

## MISC CAREER OPTIONS

**Q. I am a (10+2) student and I want to take admission in “Rail & Transport Management” course. Where can I do this and what are its eligibility? How will this course help me in future?**

You can study one year correspondence diploma course in Rail & Transport Management from Institute of Rail Transport, 17, Rail Bhavan, Raisina Road, New Delhi-110001. The course commences from June every year. The Ministry of Railway has recognized this diploma as an additional desirable qualification for recruitment to the category of Assistant Station Masters, Traffic/Commercial Apprentices and supervisory grades in the Electrical, Mechanical, Civil and Signal Engineering Departments. This course is also very useful to serving employees of Railways, Trade, Industry, and Transport etc. Persons having a degree in any subject or a minimum two-year diploma in any engineering discipline are eligible for this course.

**Q. What is Archeology? What is the job prospect after completing a course in Archeology?**

Archaeology is the study of ancient cultures through their material remains. The archaeologist's job is to excavate relics and artifacts from ancient sites and infer on their basis the history and customs of the people who lived there. The archaeologist should have a working knowledge of botany, zoology, soil science, geology, history and geography. Archaeologists can find jobs in the academy, museums, planning departments and excavation sites. Such government agencies as the Archaeological Survey of India and the National Institute of Oceanography also offer employment to trained archaeologists. Graduate and Postgraduate programs in Archaeology and ancient Indian History and culture are available in many Indian Universities.

**Q. I am a science graduate. I want to become a professional newsreader in a TV or Radio Channel. What are the eligibility criteria? Is good look extremely essential for a newsreader?**

The minimum qualification required to become a newsreader is graduation with fluency in English/Hindi/Regional language. Newsreader also should have good knowledge about current affairs and presence of mind as most of the news coverage now a day becomes live and on real time basis. There is no good institution in Guwahati offering training in news reading. Though good look is not essential for radio news reading, photogenic pleasant personality is necessary for TV news reading.

You can try for a short term course in news reading from Film or Television Institute of India, Law College Road, Pune-411004 or Janakidevi Mahavidyalaya, Ganga Ram Hospital Marg, New Delhi-110060 or Indian Television Training Institute, C-41 Gulmohar Park, New Delhi-110049.

In All India Radio, written tests are conducted by the respective stations whenever there is a vacancy for the recruitment of permanent or casual announcers. Those who qualify in the written examination have to pass an audition test followed by an interview.

To join a TV channel begin carefully and critically observing successful news readers; try to identify the genre or programs you would like to present; practice your skills after taking a short course in news reading. Armed with this arsenal, you have to go through screen tests, dummy runs and work very hard in order to become a permanent TV newsreader. Good look is desirable but not essential.

**Q. I would like to know that if students get a B.Tech degree from a private institute whether he will be at par to those students doing B.Tech from govt. institutions.**

A student from a private institute shall be at par with a student from a govt. institute provided his degree is from an university recognized by UGC and the institute and the course is recognized by AICTE. See the NBA rating before you take admission in a private engineering college.

**Q.What is Forensic Science? What is the prospect in Forensic Science? Where can I study forensic science?**

Forensic science is any science used for the purposes of the law, and therefore provides impartial scientific evidence for use in the courts of law, eg in a criminal investigation and trial. Forensic science is a multidisciplinary subject, drawing principally from chemistry and biology, but also from physics, geology, psychology, social science, etc.

In a typical criminal investigation **crime-scene investigators**, sometimes known as **scene-of-crime officers**, will gather material evidence from the crime scene, victim and/or suspect. **Forensic scientists** will examine these materials to provide scientific evidence to assist in the investigation and court proceedings, and thus work closely with the police. Senior forensic scientists, who usually specialise in one or more of the key forensic disciplines, may be required to attend crime scenes or give evidence in court as impartial expert witnesses.

Examples of forensic science include the use of gas chromatography to identify seized drugs, DNA profiling to help identify a murder suspect from a bloodstain found at the crime scene, and laser Raman spectroscopy to identify microscopic paint fragments.

The traditional disciplines of forensic science include:

- Toxicology (study of alcohol and drugs)
- Serology (study of blood and other biological fluids)

- Questioned document examination (examination of documents, handwriting comparison, study of inks, typewriter imprints, counterfeiting etc.)
- Forensic chemistry
- Firearms identification and ballistics (study of marks and striations on bullets)
- Hair and fibre analysis
- Pathology
- Odontology (study of bite marks, teeth structure)

Other specialties include

- Disaster identification (e.g., identifying bodies, and cause of death)
- Analysis of lip prints (cheiloscropy)
- Forensic engineering
- Meteorology (impact of weather on a case)
- Blood spatter identification
- Voice print analysis
- Retinal scanning (e.g., for identification purposes)
- Forensic entomology/ Forensic anthropology

Forensic science is a subject that fascinates most of us. What makes forensic science so exciting to study is the nature of the problems to be solved, and this provides its own intrinsic rewards. Great emphasis is placed not only on developing the skills of forensic examination, but also on their application and on the communication of findings to the lay-person.

Forensic science is a rigorous scientific discipline, and as such its graduates are highly employable individuals possessing the knowledge and skills for both subject-related employments, such as in a forensic laboratory, or non-subject-related employment in a wider range of careers.

#### **Institutes offering courses in Forensic Science:**

Name of Institution	Course	Duration	Eligibility
Punjabi University, Patiala	M.Sc. (Forensic Science)	2 years	B.Sc./MBBS/ BDS
Department of Criminology & Forensic Science, Dr. Hari Singh Gaur Viswavidyalaya, Sagar (MP)	MA (Criminology) M.Sc. (Forensic Science) M.Sc.(Forensic Toxicology)	2 year	BA/B.Sc./ MBBS/ BDS
University of Madras, Chennai	MA(Criminology)	2 years	BA/B.Sc./B.Com/MBBS/BDS
Banaras Hindu University Varanasi (UP)	MA( Criminology)	2 years	-Do-
Forensic House, 35 A Kamarajan Salai, Mylapore Chennai	Degree/Diploma in Criminology & Forensic Science	½ years	-Do-
Department of Criminology & Forensic Sciences, Karnataka	MA(Criminology) M.Sc.(Forensic Science)	2 years	BA/B.Sc/B.Com/MBBS/BDS etc

University, Dharwar-580003	M.Sc.(Forensic Toxicology)		
Department of Forensic Science Dr.B.R. Ambedkar University Agra, Uttar Pradesh	M.Sc.(Forensic Science)	2years	B.Sc./MBBS
Tata Institute of Social Sciences, Deonar, Mumbai	MA( Social Science with specilization in criminology)	2 years	BA/B.Sc.
National Institute of Criminology and Forensic Science, Ministry of Home Affaitrs, Rohini, Delhi-110085	Training and research program		Govt./Police/Forensic Laboratory officials etc
University of Pune Pune, Maharashtra	M.Sc.(Forensic Science)	2 years	B.Sc. with Physics, Chemistry, Zoology or Botany

**Q. I am a student class X. I have a strong desire to study sound engineering. Please provide me details about the course.**

You can study 2 years diploma in Sound Recording & Sound Engineering from Film & Television Institute of India, Law College Road, Pune. Eligibility for admission is B.Sc. degree with Physics or Electronics. You can also study 2 year diploma in sound engineering from Satyajit Ray Film & Television Institute, Kolkata where eligibility for admission is B.Sc. with Physics and Chemistry. So first complete your (10+2) with physics, chemistry and Mathematics and then after completing your B.Sc. try for sound engineering.

**Q. I am a student of 12<sup>th</sup> Standard (Commerce). After completing class XII, I want to be a physical trainer completing B.PED and M.PED from Lakshmibai National Institute of Physical Education. What are the eligibility criteria? What is its job prospect?**

Lakshmibai National College of Physical Education, Gwalior offers 3-years B.P.Ed. course. Eligibility for admission is (10+2)/HS with proficiency in sports. Matriculates who have represented in recognized sports events at the national level are also eligible. Lakshmibai National College of Physical Education, Kariavattom, Trivandum-695581 also offers the same course. LNCPE is a reputed govt recognized institution for a career in physical education.

Indira Gandhi Institute of Physical Education & Sports Sciences (University of Delhi); B-Block, Vikaspuri, New Delhi-110018 offers 3-years Bachelor of Science (Physical Education, Health Education & Sports) leading to unique career opportunity in sports sector as coach/sports officers. Candidates should be between 17 to 20 years of age and must have passed (10+2)/HS in second division (minimum 40%) of the CBSE, New Delhi or equivalent. Weight age is given to the sports achievement at various levels.

University of Calcutta, College Street, Kolkata-700073 offers one year B.P.Ed and one year diploma in Physical Education. Manipur University, School of Humanities and Social Sciences, Canchipur, Imphal-795003 offers Physical Education as one of the subjects for 3 years BA course.

**Q. What is Public Relation? I am graduate in Arts and I want to complete a Degree/Diploma course in Public Relation. Where can I do it and what is the eligibility?**

Public Relation is the art of getting along with people we constantly come in touch with. In the corporate world public relation is the link between the corporation and the outer world whether it is the customer, supplier, government, media or general public at large. It is the responsibility of the public relation department in the corporation to build a positive image of the corporation and also to build a good will among people which will help the corporation to achieve its mission, goal and objective.

The following qualities are needed to become a successful PR Professional:

- Impressive & effective communication skills
- Attractive personality
- Knack for meeting and talking to people
- Good listener
- Knowledge of up to date Economic, Business, Social and Political environment
- The right i.e. cool temperament
- Tact to deal with people

The best institution to complete a PG Diploma in Public Relation is Indian Institute of Mass Communication (IIMC), Aruna Asaf Ali Marg, JNU New Campus, New Delhi-110067. The eligibility for admission is Bachelor Degree in Science/Arts/Commerce from any recognized university. Admission is through All India entrance examination followed by interview.

Other institution/university offering Degree/PG Diploma in Public Relation after graduation are:

- (i) Gujrat University, Navrangpura, Ahmedabad-300009
- (ii) Indian Institute of Public Relations, B-9, Shivalik, New Delhi-110017
- (iii) Makhanlal Chaturvedi National University of Journalism, Bhopal-462016 (MP)
- (iv) St. Xavier's College of Communication, Mumbai
- (v) Punjabi University, Patiala
- (vi) Devi Ahilya Viswavidyalaya, Indore (MP)
- (vii) Aligarh Muslim University, Aligarh
- (viii) Bharatidasan University, Tiruchirapalli-620024

**Q. I am an unemployed graduate in arts and I want to take a career in insurance sector as an insurance agent/advisor. What is the scope and which are the institutions offering courses in insurance?**

With the opening up of the Indian insurance sector for private players, the future requirement of trained insurance agents is expected to be around 5-8 lakhs by the year 2014. The washout (failure) rate of insurance agents is as high as 70-80%, but with the entry of private players, dramatic changes can be expected, the Post-liberalisation insurance agent may be visualised as a laptop-wielding, number-crunching, smart Alec, who is familiar with all the latest hard-selling strategies. Recognizing the need for this sort of a bottom-up grooming, the Insurance Regulatory Development Authority (IRDA) has also made it mandatory for all practicing agents to get their licenses renewed and new agents and intermediaries to obtain formal training from institutes accredited by the authority. According to industry sources, this is a huge untapped market. Of an estimated insurable 300 million people, the present life insurance coverage is only 24% and our of a retired population of 30 million, the present pension coverage is a meagre one million. The potential of health insurance has not even been scratched. So, it's a sector waiting to be tapped! Certainly you can try for a career in insurance sector. You can contact LIC, GIC, TATA-AIG, Allianz-Bajaj, SBI-Life, ICICI-Prudential etc in their office to become an advisor/agent for which minimum qualification is HSLC. The insurance companies shall provide you necessary training and other support to start your business as an insurance advisor.

Q. I am a student of class XI and after completing my HS I want to go to US for further studies. What are the tests I have to take and how I should apply? Please tell me in detail.

To be eligible for admission to a U.S. university, you must meet certain minimum entry requirements. These include a secondary school diploma or examination results, English language ability, and in many cases a score from one of the U.S. university admissions tests.

As a part of the application process, most American colleges and universities require scores from one of the U.S. standardized admissions tests. However, some colleges and universities do not require international applicants to take admissions tests, and some schools do not ask for admissions test scores from any applicant. To find specific admissions test requirements, use U.S.-university directories such as the International Student Handbook of U.S. Colleges (The College Board, New York, NY) and *Applying to Colleges and Universities in the United States: A Handbook for International Students* (Peterson's, Princeton, N.J.). Also note that community colleges do not usually require applicants to take standardized admissions tests.

U.S. standardized admissions tests are primarily multiple-choice aptitude tests that are intended to measure the skills necessary for undergraduate study. American colleges and universities use admissions tests as a means of assessing all applicants (from the United States and other countries) against the same standard. Keep in mind that secondary school diplomas and examinations are not an equivalent to admissions tests, and that tests are only one part of the application — good test scores alone do not guarantee admission to the schools of your choice.

There are three main undergraduate admissions tests:

- Scholastic Assessment Test (SAT I)
- SAT II Subject Tests
- American College Testing (ACT) Assessment

Some universities may have their own in-house examinations or additional tests that applicants are required to take. For further information, make a list of the colleges you want to apply to, and then use general college directories or the colleges' own catalogs and Web sites to find out each institution's specific test requirements.

### **The Scholastic Assessment Test (SAT)**

Both the SAT I and SAT II are given several times throughout the year at locations worldwide. Preregistration is required, and deadlines are usually six weeks prior to the exam. More specific information about dates, test centers, fees, and registration procedures is available in the SAT registration bulletin or on the SAT test administrators' Web site at <http://www.collegeboard.org/>. You can get copies of the registration bulletin from the College Board in the United States or from your nearest U.S. educational information or advising center. You may be asked to pay postage costs for these bulletins. U.S. centers also usually have sample questions and other test preparation materials for the SAT tests available for reference use, loan, or purchase.

**Content:** The SAT I is primarily a multiple-choice test that measures verbal and mathematical reasoning abilities. The test is divided into seven half-hour sections: three verbal; three mathematical; and one additional section, the equating section, which is either verbal or mathematical. This last portion is used to ensure the same level of difficulty from year to year and does not count toward your score.

The SAT II Subject Tests are also primarily multiple choice, but are only one hour long. They measure knowledge in specific subject areas. The subjects currently offered are:

- American History and Social Studies
- Biology
- Chemistry
- Chinese
- English Language Proficiency
- French
- German
- Italian
- Japanese
- Korean
- Latin
- Literature
- Mathematics
- Modern Hebrew
- Physics
- Spanish
- World History
- Writing

Many U.S. colleges and universities, especially those that have more competitive admissions criteria, either require or recommend one or more SAT II test scores for admission and/or placement purposes. Be sure to check each institution's requirements before registering for any SAT II test. While some colleges specify which subject tests you must take, others leave the option up to you. In this case, it is advisable to take exams in your strongest areas of study.

**Scores:** The mathematical and verbal sections of the SAT I are each scored on a 200 to 800 scale. Therefore, the highest possible combined score on the SAT I would be 1,600. Scores are reported separately to colleges for the mathematical and verbal sections. Most college directories and catalogs quote average scaled scores for each institution to give some guidance on relative selectivity. The SAT II Subject Tests are also scored on a 200 to 800 scale.

### **The American College Testing Assessment (ACT)**

The ACT is administered by the American College Testing Program and is given up to five times annually at testing locations around the world. Unlike the SAT, the number of times the test is offered varies from one test center to another. As an international student, you may not need to take the ACT. If it is required, however, plan ahead to make sure you do not miss the test date(s) at your nearest center. Preregistration is required, and deadlines are two to three weeks prior to



the exam. Since the ACT is not as widely accepted as the SAT, check to see if the universities where you are applying will accept ACT scores in place of the SAT exam. More specific information about dates and test centers is available in the registration bulletin, which can be obtained from the test administrators and from many U.S. information and advising centers. Note that the centers may ask you to pay postage costs.

**Content:** The ACT Assessment is a multiple-choice test that measures English, mathematics, reading, and science reasoning.

**Scores:** For each of the four subject areas, you receive a raw score, which is the total number of correct responses. The score is then converted into a scaled score from 1 to 36. A composite score is then calculated by adding together the scaled scores and dividing the sum by four. The highest possible composite score is 36, and the lowest is 1. Scores take several weeks to reach universities.

Below is the recommended timetable for applying to universities in the United States. It is sometimes possible to complete the process more quickly, but you may have a much more limited choice of schools. Planning well ahead gives you sufficient time to make successful applications to the colleges of your choice.

**12 TO 18 MONTHS PRIOR** to the academic year in which you hope to enroll, begin to consider, research, and do the following:

- What are your reasons for wanting to study in the United States?
- Which universities will meet your needs?
- Will you need financial assistance?
- Find out application and financial aid deadlines. This will affect when you take the standardized tests required for admission since test results must reach admissions offices no later than these deadlines. The tests should be taken in advance of submitting university application forms.
- Register to take standardized tests if required by the universities to which you are applying.
- Begin narrowing down your choices of schools to approximately 10 to 20 institutions.

**12 MONTHS PRIOR** to enrollment, complete the following (months indicated are estimates, based on fall enrollment):

### **AUGUST**

- Contact universities for application and financial aid forms and catalogs.
- Obtain test registration forms to take the TOEFL and SAT I and SAT II, if necessary.

### **SEPTEMBER – DECEMBER**

- Request an official transcript from your school.
- Request letters of recommendation from your teachers.

- Submit completed application forms (for admission as well as financial aid).
- Double check that transcripts and references have been sent.
- Take the necessary admissions tests.

### **JANUARY – APRIL**

- University application deadlines must be met; note that these are for regular admission — early admission deadlines will be sooner.

### **APRIL – JUNE**

- Letters of acceptance or rejection arrive. Decide which university to attend, notify the admissions office of your decision, complete and return any forms they require.
- Send letters of regret to those universities you turn down.
- Organize finances: arrange to transfer funds to a U.S. bank; make sure you have funds for travel and expenses on arrival.
- Finalize arrangements for housing and medical insurance with your university.

### **JUNE – AUGUST**

- Apply to your nearest U.S. embassy or consulate for a visa upon receipt of your I-20 form and well in advance of your departure date
- Make travel arrangements.
- Contact the International Student Office at your university with details of your arrival plans, and confirm details of any orientation for new students held by the university.

You should now have a shortlist of colleges that match your needs, interests, and abilities. You should also feel confident that you have the minimum entrance requirements for studying in the United States, and that you can meet the costs of a U.S. undergraduate education. Now it's time to start putting together your applications. This chapter gives practical information and advice to help you make successful applications to the colleges of your choice.

The entire application process, from obtaining initial information to applying for your student visa, should begin 12 to 18 months in advance of when you want to go the United States. It is possible to complete the process in less than 12 months but late applicants usually find they have a much more limited choice of colleges.

### **ENGLISH PROFICIENCY**

To determine your level of English language proficiency, arrange to take the Test of English as a Foreign Language (TOEFL) as early as possible — at least a year before you plan to enroll. Some institutions accept English language examinations other than TOEFL; check the information you receive from institutions to see which examinations they accept.

Even if you have a good basic level of English proficiency and have met the minimum TOEFL requirements for a university, some schools may require you to take courses to improve your mastery of American English, academic or research usage, and study skills. If you studied English under the British system, you may find that U.S. vocabulary and usage are quite different.

**TOEFL Waivers:** If you are a non-U.S. citizen and nonnative speaker of English who has been educated in English for most of your school life, your TOEFL requirement may be waived. Allow time in the application process to correspond with U.S. universities about this issue. American universities are unlikely to accept secondary school English language examination results as proof of your language ability.

For detail write to TOEFL or visit their web site:

TOEFL  
CN 6152  
Princeton, NJ 08541-6152  
USA  
<http://www.toefl.org/>

**Q. I am a HS student and I want to act in theatre after completing a course from National School of Drama or any good university/institution offering a course in drama/acting. Please tell me in detail how I can fulfill my dream?**

National School of Drama, Bahawalpur House, Bhagwandas Road, New Delhi-110001 is the best institution to take a course in Dramatic Arts. The institution is an autonomus institution, fully financed by the Government of India, Department of Culture. The institution offers 3 years Diploma Course in Dramatic Arts, aims at development of theatre personality by imparting training in acting, design and other disciplines related to theatre. Eligibility for admission is Graduation in any subject from a recognized university in India, participation in at least 10 productions and working knowledge of English and Hindi. Age limit is 18-30 years. Admission is based on the recommendation of the Expert Committee constituted by the school to asses the aptitude and talent of the candidates and the decision of the expert committee is final.

The following Universities also offer Diploma in Acting for which eligibility is (10+2)/Graduation:

- (i) University of Mysore, Mysore Viswavidyalaya Karya Sodha, Crawford Hall, Mysore-570005
- (ii) Andhra University, Visakhapatnam-530003 (Andhra Pradesh)
- (iii) University of Hyderabad, P.O. Central University, Hyderabad-500046

(iv) MS University of Baroda, Shastri Bridge Road, Fatehganj, Vadodara-390002 (Gujrat)

**Q. I am a student of 10+2 standard. I want to take up a career in forestry/wild life. I want to know in detail about it. What are the different aspects of this profession?**

Forests are precious natural wealth for any country. India is blessed with a forest resource that is large in volume and diverse in character. Forestry and Wild Life go together since forests serve as home for wildlife. A large and well-trained work force is needed to operate at various levels for managing and maintaining this natural wealth.

**Different aspect of forestry:**

**Social Forestry** includes agroforestry (planting trees in agriculture areas), farm forestry (planting trees in farms), community forestry (planting trees in villages), avenue plantation, ornamental forestry and urban forestry.

**Wasteland development** deals with the effective utilisation and development of land that is infertile. The job sometimes includes optimum utilisation of industrial wastes and residues.

**Manufacture** of paper and products is also related to this profession. Job opportunities are available in timber factories, paper mills and where paper is produced from bamboo extracts.

**Preventive tasks** of a Forest manager/officer would include protecting wildlife, preventing the cutting of trees and guarding forests from fires and other hazards.

**Dendrologists** specialise in the scientific study of trees and woody plants. Their work involves research on the history, life span, measuring, grading, classifying the varieties of trees, and studying ways and means of tree improvement through afforestation etc.

**Ethology** is the scientific study of animal behaviour in its natural environment. An ethologist studies and analyses the evolution, behaviour, biological functions etc. of an organism in its natural environment.

**Silviculture** is an aspect of Forestry that refers to the growth of plantations that yield periodic harvests.

For the proper maintenance of the energy from forests, expert advice is frequently sought. The **advisory task** mainly covers this. Besides, the task also involves spreading awareness about natural environment, preservation of forests and prevention of misuse of preservation of forests and prevention of misuse of forest resources.

At an executive level, various policy decisions are made and schemes devised for the conservation of forests and wildlife. The task here, broadly referred to as **planning**, also includes sanctioning the setting up of sawmill factories and verifying the cutting of trees.

**Eco tourism** is another aspect of forestry where the officer is involved in the development of forests and wildlife sanctuaries, with a focus on encouraging tourism. Organising nature camps is also part of the job.

### **What are the attributes one needs to have?**

For Indian Forest Service and State Forest Services, one needs to be physically strong. Men should have a height of at least 165 cms and women should be 150 cms, with corresponding weight. For being a successful forest manager, you must have keen interest in forest resources, wildlife and botany.

A career in this field may require extensive walking. Those in research must be explorative and inquisitive. The aspirant must also possess a crusading spirit and excellent skills of observation. A very crucial role in the management and supervision of the country's forest reserves and wild life. To join the IFS you should be between the age of 21 and 28 years with graduation in any one of the following: Botany, Chemistry, Geography, Mathematics, Physics, Statistics, Zoology, Agriculture, Forestry, Engineering or an equivalent qualification. The written exam is followed by an interview and a rigorous walking test (25 kms in 4 hrs. for men and 14 kms in 4 hrs. for women).

For the successful candidates, training is held at the Indira Gandhi National Forest Academy in Dehradun. There are different examinations for Forest Range officers.

Forest research and education are managed under the aegis of Indian Council for Forestry Research & Education (ICFRE) and Wildlife Institute of India. There are also good openings in manufacturing.

To be in Research, you should at least have a M.Sc. in Forestry, Forest Resources, Agricultural Science, Botany or other related subjects. The Indian Council of Forestry Research and Education (Ministry of Environment and Forests) is an autonomous organisation that conducts research. The Council has branches in Dehradun, Shimla, Jabalpur, Jodhpur, Jorhat, Ranchi, Coimbatore, Bangalore, Hyderabad, Allahabad and Chilwara. Other related programmes are PG Diploma in Forest Management/ Plantation Management/ M.Sc. in Forestry/ M.Sc. in Forest Economics & Management.

B.Sc. (Forestry) is a four-year course which is offered at College of Agriculture, Akola; College of Agriculture, Haryana; Haryana Agricultural University, Hissar; College of Agriculture, Bangalore; University of Agricultural Sciences, Dharwad; Kerala Agricultural University; Trichur; Konkan Krishi Vidyapeeth, Ratnagiri and Punjab Agricultural University, Ludhiana. Kerala Agricultural University, Trichur offers a M.Sc. (Forestry), which is a two-year programme.

The Indian Institute of Forest Management, Bhopal, offers a Postgraduate Diploma in Forest Management. The Indian Agricultural Research Institute at New Delhi also conducts Research studies.

For one interested in a harmonious blend of science and wild life and forestry, there are other specialisations like animal cytology, genetics, nutrition, and physiology, and veterinary science. The Aligarh Muslim University, Saurashtra University and the Wildlife Institute of India offer a specialisation in wildlife science.

Academically inclined aspirants interested in research in forestry can work with the Indian Council of Forestry Research and Education (ICFRE) and the various research institutes affiliated to it. The Forest Research Institute, Dehra Dun; Institute of Social Forestry and Eco-rehabilitation, Allahabad; Institute of Forestry Research and Human Resources Development, Chindwara are some of the institutes working under the aegis of ICFRE.

## **What are the various options and prospects in this profession?**

There are various people who work in forest and wild life conservation. For example, botanists, mycologists, zoologists, entomologists (study and control of diseases caused by insects and pests), silviculturists (forest propagation and culture), forest statisticians, range forest officers, forest conservators, forest guards, forest managers, wild life biologists and others.

There are openings in Forest research institutions, Indian Forest services and State Forest services. Various government undertakings and non-governmental organizations like Society for promotion of wasteland development and TERI also employ people qualified in Natural Resource management.

Those in this line can also get into Wildlife biology and management. This would involve protection, preservation and management of wildlife giving special attention to endangered species within the protected area network of National Parks, Sanctuaries and in multiple use areas, management of sanctuaries for education, recreation and captive breeding of endangered species and study of their habitats through research.

Non-governmental organisations and international bodies such as the Food and Agriculture Organisation too employ forest officers. Hiring of conservation scientists and foresters is on the rise in

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Non-governmental organisations and international bodies such as the Food and Agriculture Organisation too employ forest officers. Hiring of conservation scientists and foresters is on the rise in recent years as there is a rising demand for professionals to prepare environmental impact statements and erosion and sediment control plans, monitor water quality near

logging sites, and advise on tree harvesting practices. The academically inclined could also take up teaching or research.

In Forest services, you can start with a salary of about Rs.10, 000/- a month with additional perks and allowances. In research, one can begin as a fellow with stipend of Rs.5000 - 8000 a month or as a Scientist with a salary of about Rs.10, 000/-a month.

Forest Management professionals can get about Rs.12, 000/- or more per month to start with. Their work involves handling resource conservation, utilisation of wastelands and so on.

Forests are a rich source of many natural products like timber, honey, medicinal herbs and natural fibres. Urbanisation is the main reason for the rapid degeneration of forests. Awareness of the environment and ecological crises have spurred an intensified global race to save the planet from further damage, highlighting the pivotal role of specialists in this field.

**Q. I want to be an astronaut like Kalpana Chawla. Kindly let me know in detail how I can fulfill my dream?**

After the success story of Kalpana Chawla, many of young stars are now interested to become an astronaut. If you are looking for a career that combines cool technology, interesting science and great adventure, you could hardly make a better choice than becoming an astronaut. And there is potential for growth in the field. With the construction of the International Space Station, there will be a permanent human presence in outer space and a need for astronauts. But becoming an astronaut in the U.S. space program is not easy, and the process can take several years.

There are three types of astronauts in the U.S. space program:

- **Commander/pilot**
- **Mission specialist**
- **Payload specialist**

The **commander** is responsible for the mission, the crew and the vehicle. The **pilot** assists the commander in operating the vehicle and deploying satellites. The **mission specialist** works with the commander and pilots in shuttle operations, performs space walks and conducts experiments.

The **payload specialist** performs specialized duties as the mission requires. Payload specialists are people other than NASA personnel, and some are foreign nationals.

**Astronaut Pilots**



Pilot astronauts serve as both space commanders and pilots. During flight, the commander has onboard responsibility for the vehicle, crew, mission success, and safety of flight. The pilot assists the commander in controlling and operating the vehicle and may assist in the deployment and retrieval of satellites using the remote manipulator system (RMS), referred to as the robot arm or mechanical arm.

### **Astronaut Mission Specialist**

Mission specialist astronauts work with the commander and the pilot and have overall responsibility for coordinating operations in the following areas: systems, crew activity planning, consumables usage, and experiment/payload operations. Mission specialists are trained in the details of the onboard systems, as well as the operational characteristics, mission requirements/objectives, and supporting equipment/systems for each of the experiments conducted on their assigned missions. Mission specialists perform extravehicular activities (EVAs), or space walks, operate the remote manipulator system, and are responsible for payloads and specific experiment operations.

### **Payload Specialists**

Payload specialists are persons other than NASA astronauts (including foreign nationals) who have specialized onboard duties; they may be added to shuttle crews if activities that have unique requirements are involved and more than the minimum crew size of five is needed.

First consideration for additional crew members is given to qualified NASA mission specialists. When payload specialists are required they are nominated by NASA, the foreign sponsor, or the designated payload sponsor. In the case of NASA or NASA-related payloads, the nominations are based on the recommendations of the appropriate Investigator Working Group (IWG).

Although payload specialists are not part of the Astronaut Candidate Program, they must have the appropriate education and training related to the payload or experiment. All applicants must meet certain physical requirements and must pass NASA space physical examinations with varying standards depending on

The basic qualifications for becoming an astronaut include:

- **U.S. citizenship** (for pilots and mission specialists)
- **Bachelor's degree** (engineering, biological sciences, physical sciences, mathematics) from an accredited college or university

- **Three years of related experience** after obtaining the bachelor's degree - A master's degree equals one year of experience, and a doctorate equals three years.
- **Passing a NASA space physical examination** - Pilots need to pass a Class I physical; mission/payload specialists must pass Class II. Both are similar to civilian and military flight examinations.
- **More than 1,000 hours experience as pilot-in-command of a jet aircraft** (pilots only)
- **Height** of 64 to 76 inches (162.5 cm to 193 cm) for pilots, 58.5 to 76 inches (148.5 cm to 193 cm) for mission/payload specialists

To apply for an astronaut position, you fill out the appropriate forms and submit them to NASA, which accepts applications continuously. NASA then screens the applications, and you may be asked to go for a weeklong session where you will participate in personal interviews, medical tests and orientations. Your screening performance will be evaluated, and if you are lucky, you may be accepted as an **astronaut candidate**. NASA announces candidates every two years, selecting about a hundred men and women out of thousands of applicants.

If you are selected, you will report to NASA's Johnson Space Center in Houston, Texas, for training and evaluations, which last two years. During the **training period**, you will take classes in basic science (math, astronomy, physics, geology, meteorology, oceanography), technology (navigation, orbital mechanics, materials processing), and space shuttle systems. You will also be trained in land and sea survival techniques, SCUBA, micro gravity, high- and low-pressure environments, and spacesuits. You must pass a swimming test (swim three lengths of a 25-meter pool in flight suit and tennis shoes, and tread water for 10 minutes). If you are a pilot, you will train in NASA's T-38 jet aircraft and shuttle training aircraft at least 15 hours each month. Mission specialists fly four hours each month.

At the end of the two-year training period, you may be selected to become an **astronaut**. As an astronaut, you will continue classroom training on the various aspects of space shuttle operations that you started as an astronaut candidate. You will begin training on each individual system in the shuttle with the help of an instructor. After that, you will train in simulators for pre-launch, launch, orbit, entry and landing. Depending upon whether you are a pilot or mission specialist, you will learn how to use the shuttle's robotic arm to manipulate cargo. You will continue generic training until you are selected for a flight.

Once you are **selected for a flight**, you will receive specific training for the mission at least 10 months prior to the flight. This includes training in flight simulators, full-scale mockups of the shuttle and space station, and underwater training for space walks. The simulations will prepare you for every type of emergency or contingency imaginable.

After your training, you will prepare for your flight with training in the shuttle itself (pilots), meetings and more simulations. After your flight, you will have several days of medical tests and discussions; these are called **debriefings**.

Astronauts are expected to stay with NASA for at least five years after their selection. They are federal civil service employees (GS-11 to GS-14 grade) with equivalent pay based on experience. They are eligible for vacation, medical and life insurance, and retirement benefits.

So, you can see that you will need education, hard work and steadfast dedication to become an astronaut. However, the future & career is tremendous!

**Q. I want to take a career in advertising. What is the potential of advertising as a career? Which universities offer courses in advertising?**

Advertising is the means of informing as well as influencing the general public to buy products or services through visual or oral messages. A product or service is advertised to create awareness in the minds of potential buyers. Some of the commonly used media for advertising are T.V., radio, websites, newspapers, magazines, bill-boards, hoardings etc. As a result of economic liberalization and the changing social trends advertising industry has shown rapid growth in the last decade.

Advertising is one of the aspects of mass communication. Advertising is actually brand-building through effective communication and is essentially a service industry. It helps to create demand, promote marketing system and boost economic growth. Thus advertising forms the basis of marketing. To enter the career of advertising, you can go for a degree/diploma in advertising/mass communication/ marketing and then join any advertising agency for on the job training.

**Universities/Institutes offering courses in advertising:**

- University of Mumbai
- University of Poona

- University of Rajasthan
- Dibrugarh University
- Manipur University
- University of Calcutta
- North Bengal University
- University of Delhi
- Punjab University
- Maharishi Dayanand University
- Magadha University
- Patna University
- Jiwaji University
- Rani Durgavati Vishwavidhyalaya
- Karnataka University
- Bharathiar University
- University of Chennai
- Madurai Kamaraj University
- University of Calicut
- Osmania University

**What is interior designing? Who can become an interior designer? What are the career prospects?**

Interior design is the process of shaping the experience of interior space. So it's not just interior decoration but it also involves aspects of environmental psychology, architecture and product design. While some would say it is just the art of putting some furniture together, interior designers beg to differ. Experts say that interior design is a creative process that understands the client's need, creates a conceptual design, reviews the design, and produces a final cut design document or plan. Many a time, an interior designer works closely with the architect to define the finer nuances of a home. However, these are absolutely different branches looking at different aspects of a home. While your architect will tell you the dimensions of your bathroom and even the tiles to be used, your interior designer will tell you the best fittings and how the bathroom will compliment your mood. There is quite a big debate on that front. Everyone agrees

that you need to be a creative person if you want to be an interior designer. However, some feel that you need added qualifications.

"You need creativity, financial acumen, interest and knowledge of materials to be a good interior designer," says Parthajet Sarma, director of iDream Advisory Services Private Limited. Sarma is actually an architect however he has been involved in interior design with as much success. He adds, "(Some) One who has an eye for detail and loves solving cryptic puzzles would make a good interior designer. I am not an interior designer but an architect -- however I have been involved in this industry for 12 years now." The key word then is interest. The rest falls in after that. Create a checklist and tick from interest, creativity, financial knowledge and the willingness to learn about brick and mortar.

Interior designers are in demand. Industry experts say there is a dearth of good interior designers. "Interior designers are in much demand now due to the retail boom in India," says Shubha Jain who offers interior design courses at the International Institute of Fashion Design (Mumbai). "Career prospects range from starting their own firms and taking up projects, to working as a designer for malls, hotels and design companies. Interior designers are also employed by big architectural firms to cope with project load." But success will not come instantly. Once you finish your training, you will need to work hard to get some recognition. "Yes, the career prospects are good," says Sarma, "But be prepared to slog it out during the initial years. If you do that and you are intrinsically good at design, you will surely shine. Be warned however that this is not like doing an MBA from an IIM where you join at the top and retire at the top."

### **Q. What are the vocational/job oriented subjects/courses offered by CBSE?**

Accommodation Services

Agriculture

Advance Food Preparation

Air-Conditioning and Refrigeration

Applied Physics

Auto Engineering

Auto Shop Repair and Practice

Basic Design (Common to Textile Design-Weaving)

Bakery Science

Beauty Therapy and Hair Dressing

Cash Management and Housekeeping

Clinical Biochemistry

Clothing Construction

Civil Engineering

Confectionery

Cosmetic Chemistry

Classification and Cataloguing

Commercial Art

Community Health Nursing

Consumer Behavior and Protection

Dance (Kathak)

Dance Kuchipudi

Dance Odissi

Dance Bharatnatyam

Designing & Pattern Making

Dyeing and Printing

Digital Electronics and Micro Processors

Electrical Appliances

Electrical Machines

Electronics Devices and Circuits

Entrepreneurship

Engineering Science

Establishment & Management of Food Service Unit

Fabrication Technology

Floriculture

Food Science & Hygiene

Food and Beverage Service

Food Preparation

Fundamentals of Nursing

Graphics

India — The Tourist Destination

Laboratory Medicine

Lending Operations

Library Administration and Management

Maternity & Child Health Nursing

Meal Planning & Service

Music Hindustani (Vocal)

Music Karnataka (Melodic)

Music Karnataka (Mridangam)

Music Karnataka (Vocal)

Music Hindustani (Instrumental Melodic)

Music Hindustani (Instrumental Percussion)

Management of Bank Office

Marketing

Mechanical Engineering

Microbiology

Ophthalmic Techniques

Optics

Office Practice and Secretary ship

Ophthalmic Techniques (Vocational) Biology

Painting

Philosophy

Physical Education

Principles and Practices of Life Insurance

Post Harvest Technology & Preservation

Radio Engineering and Audio Systems

Railway Commercial Working

Reference Service

Radiation Physics

Radiography

Stenography (English)

Salesmanship

Sculpture

Store Accounting

Store Keeping

Textile Science



Television and Video Systems

Tourism management and Manpower planning

Travel Trade Management

Transportation systems and Management

Typewriting (English)

Vegetable Culture

Yoga, Anatomy and Physiology

### **Q. What is data mining?**

**Data mining** is a relatively young and interdisciplinary field of computer science is the process of discovering new patterns from large data sets involving methods at the intersection of artificial intelligence, machine learning, statistics and database systems. The goal of data mining is to extract knowledge from a data set in a human-understandable structure and involves database and data management, data preprocessing, model and inference considerations, interestingness metrics, complexity considerations, post-processing of found structure, visualization and online updating.

The term is a buzzword, and is frequently misused to mean any form of large scale data or information processing (collection, extraction, warehousing, analysis and statistics) but also generalized to any kind of computer decision support system including artificial intelligence, machine learning and business intelligence. In the proper use of the word, the key term is discovery, commonly defined as "detecting something new". Even the popular book "Data mining: Practical machine learning tools and techniques with Java" (which covers mostly machine learning material) was originally to be named just "Practical machine learning", and the term "data mining" was only added for marketing reasons. Often the more general terms "(large scale) data analysis" or "analytics" or when referring to actual methods, artificial intelligence and machine learning are more appropriate.

The actual data-mining task is the automatic or semi-automatic analysis of large quantities of data to extract previously unknown interesting patterns such as groups of data records (cluster

analysis), unusual records (anomaly detection) and dependencies (association rule mining). This usually involves using database techniques such as spatial indexes. These patterns can then be seen as a kind of summary of the input data, and used in further analysis or for example in machine learning and predictive analytics. For example, the data mining step might identify multiple groups in the data, which can then be used to obtain more accurate prediction results by a decision support system.

### **Q. What is Narrowcasting?**

**Narrowcasting** has traditionally been understood as the dissemination of information (usually by radio or television) to a narrow audience, not to the general public. Narrowcasting involves aiming media messages at specific segments of the public defined by values, preferences, or demographic attributes. Also called niche marketing or target marketing. Narrowcasting is based on the postmodern idea that mass audiences do not exist. The term was coined by computer scientist and public broadcasting advocate J. C. R. Licklider, who in a 1967 report envisioned "a multiplicity of television networks aimed at serving the needs of smaller, specialized audiences. 'Here,' stated Licklider, 'I should like to coin the term "narrowcasting," using it to emphasize the rejection or dissolution of the constraints imposed by commitment to a monolithic mass-appeal, broadcast approach.' "

The term "narrowcasting" can also apply to the spread of information to an audience (private or public) which is by nature geographically limited—a group such as office employees, military troops, or conference attendees—and requires a localized dissemination of information from a shared source.

### **Q. Who is a knowledge engineer?**

A **knowledge engineer** is a computer systems expert who is trained in the field of expert systems. Receiving information from domain experts, the knowledge engineers interpret the presented information and relay it to computer programmers who code the information in to systems databases to be accessed by end-users. Knowledge engineers are used primarily in the construction process of computer systems.

## **What is Graphic Design?**

Ever wondered why do you stay at some websites for a longer time and leave some without spending much time? Ever wondered what is graphic design? Well then you are already on your way to starting a career in graphic design. A graphic designer is a specialist in solving the problems associated with visual communication. The qualified graphic designers have the skills in Drawing, Layout, Typography, Lettering, Diagramming and Photography. A graphic designer is someone who can visualise text into pictures and express them through a visual representation. Graphic designers do designing for logos, icons, and make detailed designs and layouts. Graphic designing as a career can be very lucrative, once a person gains experience he can do projects on his own and also start his own venture. As a graphic designer one uses specialized computers and computer software to help you create layouts and design elements and also to program animated graphics. Initially at the entry level one joins as a graphic designer and then can go on to become creative head of a company.

## **What is Cargo Handling?**

Ever wondered what is cargo handling and how your luggage at the airports is carried, driven and delivered – yes there is a whole science and industry behind it! A cargo handler moves luggage and places them in appropriate locations. He should be physically strong to carry heavy weight luggage. He needs to know how much weight a vehicle can take or a location can handle. Also he needs to check the weight and report any discrepancies in the weight to the cargo officer. Cargo handler load and unload the luggage from and to the vehicle. They always need to ensure that balance is maintained throughout the journey of the vehicle and no un-forecast incidents happen. If you want to make a career in cargo handling, you can do diploma course after your 12th and be a cargo handler. The training usually deals with logistics, knowledge of supply chain management, maintaining and driving the vehicle. A career in cargo handling can see you not only placed at airport but also at ports.

## **What is Social Work?**

When people wonder what social work is – they usually imagine field trips to villages which is in fact a very small part of the entire field. Right from ancient times people have been caring

about each other – families care about their members and friends care about each other. When you do something for your brother, it is not social work, but it's your duty. On the other hand, when you do something for a stranger or for the suffering and the weak, it is called social work. Thus, social work is something that is done for the welfare of a society. It is a professional discipline committed to the pursuit of social welfare and social justice and work toward research and practice to improve the quality of life and potential of each individual, group, and society. As a social worker, you would be working towards organizing the NGO sector by channelizing resources and funds to the needful. As a social work student you will learn about human rights, child rights, and women rights -you can pick up the sector of your interest and start working with NGOs and Social Groups after gaining a professional degree in social work or psychology. You can travel to other countries as volunteers or paid employees to their NGOs and make a change there too. Education: B.S.W., B.A., M.S.W., M.A., PG-Diploma