best program
- Best funding offer
- Best for your personal goals and needs

It is essential to do a lot of research on the universities and their offerings. Colleges and universities offer varied educational packages. You will have to find out which of these are likely to meet your goals by spending time in the reference library. The more time and effort you put in and the better you utilize your researching skills, the greater are your chances of achieving your goals.

What to do once you have been accepted:

Each college will tell you exactly what steps to follow to confirm your acceptance of their offer of admission and how to prepare for your first term. This information will be included with the letter of admission or in materials that will be sent to you shortly thereafter. You must respond with a "Yes" or "No" for each offer of admission. You may also be required to submit a financial deposit to the

institution that you plan to attend. This is to guarantee your place in the class. Make sure you do not miss any deadlines.

If you are in the waiting list:

You may receive a letter that informs you that you are on a 'waiting list'. This generally means that the admission office determined that you were qualified for admission but there was not enough room to admit all qualified applicants. If you are placed in the waiting list of a college you wish to attend, you will be asked whether you are interested or not. If you say yes, you may be offered admission if space becomes available.

If you are placed in the waiting list of your first choice college and confirmed in the second choice college, you may do the following steps to remain on the safer side:

1. Accept the offer of the second choice school and pay the deposit
2. Accept the offer of remaining in the waiting list of the first choice school

If you get admission later in your first choice school, you can join that but you will have to forfeit your deposit (usually around US \$50-\$500) otherwise you can decide to study in the second choice school.

Applying for student visa

Each country has its own procedure for visas.

For more details, check out the requirements and formalities of each country:

- Visa - Canada
(<http://www.infozee.com/canada/visa.htm>)
- Visa - New Zealand
(www.infozee.com/nz/visa.htm)
- Visa - U.K.
(www.infozee.com/uk/visa.htm)
- Visa - U.S.A
(www.infozee.com/uk/visa.htm)
- .
- Visa - Australia
(www.infozee.com/australia/visa.htm)

A tall, lattice-structured electrical transmission tower stands prominently on the left side of the image, extending from the bottom to the top. The tower is dark in color, possibly black or dark brown. In the background, several other similar towers are visible, receding into the distance. The sky is a vibrant blue, filled with scattered white clouds. The ground at the bottom of the image appears to be a dry, brownish field or desert landscape.

VISION

To become a high standard of excellence in Education, Training and Research in the field of Electrical & Electronics Engineering and allied applications.

MISSION

To produce excellent, innovative and Nationalistic Engineers with Ethical Values and to advance in the field of Electrical & Electronics Engineering and allied areas.