Chapter 3: Defence Training and Education Institutes in India: Historical Perspective

3.1 Introduction:

Human beings are social animals and since time immemorial he took care to protect himself from the ravages of nature, animals and other groups of society. He stayed in groups to get protection and later this perhaps developed into the concept of defence. From self –defence to the craving to carve out one’s own territory, establish kingdoms and expand them since, ancient times, a standing army was given importance for different reasons. Almost every nation of the world had an army at least for its own protection and even the holy scriptures of many religions refer to well equipped armies. Thus Defence forces have been an essential feature of every nation since ages.

In any field of knowledge and practice there is a need for education and training to update the qualities required for the profession. In defence there is an acute need of specialized education and continuous training to cadets and officers at different levels. The Ministry of Defence in India made massive efforts in providing specific education through establishment of specialized institutions all over the nation and through them developed different corps for needs arising during times of war as well as peace. A cursory review of the development of defence and education in India from the Vedic period to its present status is put forth in the following pages.

3.2: Historical Development of Defence.

Defence Military is now essential part of every nation. Its development is constant since past many years and has a history. A currency note of historical development is processed in the following paragraphs.

3.2.1: Armed Forces during Vedic Period:

Analysis and review of the literature related to defence indicates the fact that armies were reared during the Vedic period. Though the kings in the Vedic period had no standing armies with them but on a requirement basis it was possible to call on the people from the society. The Hindu Monarchical States of the period were essentially civil states and they never evolved into a military polity. At the time of war, the king was dependent on the local levies, which brought their own arms and weapons and
their chiefs led the group. The army consisted of Patti (foot soldiers) and Rathins (car warriors). The size of an army on the field at a time was 30,000 to 60,000. Das (1969) The weapons used by the army were axes, spears, daggers, bows and arrows of copper etc. The defensive weapons were huge helmets, probably made of leather, and shields of ox–hide. The princes went to war in two horded chariots, which consisted of a board to stand on, and breast –work of wicker. Indians during those days had knowledge of sea navigation and also had trading voyages to distant shores across the sea and established commercial relations with other countries. However, there is no evidence of any naval encounters.

3.2.2: Armed Forces during Epic and Puranic Periods:

Das (1969) The Heroic Age of Ancient India is presented in the epics of Ramayana and Mahabharata and from this period onwards, the organization of the armed forces took a progressively, more positive shape and form. The organization of army was similar to the popular game in ancient India, “Chess”, which was related to the organizational and operational basis of a four-fold army, called ‘Chaturangabala’. Later on, armies developed into six –fold and further ultimately into an eight –fold division. The order of the divisions of the armed forces during this period was is underlined below.

Chariots: Chariots were considered as indispensable instruments of war in the days of the Vedas. In Ramayana and Mahabharata, its use was largely in evidence. The separation between the charioteer and the fighter seems to have come about the time of “Aitareya Brahmana”.

Elephants: The force of elephants was regarded next in importance to chariots. In early days elephant was used as a symbol of peace and as a vehicle in a war, as a combatant. It was considered as an excellent means of transport over rugged tracts. There are references in Rigveda, to two elephants bending their heads and rushing together against an enemy, this is the early reference indicating animal being used in war. Elephants were marched in front of the army, clearing the way of trees and shrubs. Elephants protected the flanks of the army and helped out to ford rivers, presented a
firm front in fight, broke down the enemy’s group, routed the enemy, rallied the soldiers of their own side and safeguarded the treasure.

Cavalry: In the epoch of the Epics and “Arthashastra”, it is found that cavalry also occupied as an important place in the army as any other division. Importance of horses is noted in the “Laksanaprakasa”.

Infantry: Arthashastra indicated the importance of infantry as a separate army department under the charge of a special officer of the state. This received confirmation from the statement of Magasthenes. In the infantry hereditary troops formed considerable portion of the arm, where as there were the mercenaries, the soldiers supplied by group and guide organizations in the state, soldiers supplied by the allies, the deserters, from the enemy rank, and those recruited from the forest tribes. They were probably marshaled, village by village as in ancient Greece and Germany.

The Commissariat: The “Chaturanga” was a classical division of the army accepted by tradition. But in the epoch of the epics, there came into existence the “saddanga” or the six-fold army, including commissariat and admiralty. The chief functions of this department were to supply clothes and arms to the camp to be treated by physicians and surgeons etc. The same care was also taken for the wounded animals. Thus healing of man and beast was another function of this department.

Admiralty: It is generally admitted that the creation of the admiralty department was an innovation due to the genius of Chandragupta. Use of ships and boats were known to the people in the Rigveda and Puranas. In ‘Yuktikalpataru’ of Bhoja, three classes of ships are mentioned viz. : The Sarvamandira, which had apartments all around and were used to carry treasures, animals, ladies of the harem etc, and was the type of vessel ordinarily used by the Kings in times of peace.

(1) The Madhyamandira, which had the apartment suited in the middle was a sporting vessel generally used in the rainy season
The Agrasmandira, which took its name from the circumstances that the living room was located in front or at the top of the vessel, and which was used for distant and perilous voyages and also for sea-fights.

3.2.3: Units of Armed Forces:

The ancient Indian army was divided into Patti, Senamukha, Gulma, Gana, Vahini, Prtana, Camu (Battalion, Regiments, Companies, and Platoons etc.). Of these, the Patti comprised one chariot, one elephant, three horses, and three footmen. This was the smallest unit of the army. The next was the Senamukha the four arms of the Patti multiplied by three. Thus, three Senamukhas formed a Gulma, three gulmas formed one Gana, three Ganas one Vahini, three Vahinis one Prtana, three Prtananas one Camu, three Camus one Anikini and ten Anikinis, formed one Aksauhini. In Udyga Parva of the Mahabharata, there is of course a different enumeration of the army units.

3.2.4 Weapon System:

The bows (Dhanus) and arrows (Isus) were the main weapons of Mukta group. The very fact that ancient Indian military was named ‘Dhanur Veda’ goes to prove clearly that the bow and arrows were the primary weapons of the war in those days. In ‘Nitiprakasika’, twelve weapons are mentioned under the Mukta group and among them, the bow and the arrows figure prominently. Ancient Indians knew the use of fire-arms also. The Arabs learnt the manufacture of gunpowder from India. The Rigveda Samhita, points out that Agni (fire) was praised for vanquishing an enemy and used fire-arms in war. The Aitareya Brahmana describes an arrow with fire at its tip. In the Mahabharata and the Ramayana, employment of agniastra is frequently mentioned and the terms used were Agah, Kanapa and Tulaguda etc.

(a) Mukata Weapons: The types of weapons carried in this group were: Bhindipala: A heavy club which had a broad and bent tail-end, measuring one cubit in length. Sakhi: a spear, Drughana: knot at the foot, with the middle bent. Kunta: a kind of barbed dark, six to ten cubits long. Sthuna: a pillar-like instrument and had the height of a man with several knots at the top. Prasa: measured four hastas and had a sharp face. Pinaka: had three prongs made of
iron and three front was of brass. Its use was for striking, thrusting, rending cutting to pieces, breaking and severing. Gada: was a heavy rod of iron with one hundred spikes at the top. It could be handled in twenty different ways. It was used as a projectile weapon of war with gunpowder. It was a terror weapon of the period. Mudgara: like a shape of a hammer and was used to break heavy stones rocks. Sira: It was a bucket- like instrument curved on both sides and had a wide opening made of iron. Musala: It was a pestle-like club having both ends well knit together with pointed rod made of Khadira. Pattisa: a kind of spear with a keen edge of copper or iron. Maustika or First Sword: a sharp knife used in boxing encounters. Parigha: It was wooden beam used for looking or shouting gates and was a battering ram. It was so heavy that a whole army of soldiers was required to use it. Mayukhi: a staff with a hilt had the height of a man, and was furnished with small bells, a shield was also provided for it. Sataghi: a weapon, which was supposed to have power of killing hundred men at a time. It looked like a Gada, four cubits in length, with a number of iron spikes. It was generally placed on the walls of the forts and Kautilya included it in the immovable machines. Sword: many varieties of swords are mentioned in the Puranic literature, manufactured in Khati and Khattara, were famous for its luster, while those of Kaisika for its power in felling, Surpraka for durability, and Vanga, Anga for sharpness. Tomara: according to Vaisampyana and Agni Puran it was a club, three cubits long and capable of three different movements and was used with the help of an arrow of straight feathers, and was powerful in dealing blows on the eyes and hands of the enemy. Nalika: a handgun or a musket. Nalika were of two kinds, big and small. The small ones were generally used by foot soldiers, and big ones were carried in carts.

(b) Amukta Weapons: According to Vaisampayana, amukta weapons were of twenty kinds and few of them were: Vajara or the Thunderbolt: it had six sides and made a terrible noise when hurled. ISU: a better sword and compared to an arrow or a reed like weapon. Parasu: it was a battle axe attributed to the famous Parsurama. Gosias: a spear resembling the shape of a cow horn and measuring, two feet in length. Asidhenu: a small dagger with
three edges and used in close fighting. Lavira: a sickle and had a crooked shape and sharp at the end. Astra: associated with the boomerang and a long head the top and a knot at the foot, with the middle bent.

Liddell Hart (1936) Britain’s foremost military thinker points out in his book that, “Rational pacifism must be based on a new maxim – if you wish for peace, understand war”. History has ample evidence of how often a move to preserve peace or to restore it has been paralyzed by so-called military reasons that were no more than a rationalization of unreasonable impulses. Hence we need to understand not only the causes but the conduct of war. This understanding can only be attained if we study war in purely scientific spirit, with our minds freed from any pro-military or anti-military bias which impair our judgment – and thereby nullify our deductions.

He also described the historical evolution of the Indian armed forces after independence. The British and American armies rely heavily on past experiences in order to formulate their approaches to warfare. Gooch (1945), British Professor of international history in his books, British Military History 1870-1945 and Italian Military History 1870-1943, rightly points out that “a glance at the rear – view mirror of history, may therefore offer some guidance to those tasks, which is not merely to predict the future but to master it”.

3.3: Current Status of Defence Education: A Global overview

From the literature search it is observed that every nation has developed and maintained a well-based Military, Army or Defence academy for promoting proper education and training in this area. Defence is given importance and major investments are made in this sector. Defence education academies are established in every country to protect the nation. A sample list of the Academies in few countries is presented below.

Australia: Australian Defence Force Academy (ADFA); Australian Commands and Staff College; Australian Defence College

China: National University of Defence Technology; National Defence University

France: Military Academies of France
India: Established almost 20 organizations for defence education and training purpose Japan: National Defence Academy of Japan

Pakistan: National Defence University Pakistan; Pakistan Military Academy; Command and Staff College

Russia: Military Education in Soviet Union; Soviet Military Academy

Sri Lanka: Defence Services Command and Staff College: Sri Lanka Military Academy

USA: United States Army Education and nearly 50 organizations in defence education, training, etc.

The above activities clearly indicates the importance of military or defence training and education everywhere in the globe. India’s developments in this area are also notable and a cursory review of the Indian development in respect of defence training and education is described in the following paragraphs.

3.4: Defence Education: Status of India

India ranks 5th in the world spending on its total income of GDP on defence (Sakal 2012) next to America, China, Russia, Japan. Indian Military support in strong and has a past history

3.4.1: Indian Defence History

The development of the armed forces as an institution, and functions of the Indian military are the main concerns, and Verma. (2009) in his study indicated that the Indian Army has its origin as armed guards of the East India Company, which was a company of merchants from Britain. These guards were required for the protection of the company’s factories and warehouses. Initially, in these forces all were Englishmen, but gradually Indians too were enrolled. To begin with, the company carried out trade from Madras, Bombay, Surat and Calcutta. As the company expanded with conquests, more and more Indians soldiers were enlisted. Gradually steps were taken to develop various units or group from Madras, Bombay and Bengal to form an unified Army.
In 1902, when Lord Kitchener took over a Commander –in-Chief of army it was further reorganized as a new regular force. By 1914, at the time of the outbreak of the World War I, the strength of Indian army had reached approximately 1,50,000. By the time the World War II had started in 1939, the strength of the army had risen to 1m89, 000. In 1947, with the partition of the country, two –thirds of the strength remained with India and one third went to Pakistan. On the eve of our Independence the strength of the undivided army was nearly 25,00,000.

Indian soldiers had served all over the world during the British regime. They fought from China in the east, France and Africa in the west during the period 1914-18 and 1939-45 i.e. two World Wars. They scripted many victories with their valour and sacrifice in numerous battlefields in China and Iraq, Africa, Italy, France and Burma. The secret of success of the Indian Army had been its unflinching sense of duty, discipline and traditions of valour.

In Aug 1947, the subcontinent was plunged in a great turmoil due to widespread communal riots and movement of refugees. This situation created major administrative problems and the army had to step in to control the situation. A special Army Command was set up to ‘keep the peace’ while the partition proceeded during that period. This command functioned under Major General T.E. Rees with effect from 1 Aug 1947 and an ad - hoc force, the Punjab Boundary Force with its Headquarters (HQ) at Lahore was formed. This forced consisted of undivided mixed units with a high proportion of British Officers. The charter of command gave Maj Gen Rees control of troops in both the dominions. He was made responsible to both the governments, through the Supreme Commander and Joint Defence Council. One brigadier each from the Indian and the Pakistan Armies were appointed as adviser to Maj Gen Rees. The forces under the command of this HQ had to go into action in all major towns in Punjab. The fanatical mobs struck back with fury and many soldiers sustained serious injuries. The army, however, managed to carry out their tasks with great impartiality throughout the communal frenzy which prevailed in the country during the partition.

On 15 Jan 1948 Lt Gen KM Cariappa became the first Indian Commandant -in-Chief and since then on every 15 Jan of the year this day is celebrated as an ‘Army Day’.
On this occasion, the “Chief Of the Army Staff (COAS)” reviews the parade and takes the salute honor from the army at the time of army day Parade at Delhi Cantonment. This is a very grand parade held just before the Republic Day Parade.

The rulers of some princely states were reluctant to join the new Indian dominion and many had to be coaxed by threat of force. The army was yet to reorganize after its division when all came from Junagadh and Hyderabad. The Indian Army solved the conflict in these states without bloodshed, which then became part of the Indian dominion.

Indian Military Services established many distinguished academies and staff colleges throughout India to provide specialized education and training to defence entrants, officers, and assist in making them aware of new generation military services, warfare, technology etc. The Rashtriya Indian Military College was established at Dehradun in 1922 with the objective of providing training and education to officers in defence services. All these training and education institutes work in co-ordination with one another and are under the control of the Defence ministry. The different establishments in this area are summarized briefly in the following paragraphs.

3.5: Defence Training and Education Institutes in India:

In the survey it was noticed that out of 28 institutes around 20 institutes in India which are engaged in providing defence training and education to new entrants and officers from the defence. There is a constant need of training due to modernization and application of technology that change the very nature of tactics used in the military profession. A brief on the activities pertaining to the education with aim, objectives, and functions of these 20 major institutes are reviewed and presented in the following paragraphs.

3.5.1: Army Education Corps Training College and Center (AEC)

AEC is situated at Pachmarhi and is graded as category “A” establishment. The history of this institution dates back to World War-I, when importance was realized for the education and was treated as an integral part of troops training. The Army School of Education was established in the year 1920 at two places with its Indian Wing at Belgaum and the British Wing at Wellington (Nilgiris). In 1924, the British
Wing moved to Belgaum. In 1939, Army School of Education was rechristened as “Army Educational Corps Training College and Centre”, Pachmarhi on 24 Apr 1921. Another historical development took place in Oct 1939 when the Army School of Education, India moved from Belgaum to Pachmarhi to cope up with the war time education, and released education schemes during and after World War-II. With India’s independence in 1947, the Army School of Education, India, was re-designated as Army School of Education, Pachmarhi. Army Educational Corps Records office was established in the same year as part of the school. The school was again re-designated as AEC Centre and School, at Pachmarhi in 1949. AEC Centre and School was re-designated as AEC Training College and Centre after it was affiliated to Dr. Hari Singh Gaur Vishwavidyalaya, Sagar, in 1961. This affiliation marked the introduction of degree courses in 1961. This degree course was called as Bachelor of Education Technology. On 26 May 1985, the college attained the status of an autonomous college under the same Sagar University. The autonomy was initially granted for a period of three years up to 1988 and later extended from time to time. As per the policy of the Government of MP, the jurisdiction of University of MP was restructured on geographical proximity and thus w.e.f.1995, this autonomous college was affiliated to Barkatullah University, Bhopal.

The role and function of AEC in defence training and education is mentioned below:

(a) It is a Category 'A' training establishment for the Indian Army and a category 'B' establishment for AEC personnel under Line Directorate at Army Headquarters and Headquarters Army Training Command. It also acts as an Autonomous College of the Barkatullah University, under UGC, conducting Post-Graduate, Graduate, Diploma and Certificate Courses and examinations;

(b) It provides need based educational training courses for the personnel of the Para Military Forces and defense personnel of the friendly foreign countries. It also act as Teacher’s training institute under NCTE norms.

(c) The institute education creates a corpus of resource personnel in the field of education, map reading, knowledge of foreign languages, computer applications and military music, trained in Military Bands, Pipes and Drums, Bands and Musicians of Army, Air Force, Navy, Para Military Forces and
friendly foreign countries at the Military Music Wing as well as create a corpus of music instructors.

(d) It act as a nodal agency for ADP training of minor Corps; and also provide technical training to AEC personnel to develop human resources in the Indian Army and, train and develop interpreters for Border Personnel Meetings (BPMs). (http://indianarmy.inc.in)

3.5.2: Air Force Academy (AFA)

The Air Force Academy (AFA) is located at Dundigal, the twin cities of Hyderabad and Secunderabad in Andhra Pradesh. This is a home for the officer trainees to learn the ropes of their chosen specialization and more importantly nurtured to become capable leaders. After one year's full training, officer cadets are commissioned into various branches of the IAF. The curriculum in AFA Dindigul provides a common ground where a foundation is laid to prepare officers for the different tasks which are intrinsic to a modern air force. The in-experienced youth are trained to learn flying through successive stages. Those who pass out as fighter pilots get the opportunity to serve in front-line combat squadrons equipped with SU-30, MiG-29, MiG-27, MiG-23, MiG-21, Mirage-2000 and Jaguar aircraft. Those who had interest in flying transport aircraft, the IAF offers the very best in the form of the heavy multi engine IL-76 aircraft and the versatile twin engine multi role AN-32 transport aircraft, besides HS-748 and the Dornier light utility transport aircraft.

Another exciting option for pilot trainees at the academy is to opt for helicopters. By joining the helicopter fleet, the trainees learn to fly at tree top heights and landing in small and unexplored remote areas. The curriculum also includes flying helicopter gunships, giant MI-26 heavy-lift choppers, casualty evacuation, Para dropping of troops and air lifting of supplies. These are very important tasks which need to be performed both during war and peace and for the nation.

The academy imparts specialized training to young men and women who shoulder responsibility as leaders in other key areas of air force operations. These are administrative, air controlling, meteorological, logistics, accounts and education branches. Irrespective of their chosen fields, all cadets are on the PT (Physical Training) ground in synchronous movement to the beat of the drill master's drums.
Swimming, horse riding, field and indoor games are all included in the evening routine. These activities help the leaders to meet the physical standards expected for soldiers. These qualities are developed in this academy ‘esprit de corps’ is essential for military leaders, which is taken care by the defence training. The Academy provides training in flying and ground subjects for flight cadets and officers of the Indian Navy and to the Coast Guard. Officers from friendly foreign countries are also occasionally trained at the Air Force Academy. Types of training conducted at AFA are noted below.

Flying Training: The Flying Branch, training is divided into Stage I, II and III. Each stage gradually course from fundamental to more complex levels of aviation. During Stage III pilots are sent for specialization on Fighter, Helicopter or Transport aircraft.

Air Traffic Control Officers' Training: The training at the AFA for Air Traffic Control is designed on the basis of the International Civil Aviation Organization (ICAO) norms, but altered to suit the military aviation requirements.

Ground Duty Officers' Training: Ground Duty Officers' Training conducts a specialist training for all non-technical branches of the Indian Air Force, from Administrative, Logistics, Accounts, Education or Meteorology divisions, staff trained at the Air Force Academy before joining the Air Force as Ground Duty Officers.

Joint Services Training: Cadets of the Flying, Technical and the Ground Duty Branches are imparted Joint Services Training for six weeks. Later, cadets selected for entry into the Aeronautical Engineering Branches and are sent to the Air Force Technical College at Jalahalli, Bangalore. Training includes common service subjects like administration and service knowledge. (http://en.wikipedia.org/wiki)

3.5.3: Air Force Administrative College (AFAC)

Initial Training Wing (ITW) located at Coimbatore which is, one of the oldest training institutions for officers in the IAF, being older than Independent India. It was started in 1943 as an initial training wing at Pune to impart general service training to Cadets of the flying branch. This institution moved to Coimbatore on 11 July 1946. It imparts ground training to the “Flight Cadets of the General Duties” (Pilots) branch. These cadets then shift to Jodhpur and Ambala for further flying training.
In September 1949, two stage training was withdrawn and all - through training was introduced in Jodhpur. At Coimbatore, Pre-Commissioning training for “Flight Cadets of the Ground Duty” branches in administration, accountant, equipment, education and meteorology was commenced and the institution was renamed as “No 3 Air Force Academy”.

With expansion of Air Force, the training plan was again modified in 1957 and No 3 Air Force College was named as "Air Force Administrative College". So far about more than a lakh Indian officers have been trained in this College. Apart from training the IAF officers, this college is also engaged in the training of officers from other defence services and foreign nationals of friendly countries drawn from Myanmar (erstwhile Burma), Indonesia, UAE, Qatar and Sri Lanka. So far, more than 12,000 foreign officers from these countries have been trained at this college.

Air Force Administrative College provides advanced training to the officers in various branches of the IAF and perfects their knowledge and skills so as to enable them to handle their duties independently in their respective branches.

(https://www.goarmy.com)

3.5.4: Air Force Technical College (AFTC)

Air Force Technical College was established on 04 Jul 1949. This College was then named as “Technical Training College” established at Jalahlli, Bangalore with the assistance of Air Service Training Ltd, Hamble (UK). Initially, the entire staff of the college comprised officers and technicians from the Royal Air Force (RAF). Judged by their civil attire and gentle behavior it was conjectured that some of the instructors were civilians. At that time TTC was the first College in India and probably Asia too, which offered training in aeronautical engineering.

AFTC was established with the assistance of Air Service Training, Humble (UK) and the entire staff comprised of foreigners (Non Indians) and then by the end of 1956, the staff completely became form India. In Dec 1962, during national emergency, the Apprentices ‘Training Scheme was suspended and officers training stepped up. In 1971, the four technical branches were integrated into Aeronautical Engineering (Mechanical and Aeronautical Engineering, Electronic). With passion out of number
of DEO course in Nov 1972, training of Aeronautical Engineering Course in AE (M) and AE (L) branches were started in Jan 1972.

The certification has been awarded to AFTC for its quality training of international standards in the field of Aeronautical Maintenance and Defence Management Concepts. The College ever since its inception had the unique distinction of being the only one of its type to train personnel in military aviation technology and its associated fields. The College has contributed significantly towards aviation technical training within the three services but also other organizations in the public and private sectors. Its alumni are part of famous organizations like HAL, NAL, BEL, CDOT, National Airport Authority, Aeronautical Development Agency and other airline companies where they hold important positions.

To educate and train engineers from various disciplines for current technologies of aircraft, weapons and support systems IAF is a leader. It inculcates a passion for flying and also develops qualities of managerial skills, values and ethos of an Air Warrior to enable them to function effectively as aeronautical engineers and contribute to growing knowledge through research and develop as members of officer cadre of IAF. After completion of courses from IFA cadets have to complete 48 weeks training course at AFTC. This course helps in building the strength of cadets. (www.ekikrat.in)

3.5.5: Armed Forces Medical College (AFMC)

The Armed Forces Medical College (AFMC) is a premier medical college in India (1948), which helps in bringing out high quality doctors for the defence personnel. This college is among the top 3 medical colleges in the country. It is located in Pune Cantonment area in Pune city (state of Maharashtra). The college is managed by the Indian Armed Forces.

The Armed Forces Medical College has multiple roles to perform i.e. primarily training of medical undergraduates and post-graduates, dental postgraduates, nursing cadets and paramedical staff, patient care forms an integral part of its training curriculum and the attached hospitals benefits from the expertise available at AFMC. The institution is responsible for providing the entire pool of specialists and super specialists to Armed Forces by giving them in service training. AFMC forms the
backbone of high quality professional medical care being provided to the clientele, which in the ultimate analysis, affects considerable financial saving to the Government besides contributing largely to the morale of the fighting forces. The college is also involved in conducting research in different medical subjects as well as those aspects which would affect the morale and performance of the Armed Forces both in war and peace.

The aim of starting this wing was to increase the intake of medical graduates into the Armed Forces. The graduate wing was affiliated to the University of Pune till 1999 but presently it is affiliated to the Maharashtra University of Health Sciences. The college is recognized by the Medical Council of India for conducting 5 years and 6 months teaching program leading to MBBS degree. The first batch passed, MBBS degree course in Oct 1966. This college has also started conducting post graduate courses in many disciplines.

AFMC is the only medical college in Asia where all expenses are paid by the Government (Ministry of Defence). Medical Cadets received free tuition, free lodging and board. Facilities like sports, including tennis, squash, basketball, and a swimming pool are also made available to cadets. An open air cinema hall screens, two films in a week within the college campus for the residents. Canteen facilities for defence personnel are also extended to the Medical Cadets.

The Nursing College Wing of AFMC conducts a four years course for B.Sc. (Nursing) and a condensed two years course for post-certificate candidates to convert them to B.Sc. (Nursing), Sp. courses in OT/Ortho/Burns.

In this college various departments are very active in taking up research projects either under departmental sponsorship or under the auspices of Armed Forces Medical Research Committee (AFMRC). Apart from service oriented projects, research in clinical and laboratory subjects is also carried out. AFMC has the facility for animal house, hatcheries for disease producing insects, and a virology and bacteriology bank for these purposes. AFMC is a research and referral centre for confirmation of diseases, identification of pathogens (viral and bacterial) and classification of blood disorders. AFMC acts as a referral centre, designated by WHO for certain diseases i.e. HIV-regional laboratory and centre for rickettsial diseases.
Affiliated hospitals include Command Hospital (Southern Command), Military Hospital (Cardio Thoracic Centre), Artificial Limb Centre and Military Hospital (Khadki). Medical Journal Armed Forces of India (MJAFI) is a professional journal sponsored by the Armed Forces Medical Services and published by the AFMC regularly.

This premier institute is ranked as second best medical college of India only after the All India Institute of Medical Sciences New Delhi. It is presently affiliated to Maharashtra University of Health Sciences (http://afmc.nic.)

3.5.6: Army War College (AWC)

The Army War College (AWC) was established in 1971 at Mhow, Madhya Pradesh, and one of India’s leading premier training institutes for officers of Indian Army. AWC prepares officers to handle the strategic and tactical tools during warfare. The AWC has deployed networking solutions like LRE (Long Range Ethernet) to enable advance training using applications through the use of technology aids like smart cards, video conferencing, e-books, interactive whiteboards, video projection systems etc. This college trains its students with real-life war environments for the future using real-time training modules. AWC-Mhow realized the need to enhance and optimize training, utilizing the potential of IT and related tools. The very first step taken by college was to network the campus.

Following activities were initiated in this institute.

- Future war fields have been effectively created to prepare students for real-life future encounters.
- Smarter training aids developed like docking stations, interactive whiteboards, and video projection systems for every classroom.
- Internet access at speeds of up to 15 Mbps for AWC’s staff and residents by means of a LAN connecting labs to a VSAT-based line.
- Enterprise-wide smart card systems aimed to provide graded access and other multifarious services to authorized personnel (like analysis data and reports.)
• The network had helped to spread the culture of automation and use of facilities like multi-point videoconferencing and e-books which has enhanced the quality of research.

• Optimal multi-tier security solutions (including biometrics and digital identities). (www.goarmy.com and http://newsroom.nic.in)

3.5.7: College of Air Warfare (CAW)

The College of Air Warfare (CAW) established on 01 July 1959, but initially established as School of Land and Air Warfare (SLAW), at New Delhi, and later after receiving its approval from the President of India renamed as CAW. The SLAW moved to its present location, Secunderabad, on 25 July 1959. This location had been vacated by the Controller of Defence Accounts and was taken over from the MES. At that time, the school did not have the status of a self-accounting unit and was dependent on Air Force Station Hyderabad, for administrative and domestic services. The SLAW was formally inaugurated by Defence minister, Shri V K Krishna Menon on 03 September 1959 with the commencement of its first regular course.

College of Air Warfare (CAW) is a premier Indian Air Force tri-service institution of higher learning, which conducts a number of courses on Air Warfare for officers of the rank from Flt Lt to Gp Capt and equivalents from all the three services. In addition, the College also conducts the Senior Officers’ Study Period (SOSP) for Air Commodore and equivalents and similarly the ‘Combined Operational Review and Evaluation (CORE) Programme for senior officers in the rank of Air Vice Marshal and their equivalents of the three services. Various courses and programs are conducted in the art of Joint Warfare, with special emphasis on employment of Air Power. The functional and administrative control of the College is with HQ Training Command.

The SLAW although an Air Force institution, was functionally an inter service establishment, providing academic instruction to Army and Air Force officers. Besides Air Force personnel, the permanent staff of the school included a number of army officers. Initially, only Army and Air Force officers were trained on common
doctrines in offensive air support, air transport support and air defence. On 25 November 1967, with the introduction of Naval aspects of warfare, the School of Land and Air Warfare was renamed as Joint Air Warfare School (JAWS). On 09 November 1975, the President of India sanctioned the formation of IAF’s College of Air Warfare (CAW). CAW initially was a part of Joint Air Warfare School and was set up in three stages. Earlier, government sanction was obtained to train officers with the RAF College (Department of Air Warfare) at Cranwell for four months (12 July 1975 to 12 November 1975). On their return, they formulated a plan for the formation of IAF’s College of Air Warfare. During stage I of the formation, (10 November 1975 to 10 January 1976), a cell functioned at Air Headquarters that carried out preparations for a project report and drew up syllabus for short courses for DS designates.

During stage II (11 January 1976 to 30 March 1976), the same unit began temporarily functioning at AF Station Begumpet. Under stage III, on 02 November 1976, JAWS was re-designated as the College of Air Warfare, and its wings were renamed as Department of Joint Air Warfare (DJW) and Department of Air Warfare (DAW). Both these departments were later merged.

The College has a rich and experienced faculty in air strike, air defence, air transport, technical operations etc and is committed to be at the forefront of their respective disciplines. The Operational Study Cell is an important area of the College activities and has a rich repository of information on air power and aerospace related matters. In October 2001, Air HQs issued a task directive to form a Centre for Leadership-Training And Behavioral Sciences (C-LABS) at CAW. The C-LABS conduct courses aimed at training and motivating junior and middle level officers in improving their leadership and managerial skills.

The Historical and a Warrior Studies Cell (HAWS Cell) was transferred to the College from Air HQ on 17 April 2002. The Cell has been allotted with the task of publishing books on historical topics of the IAF. The books are intended to encourage the development of qualities of leadership and sacrifice and instil a sense of soldierly pride among all ranks of the service. (http://indianairforce.nic.in)
3.5.8: College of Military Engineering (CME)

The School of Military Engineering (SME) was established in Sep 1943 at Roorkee which moved to its present location at Pune in 1948. Considering with the higher status of the degree of Engineering courses conducted at this school, the organization was re-designated and restructured as College of Military Engineering (CME) in Nov 1951. CME was developed by the British as an Indian Army town in the 19th century. Earlier, the Indian Military Academy, Dehradun provided training to Indian Commissioned Officers in 1934, including officers who came into the Corps of Engineers, after receiving training at the Royal Military Academy London.

At CME training is given to personnel of the Corps of Engineers, and other Arms and Services, Navy, Air Force, Para Military Forces, Police and civilians. CME is a premier technical and tactical training institution of the Corps of Engineers encompassing the four pillars viz. Combat Engineers, Military Engineering Service, Border Roads Organization and Survey. Besides, Indian personnel from friendly foreign countries are also trained here.

Since, engineer officers increased during World War - II, officer Cadets Training units were established at three engineer centers viz Bangalore, Roorkee and Kirkee. In these centers cadets were given military as well as field engineering training to prepare them for services in engineering units. After World War-II, it became evident that some form of centralized training of officers and other ranks of the Corps was essential and that pre-war make-shift arrangements could no longer be accepted. Therefore, it became necessary to find a home for the School of Military Engineering. The School started functioning in Thomson College, Roorkee during November 1943. To cater for its expansion and after careful consideration, the present site at Pune (Dapodi) was selected. At the end of 1947, the School of Military Engineering shifted from Roorkee to Pune and started functioning by 1948. In 1951 its name was changed to CME keeping in view the progress made. Since then CME received higher status of the Degree Engineering Courses organized by the Institution of Engineers (India).

CME has a major role, encompassing training, advisory, projects and research and experimentation for the combat engineers, military engineering service, border roads
organization and survey etc. The College is affiliated to Jawaharlal Nehru University (JNU). All India Council for Technical Education (AICTE) also recognizes the degree courses i.e B. Tech and M. Tech conducted by CME. The College regularly participates in professional and industrial seminars and also conducts conferences, symposiums and seminars pertaining to training matters and technical subjects. It also invites eminent speakers to deliver lectures on expert subjects of military importance. The College has an in-house printing press, which regularly brings out numerous technical and Combat Engineering journals and reference books to support the development. http://indianarmy.nic.in.)

3.5.9: Defence Institute of Advance Technology (DIAT)

Institute of Armament Technology (IAT) was established in 1952 as Institute of Armament Studies. Originally the institute was meant for training few selected defense personnel on the technology of armaments. The R&D council of the Ministry of Defence changed the scope of the institute from specialization in armaments to a broader perspective of military training in 1964 and 1981. It was originally affiliated to the University of Pune, and on recommendations of the AICTE institute conferred with the authority for awarding M.E in eight disciplines. Central government, on the recommendation of UGC, granted IAT, the status of being a “Deemed University” in the year 2000. DIAT is an institute that caters to the needs of defense related organizations like DRDO, Defense Quality Assurance, Defense Ordinance Factories, Defense Aeronautical Quality Assurance, by producing technically trained officers.

The following thirteen postgraduate courses and several other specialized courses are offered at IAT.

1. Aerospace Engineering (Guided Missiles)

2. Mechanical Engineering (Combat Vehicles)


4. Mechanical Engineering (Marine)

5. Electronics Engineering (Signal & Communication)
6. Aerospace Engineering (Air Armament)

7. Modeling & Simulation

8. Lasers & Electro-Optics

9. Energetic Materials & Polymers

10. Mechanical Engineering (Gas Turbine Technology)

11. Computer Science & engineering (Cyber Security)

12. Electronics Engineering (Radar and Communication)

13. Materials engineering

**Other Specialized courses at DIAT:**

1. Technical Staff Officers Course (Army)

2. Tank Technology Course

3. Naval Technical Staff Course

4. Technical Staff Officers Course (Air Force)

5. Aerospace Quality Assurance & Management Course

6. High Energy Materials Course

7. Indian Ordnance Factory Service Officers Course

8. Armored Vehicle Technology Course

9. Aircrew Ejection System Course

10. Aircraft Weapon Delivery Systems Course

11. Modern Air Weapons Course

12. Air Launched Missile Course

13. Marine Propulsion Control Technology Course
14. Naval Weapon & Missile Technology, Course

15. Integrated Foundation & Orientation Course

16. Guided Weapons Course for Senior Officers

17. Deputy Armament Supply Officers Course

18. Guided Weapons Introductory Course for Naval

19. EMI/EMC Course

20. Quality Assurance & Reliability Engineering Course

Other than the above courses, some Continuing Education Programs (CEP) are conducted every year on defense related topics. PhD courses are also offered in DIAT. (diat.ac.in)

3.5.10: Defence Services Staff College (DSSC)

The Defence Services Staff College (DSSC), Wellington is a premier tri-service training establishment imparting training to middle level officers (Major and equivalent) of the three wings of Indian Armed Forces, friendly foreign countries and Indian Civil Services. It is one of the oldest military institutions in India, established in 1905 as the Army Staff College in Deolali (near Mumbai) and then re-located to Quetta (now Pakistan). After partition, the Indian operations relocated to its present home in Wellington Cantonment in the state of Tamil Nadu, India, and this college is functioning at Wellington since 1950. DSSC is one of the few institutions of its type in the world.

DSSC awards the symbol of PSC (passed staff course) on successful completion of training. The DSSC is affiliated to the University of Madras which awards M. Sc. in Defence and Strategic Studies degree to all students who qualify the course. Officers on the faculty of the college with aptitude for academic research can register for M Phil degree.

The aim of the staff course is to train selected officers of the three Services in command and staff functions in inter-service and joint service environment, as also to impart related education to enable them to perform effectively in command and
staff appointments. DSSC is one of the few establishments in the world which has a tri-service character. Many delegations from foreign countries visit the college to acquaint themselves with the training being imparted at this unique institution.

Training instructions are imparted in national security and strategy, varied dimensions of warfare in multifarious terrains; special operations like airborne, hellebore, maritime and amphibious operations; low intensity conflicts including UN peacekeeping operations; defence management; leadership; military intelligence and administration in war and peace. Lectures by eminent speakers on various aspects of geo-politics, Indian economy, science and technology and international relations are also included in the course curriculum. The College serves as a gateway to the vast and mighty doors of the Indian Armed Forces. (http://wwwdssc.gov.in).

3.5.11: Indian Military Academy (IMA)

The Indian Military Academy (IMA), was established in 1932, at Prem Nagar, Deharadun, (Uttarakhand). The purpose behind its establishment was to train the Gentlemen Cadets (GCs) for commission into Army. IMA also has a wing for training service cadets selected for the said purpose.

The training and education from this institute helps in developing intellectual, moral and physical qualities of cadets with basic military training and major academic education. Education develops the qualities of dynamism, initiative and understanding, which develops leadership of cadets during war, as well as in peace. IMA is credited with bringing out excellent officers who are disciplined, thoroughly motivated and deeply committed to serve nation with honors and dignity. The admission into IMA is based on completing graduation from NDA Army Cadets, UPSC and technical graduates i.e. Bachelors in engineering faculty etc (http://indianarmy.inc.in)

3.5.12 Indian Naval Academy (INA)

Indian Naval Academy (INA), Ezhimala (NAVAC) is located at Kannur (Cannanore) District of Kerala. This is the premier training establishment of the Indian Navy and conducts the basic training for all officers being inducted into the Indian Navy under various schemes. NAVAC provides an ideal setting for training with its picturesque
and tranquil environment. INS Zamorin is the base depot ship for administrative and logistic support for NAVAC.

NAVAC has been specifically formulated to mould morally upright, physically robust, mentally alert and technologically aware professionals, dedicated to excellence. It conducts basic training for all officers being inducted into the Indian Navy under various schemes and is oriented to ensure a clean break from the traditional strait jacketed mentality and infuse in a sense of innovativeness, creativity, resourcefulness and a passion for excellence. The staff is committed to impart the highest quality of training, and mould trainees into officers and gentlemen/ladies. The communication is set according to requirements & standard.

Initial Training: The period of initial training is 20 weeks for Sub Lieutenants Education, Logistics, Engineering, Electrical, Submarine (Technical), Air Traffic Control, Naval Architecture and Law branches/cadres. Branch specific training is subsequently imparted at other naval establishments. The Institute awards B Tech Degree to the cadets after completion of four year education. (http://indiannavy.nic.in)

3.5.13 Infantry School (INFS)

The genesis of the present school is traced back to the School of Musketry at Changla Gali (now located in Pakistan), which was established in 1888. Between 1888 and 1948, before it inherited its present name and shifted to Mhow, it comprises different segments located in various places. The historical background of this institute is quite different than any other institute. Initially this institute was located at Satara (Maharashtra) and then shifted to Belgaum (Karnataka). The Infantry school was formed with the merger of four institutes viz. The Small Arms School, Pachmarhi (another offshoot was at Ahmendnagar), The Indian Non Commissioned Officers’ Training School, Jhansi, The Indian Infantry Platoon Commanders’ School, Faizabad, and Tactical and Administration School, Dehradun. Thus it is a combination of many organizations. The Infantry School owes its origin to a decision taken shortly after Independence to amalgamate various training institutions mentioned above into a single school of instruction at Mhow. Prior to the outbreak of World War – II, weapon training was imparted at the Small
Arms School at Pachmarhi and Ahmednagar. However, during the War, these schools moved to Saugor and after partition, at Mhow where they became the Weapons Wing of the newly established “The Infantry School. In January 1948, the Battle, Tactical and Administration School” also moved from Dehradun to Mhow and merged with The Infantry School. The amalgamation was completed on 1st April 1948.

The Infantry School is the alma mater of infantry, the largest and most potent combat arm of Indian Army. The School has had a meteoric rise from a humble training establishment to a prime institution. The School’s name and location changed a number of times, till it finally established itself in Mhow on 01 April 1948. Today, the Infantry School has not only acquired a prime status in India, but also ranks amongst the top training institutions in the world. It is well known for harnessing vibrant energy and in developing the physical and mental capabilities of the youth in uniform. It is also well known for crafting individual character into a sterling mould, thereby generating leadership, and in the process expanding horizons, both national and global. The School runs time tested, scientifically evolved training courses, under a team of highly qualified instructors, in all infantry related subjects. Enhancing academic and military education with practical training so crucial to the man in uniform remains its prime objective.

The Infantry School has its Headquarters and substantial training facilities at Mhow. It also has a Junior Leader’s Wing at Belgaum and a recently set up Non Commissioned Officers’ Academy at Binaguri, in West Bengal. The Infantry School, Mhow is the largest and the oldest Military Training Institution of the Indian Army. Infantry School is located at two places. The Weapon Wing and Young Officers Wing are located at Mhow. The Junior Leaders Wing consisting of Commando and Platoon Commanders Wing is located at Belgaum.

The Infantry School is the repository of infantry’s tactical doctrines, drills, procedures and skill at arms. Through its vast assets, it is systematically grooming junior leaders to enable them to handle various combat situations in a professional manner. All Indian infantry officers receive their first institutionalized training at this School.
The School trains more than 7,500 personnel annually, and some of its alumni have risen to the highest ranks in India and abroad. More than thirty countries are sending their personnel to the Infantry School for training. The Infantry School is unique and the Indian infantry owes a lot to this institution and is proud of it.

The institution imparts training to the Officer, JCOs and ORs of not only infantry but other arms and services besides Para Military Forces and Civil Police Organizations. A number of friendly foreign countries are making use of the facilities. During the current (2010) training year 90 Officers, 160 JCOs/ NCOs from friendly foreign countries attended the courses. With this backdrop, the institution is presently training 1195 Officer, 5900 JCO/NCOs in a year.

The School is responsible for the following activities:-

a. Developing new tactical doctrine battle techniques and battle drills pertaining to infantry and introducing them;

b. Continuous study and keeping abreast of tactical and technical development in India and abroad;

c. Carrying out trials of weapons, equipment and ammunition pertaining to Infantry;

d. Conducting courses of instructions; and

e. Training the Army Shooting Team and the National Shooting Team in "Precision Shooting".

The following courses are also conducted in these institutes:

- Eleven courses are conducted at Infantry School (including Junior Leaders Wing) viz. Young Officers Course, Ghatak Course,

- Platoon Weapon Course, Mortar Course,

- Anti Tank and Guided Missile Course,

- Platoon Commanders Course,

- Medium Machine Gun & Automatic Grenade Launcher (J/N) Course,
- Section Commanders Course, Automatic Data Processing Course,
- Sniper Course and Battalion Support Weapon Course.

(http://indianarmy.nic.in)

3.5.14 Military College of Telecommunication Engineering (MCTE)
This educational institute is located at Mhow, Indore, in Madhya Pradesh and is a training institute for the corps of signals of Indian army. Mhow is the military head quarters of war. Mhow and Indian army are inseparable as army is here since 1818. MCTE is the alma mater of the corps signals. This is like a nervous system of the Indian Army as it is responsible for communications. MCTE is first training institute in Mhow. MCTE was known as school of signals till 1967. MCTE conducts telecommunication and IT courses for officers, JCO’s, NCO’s of Indian army. The training personnel are called as information warriors of Indian army. BE in Engineering is awarded from this institute to Indian army officers etc. (www.goarmy.com)

3.5.15 Military Intelligence Training School (MITS)
Military Intelligence Training School was established in 1959 at Pune Cantonment, Pune, and Maharashtra and responsible for all intelligence gathered or learned during army missions. Military Intelligence Training School Soldiers are always out in the front and providing essential intelligence for saving soldiers lives, who fights on the front lines at border. In Military Intelligence Training School cadets learn the skills associated with gathering intelligence from human subjects through interview or gather Intelligence from digital sources like photographs taken from Unmanned Aerial Vehicles. They also learn for preparing intelligence findings and report them to superiors the findings which fits within the larger missions. The following courses are conducted by Military Intelligence Training School:-

1. Intelligence Orientation Course (IOC)
2. Satl (Satellite) and Aerial Imagery Interpretation Course for Officers (SAIICO)
3. Intelligence Staff Officer’s Course(ISOC)
4. Advance Intelligence Staff Officer’s Course (AISOC)
5. Intelligence Tradecraft Specialization Course
6. Intelligence Gathering & Intelligence Tradecraft
7. Course for Dept of Revenue Intelligence, central
8. Economic Intelligence Bureau (DRI)
9. Basic Intelligence Course (BIC)
10. Intelligence Course for NCOs (ICN)
11. SAI and Ae Imagery Interpretation Course for JCOs /NCOs (SAIICJN)
12. General Intelligence and Security Course for JCOs/ NCOs (SICJN0
13. Specialized Intelligence Course for JCOs/NCOs / SICJN)
14. Promotion Cadre (Nayak to Havaldar )
15. Promotion Cadre (Havaldar to Nayab Subedar)
16. Intelligence for JCOs 9ICJ)

These courses are very useful for development of intelligence in the defence activities. (www.goarmy.com)

3.5.16 National Defence Academy (NDA)

Empirical lessons from the World Wars dictated, the need for a joint services Academy to train future leaders for combined operations. The vision of Lord Mountbatten in consonance with that of Field Marshal Sir Claude J Auchinleck, C-in-C in India laid the conceptual foundation for a Joint Services Military Academy modeled on the lines of the US WestPoint. In 1941, Lord Linlithgow, the then Viceroy of India had received a gift of a hundred thousand pounds from a grateful Sudanese Government for building a suitable war memorial in recognition of the sacrifices of the Indian troops in the liberation of Sudan in North African Campaign during World War II. A committee headed by Field Marshal Sir Claude J Auchinlek, after extensive study of various Military academies around the world, submitted its recommendations to the Government in December 1946.

After independence of India in August 1947, this report was referred to the Chiefs of Staff Committee. The suggestion for the formation of an interim Junior Inter Services Wing at the Indian Military Academy, Dehradun was then implemented. A simultaneous action plan to commission a permanent war academy at Khadakwasla,
Pune was also commenced and the foundation stone was laid by the first Prime Minister of India, Pt Jawaharlal Nehru on 06 October, 1949. On 1 January 1949, the Armed Forces Academy having its military wing, now called the Indian Military Academy and the Joint Services Wing were commissioned. After two years of training at the JSW, Army cadets went on to the military wing for a further two-year pre-commission training. The Naval and the Air force cadets were sent to Dartmouth and Cranwell in UK for advanced training. On 07 December 1954, the interim process crystallized with the commissioning of the National Defence Academy and formal inauguration of the academy took place on 16 January 1955.

**Purpose and objectives of NDA:**

- Attain requisite educational standard and acquire mental, moral and physical qualities essential to the cadet's progressive and continued development as officers of the fighting services.

- Provide basic service training as well assist in developing their character, initiative, self-confidence and all qualities of leadership.

- Develop ability to appreciate inter-service aspect of the armed forces.

- Develop interest in extracurricular activities particularly out-door oriented.

The academic curriculum of NDA is in tune with the national educational format of 10+2+3. Syllabus of the academy has been approved by the Jawaharlal Nehru University for grant of B.A. or B.Sc. degree at the time of passing out from the academy etc. The training curriculum at NDA is structured to impart service and academic training to the cadets with a great amount of emphasis being laid on extracurricular and out-door activities to develop the concept of holistic man and the finer qualities which are pre-requisites of the officer cadre in the defence services. Cadets from friendly foreign countries like Bhutan, Nepal, Seychelles, Singapore, Afghanistan, Tanzania, Ghana, Maldives etc have undergone training through NDA.

The academic part of the three-year course includes subjects typical of a University Degree (B.A., B.Sc. Comp Sc.) as well as basic training of fundamental military sciences. In the first two years, all cadets are trained for specific tri-services and in
the final year, the cadet is further trained on the service (Army, Air Force or Navy) that he has selected. Cadets are trained for overall development, from academic training, military strategies, outdoor activities, Para gliding, sailing, horsemanship, rock climbing, physical training, firing and other such activities. This helps the development activities of defence entrants.

On successful completion of the three-year course, the cadets receive University Degree (affiliated to the JNU, New Delhi) and goes on to the training establishments of the service he has opted for. Army cadets go to the IMA at Dehra Dun, Air Force cadets to the Air Force Academy at Hyderabad and the naval cadets to training ships. Navy has the least number of vacancies (about 40) followed by Air force (about 50), while the rest of the approximately 300 seats are for the Army. Indian Army is the biggest and the oldest of the three branches of Indian Defence Services. (http://www.diat.ac.in and http://www.nda.nic.in.vburnix.com )

3.5.17: National Defence College (NDC)

The NDC, located at 6, Tees January Marg, New Delhi conducts courses for senior officers on national security and strategy studies since its inauguration by our first Prime Minister, Pandit Jawahar Lal Nehru on 27th April, 1960.

During the last 60 years, NDC has earned name and fame worldwide as a center of excellence. The College has provided education and training to a large number of senior defence and civilian officers. Many of its alumni have reached the top of their professions in India and abroad and some have even become heads of their country.

The NDC course on National Security and Strategic Studies is of 47 weeks duration. The aim of this course is to equip future policy, prepare for broad understanding of the multifarious economic, political, military, scientific and organizational aspects, involved in planning of national strategy. Defence forces officer of the rank of Brigadier, civil services officers of the rank of Joint Secretary are nominated for training at this College. Some officers from the Defence Public Sector Undertakings also attend these courses. The focus of the course curriculum of the National Security and Strategic Studies Course is national security which covers many dimensions of
domestic, regional and international issues. The curriculum is organized in six studies, each of about five to six weeks duration. These courses cover the following:

(a) Socio Political Study: This study is focused on Socio-Political aspect of domestic influences on the national security perceptions.

(b) Economy, Science and Technology Study: This study addresses the issues of Economic Development, Environment, Science and Technology aspects related to national security. With economic diplomacy holding the centre stage, all issues are examined in a multi-national environment.

(c) International Security Environment: The study focuses on issues related to international security environment as it evolved in the 21st century and its impact on India's international relations.

(d) Study on Global Issues: In the post cold war era, global/ multi-lateral co-operation and partnerships have become the current direction for evolution of newer international understandings. The study focuses on issues related to these aspects.

(e) India's Strategic Neighborhood: This study takes a deeper look into various issues - both domestic as well as those having impact on India - of countries who form the arc of strategic neighborhood of India.

(f) Strategies and Structures for National Security: This study is the culmination of the course and, in effect, considers in detail the linkages of various dimensions of national security as discussed during the preceding studies.

The basic guideline and methodology for the studies are narrated below:-

(a) Integrated Analysis Groups (IAG’s): This Course is divided into seven IAGs, and for each study covers purpose of analysis, discussion and presentations. Each IAG has three sub-groups that give separate presentations. One member from each IAG is nominated as coordinating chairperson and three members are nominated as chairpersons, one from each sub-group.
(b) Study Setting: Each study, which is of five to six weeks duration, commences with the issue of study setting, IAG assignments and a formal briefing by the SDS-in-charge, of the study. A detailed background, objectives of the study are given during the briefing.

(c) IAG Papers and Central Discussions: The IAG papers of study are uploaded on the college intranet. Each IAG thereafter is allotted 20-30 minutes to make a presentation on the issues considered. This is followed by an open house discussion on a few specific issues identified by each IAG for this purpose.

(d) IAG Publication: After vetting by SDS the papers considered fit for publication are forwarded to an Editorial Board comprising of two SDSs and JDS (R&R) along with specific recommendation regarding issue of ‘publication potential’ of paper. After deliberation the papers are put up to Commandant for his approval. (Vetting is a process of examination and evaluation, generally referring to performing a background check on someone before offering him or her employment, conferring an award, etc. In addition, in intelligence gathering, assets are vetted to determine their usefulness.)

**Lectures and Panel Discussions**

The college has an impressive list of visiting faculty of experts and eminent persons from all spheres of activities related to national and international security issues.

(a) Lectures/Panel Discussion: The lectures are of one hour duration followed by a detailed question and answer session. The college invites visiting faculty for a panel discussion two or more experts. One of the panelists is requested to moderate discussions, which are of approximately 90 minutes duration. Interaction, thereafter, follows the pattern similar to lectures.

(b) Opportunity Talks: Opportunity talks by visiting distinguished personalities from within the country or from abroad are often organized at the College to expose the course members to their views. Visiting heads of
states, senior military officials and ministers from foreign countries usually come in this category of talks.

(c) Recordings. All Lectures/Panel discussions are recorded and CDs are kept in the library for study purpose.

(d) Strategic Game Exercise: Two strategic game exercises are held for a duration of three days each. This is generally scheduled during third & fifth study level.

**Individual Work**

In addition to work done as a part of IAGs, each course member is required to carry out following individual work:-

(a) Thesis Writing: Each course member is required to write a thesis not exceeding 12,000 words on any topic related to national security. The topic is selected after a mutual interaction between the course members and the faculty and finally allotted by the college.

(b) Country Presentations: Foreign course members are required to make a country presentation on respective country for duration of 30 minutes. This may include a focus on the history, geography, political set up, industries, economy, defence and relations with India. (http://viburnix.comand.)

**3.5.18: Naval College of Engineering (NCE)**

From this institution initially, technical officers of the Navy were being trained at UK, but later a need was felt that cadets of the Navy be trained at undergraduate level in engineering within the country and in order to be a self sufficient. Thus was established an engineering college called INS Shivaji at Lonawala near Pune (Maharashtra).The foundation stone of the college building was laid on 4th Jun 1956 by Dr KN Katju, the then defence minister in Jul 1957. Undergraduate courses in Electrical and Mechanical Engineering were started at the initial stage. The duration of these courses were two and half years. The college was initially known as E and L College, 1960. It was renamed Naval Engineering College in 1962. In the meanwhile, the college conducted basic engineering course of 3 years duration in
place of the earlier two and half years for officers eg NDA/NAVAC. Along with the basic engineering course, NCE initiated Marine Engineering Specialized Courses e.g. BEC officers, Marine Engineering Professional Course for direct entry / direct university entry officers; SDME (Q) SDME (PP) courses, and introductory engineering course for the newly inducted education officers. Till 1983, the officers were sent to CME, Pune or IIT, Bombay for capsule training of two weeks due to unavailability of infrastructure.

In 1984, CME was affiliated to Jawaharlal Nehru University along with other defence institutions like MCTE, Mhow; MCEME, Secunderabad; IMA Dehradun and NDA, Pune for recognition and award of B. Tech degree with effect from 49 BEC. In the same year, the Naval Engineering Course i.e. 10+2 Technical Cadet Entry Scheme was also started, for cadets who passed 12th standard for four years engineering degree course.( http://indianarmy.nic.)

3.5.19: Naval Institute of Aeronautical Technology (NIAT)

Naval Institute of Aeronautical Technology (NIAT) is a premier technical training institute of Indian Navy, Kochi. The institute was established in 1957 as Naval Air Technical School (NATS), on the recommendations of the advisory committee headed by Dr Abdul Kalam, the institute was upgraded to a Category ‘A’ School in 1987 which brought the institute to near-autonomous status. The school, keeping pace with the requirements of time, made considerable progress in the next few decades and, in 1997, the school was aptly converted into a full-fledged institute and renamed as Naval Institute of Aeronautical Technology. Since then, the institute has made further progress to its present status acquiring ISO 9001 Certification.

NIT officers and sailors involved in naval aviation including the aircrew and support personnel. Around 35 types of courses are conducted each year with an average strength of around 400-450 trainees per month and annual throughput of approximately 1500 trainees. Its equipped laboratories, workshops and simulators provide a conducive learning environment. Modern concepts like distance-learning programs and CBT/CIA packages have also been adopted to make the training process highly effective and interactive. The institute is also striving to establish itself as an effective research and development centre through requisite interaction.
with noted establishments like IIT Powai, Cochin University of Science and Technology (CUSAT) and IISC, Bangalore. Projects are assigned to under-trainees with a view to address existing problems as well as future requirements. Necessary information technology infrastructure has been created to provide the trainees opportunity to keep themselves abreast with the latest developments in the technological field.

The training at NIAT also includes sports and adventure activities like cycle expeditions, sailing expeditions, jungle survival camps and unity run both for trainees and staff. Recently, the institute organized a cycle expedition to Idduki and back covering a total distance of approximately 300 km’s. Jungle survival camps test the physical and mental endurance of the trainees and enhance their leadership potential.

Seminars and guest lecturers expose the trainees to a broad cross-section of views and achieve an overall development of the trainees. The trainees are also exposed to general awareness programs like yoga and meditation essential for improving the quality of life. (http://mod.nic.in and Journal- Golden Jubilee 1959-2009 (2009)

3.5.20: Officer Training Academy (OTA)

The Officers Training Academy (OTA) was established in 1963 as Officers Training School to meet the increased demand of officers in the Army. It was re-designated as Officers Training Academy (OTA) with effect from January 1, 1988 on completion of 25 years of its existence. To begin with, its main task was to train Gentlemen Cadets for grant of emergency commission and from 1965 onwards, the Academy started training cadets for Short Service Commission, after which the former commission was dispensed with.

Since September 21, 1992, the Indian Army has opened up its portals for entry of women as commissioned officers. Initially, 50 lady cadets were commissioned every year with the entries presently limited to Army Service Corps, Army Ordnance Corps, Army Education Corps, Judge Advocate General’s Department, Corps of Engineers, Signals and Electrical and Mechanical Engineers. Approximately 100
lady officer get commissioned from OTA every year. The aim of the OTA is to train Gentleman/Lady Cadets so as to make them fit for a Short Service Commission in the Army. The training is designed to:

(a) Impart basic military knowledge.

(b) Provide broad based general education to stimulate

(c) On commissioning from OTA, a large number of young officers join units involved in Counter Insurgency Operations. (CI Ops), in North East and J&K.A jungle lane shooting range and grenade lobbing area have been made to give realistic CI Ops training to the cadets. (http://indianarmy.nic.in)

Among the above twenty institutes imparting to DTE; AEC, AFMC, CME, ADIT, IMA and NDA are more prominent institutes and leading in its function, activities and services in this sector.

Summary of the Chapter:

Defence training and education in India is well supported by the above institutes and is a backbone for the defence. Various courses are being conducted in these institutes to prepare the cadets and officers to be current and updated in the military profession. Though these institutes are performing to the point but a need is felt to have a national defence university to manage additional courses and establish more specialized institute to train the cadets to suit the advanced tactics in this area. Well equipped libraries are also established to support education and training and it is felt that the libraries also be reviewed and analyze to support the education activities by modernizing them. Hence a detailed review of the libraries in this area is conducted to assess the requirements and reengineering these libraries. Following chapter covers the trends in Libraries and benefits of the technology usage for modernizing libraries.

References


