INTRODUCTION TO MASTER'S IN SECURITY AND DEFENCE LAWS (MSDL)

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Scheme of Discussion

- **Part I:** The Linkage between Law and Technology, Evolution of Technology, Industrial Revolutions including the 4th IR or Knowledge Revolution, Pros and Cons of 4th IR and Technology and NET and NEST, Technology and Legal Issues
- **Part II:** Relationship Between Law and Management, Understanding Management, Interplay between Law and Management, Business and Management, Global Aviation Developments and Changing Management Patterns
- **Part III: Why Security and Defence Education?** Why MSDL Courses at NALSAR? About NALSAR and CASL/CADL, Objectives of the Course.
- **Part IV: Description of the Course Structure-** Masters Programme, Brief Description about the Papers and Modules, which covers Law, Technology and Managemnt

Law and Technology

- Law follows technology or technological developments necessitate the legal regulations. It is true with the Defence and Strategic Technologies.
- Ongoing developments in defence technologies illustrates the observation that "Law lags science; it does not lead it."
- Relationship between law and technology has always been uneasy.
- Law had been slow and lethargic to respond to new and Emerging technologies.
- Law makers and policy advisors are handling the problems posed by these technologies.
- However, some time they are finding difficult to address these issues.

Law and Technology Cont..

- New technologies invented over the last few decades has revolutionized the governance, transportation, commerce, communications, delivery, and nearly all aspects of our lives.
- Technological development is a continuous process. It is improving all the time, keeping in view of societal needs. For example present COVID-19 pandemic medicine
- Vast opportunities have opened up in enhancing prosperity and security.
- The protection of critical infrastructure in the face of cyber of attacks; increased automation; change in the nature of workplace due to 3-D printing are some of these evolving technologies.
- Law has to move in- tandem with the technological advances.
- **The law is behind the times. - Oliver Wendell Holmes**
- Techno-Driven Laws including Air Law, Space Law, IT Law, IP Law, Cyber Law, Telecom Law, etc.,

Evolution of Technology

- Ancient Technology-- Invention of ramp to aid construction processes; Bronze technology used in Mesopotamia; City planning and sanitation technologies in Indus Valley Civilization; Seafaring technology; Early Seismic detectors by Chinese Civilization;Water Lifting Technologies; Wheel Technology; Metallurgical Technology
- Aerospace Technologies in Ancient India- Lord Hanuman who posses the power of flying, the Flight of Gandharvas, Pushpak Viman, King Vasu an uparichar (aviator) possessing an airship.
- Perceptions of Space and celestial bodies in ancint India derive from mainly two sources, Mythological or Religious explanations of the origins of the Universe and Contributions of ancient scholars to Astronomy and Astrology etc..

Evolution of Technology Cont..

- Medieval Technology-- The period saw major technological advances, including the adoption of **gunpowder** Mechanical Clocks; Vertical Windmill; Dry Compass; Textile manufacturing; Communication Technology; Printing Press; Steam Engine; Railway Transportation, Invention of Sea Routes and Sea Trade and Lex Mercatoria
- Modern Technology is all about efficiency and speed; it is about ensuring face-to-face communication, connecting you to your healthcare provider, and empowering you by giving you more access and control to the kind of care you get as well as service you receive. Examples of modern Technologies including –AI, Broadband Internet Access; Quantum Computers; Biotechnology; Cyber Technology, Drone Technology, Nanotechnology; and So on.
- Journey of technologies from imagination/expermantation to experience and realities

Three Industrial Revolutions

- The First Industrial Revolution started in Britain around **1760s, innovations coal, water and steam engine etc.. have enabled the large scale manufacturing of goods and products**. Its impact on civilization was immense.
- The Second Industrial Revolution came about with the **invention of electricity and enabled mass production**, Dating from the late 1860s to early 1900s, it allowed much of the progress of the first industrial revolution to **move beyond cities and achieve scale across countries and continents.**
- The Third Industrial Revolution or **Digital Revolution** started in the 1950s and 60s. Third Industrial Revolution was all about computers. Transistors, which eventually allow for the ultimate in scale: **globalization and Global Village**

March of Civilization and Revolutionary Changes

- 17th century-Scientific Revolution,
- 18th Century-Political Revolution,
- 19th Century-Industrial Revolution,
- 20th Century-Information Revolution and
- 21st Century-Knowledge Revolution
- Knowledge Which Ruled or Ruling the World
- It is Generally Viewed that 19th century belongs to Europe,
- 20th century belongs to USA and now
- the 21st century is Asians century more particularly the Indian century.

4th IR or Knowledge Revolution

- The Fourth Industrial is characterized by a **fusion of technologies that is blurring the lines between the physical, digital, and biological spheres**.
- Compared with previous industrial revolutions, the Fourth is evolving at an exponential rather than a linear pace.
- Moreover, it is disrupting almost every industry in every country. And the breadth and depth of these changes herald the **transformation of entire systems of production, management, and governance**.
- The Fourth Industrial Revolution covers wide-ranging fields such as Artificial intelligence, The Internet of Things (IoT), robotics, autonomous vehicles, 3D printing, nanotechnology, biotechnology, materials science, energy savings, computing, etc.

The Pros of the 4th IR

- Fourth Industrial Revolution has the **potential to raise global income levels and improve the quality of life. Technology has made possible new products and services that increase the efficiency and pleasure of our personal lives**.
- Ordering a cab, booking a flight, buying a product, making a payment, listening to music, watching a film, or playing a game—any of these can now be done remotely.
- The Fourth Industrial Revolution represents a fundamental change in the way we live, work and relate to one another. **It is a new chapter in human development, enabled by extraordinary technology advances commensurate with those of the first, second and third industrial revolutions.**
- Transportation and communication costs will drop, logistics and global supply chains will become more effective, and the cost of trade will diminish, all of which will open new markets and drive economic growth.

The cons of the 4th IR

- **Inequality**: It is all about who gets the benefits of these technologies and of the results they help produce. For developing countries there are technological and infrastructure challenges and skill challenges that are not easy to overcome.
- **Cyber security risk**: When everything is connected, the risk of hacking data and tampering with it or using it for malicious intent is now more prevalent. It challenges the very nature of identity and privacy, especially with the increased use of data analytics and machine learning.
- **Core industries disruptions**: For example Taxis are competing against Uber, Traditional television and cinema compete with Netlfix and YouTube, the hotel industry with AirBnB and any store is competing against Amazon.
- **Ethical issues**: With improved AI, genetic engineering, and increased automation, there are new ethical concerns and questions of morality. With access to more data about an individual and a group of individuals, the risk of using it for personal gain and manipulation is even greater
- **Nature of Technologies- Dual Use**

NET and Legal issues

- The emerging technologies of Artificial Intelligence (AI), Automation, Big Data, Block chain, 3D printing, Cyber technology, Cloud Computing, Crypto Currency, Drones, Energy, Genetic, Geo special, Mobile, Machine learning, Nano, Robotic technologies etc. have garnered an incredible amount of attention and changing the living patterns of the human being
- **Major legal issues concerning "New and Emerging Technologies" (NET) :**
- **Traditional:** Technology and its Impact on State Sovereignty, State Jurisdiction, State Responsibility, Privacy, Security, Date Protection etc.
- **Modern:** Technology Impact on legal issues regulating the use and mis- use of data, E-evidence, Protection of creative works, and inventions including IP, Biometric, Facial recognition technology, biotechnology, genetic testing, nanotechnology, synthetic biology, computer privacy, autonomous robotics etc.,
- These technologies are generating fair amount of litigation, and presented concerns regarding the possibility of intrusive governmental surveillance and needs new approaches to ensure appropriate and timely regulatory responses

Legal Question

- **The existing legal regimes is unable to deal effectively with new and innovative technology are also rising lot of legal Questions**
- Do machines have morality?
- What legal liability regime should we adopt for damages arising from these Technologies?
- Which ethical guideline should we adopt to orient its advancement?
- Is anticipative regulation justified for certain classes of risks in applications of these technologies?
- Should legal systems resort to the precautionary principle to avoid dealing with the risks of a rapidly changing technological trajectory?
- Are technology-based initiatives necessary, or is a product-specific approach more appropriate?
- Can a line be drawn between legal and ethical guidance in this context?

NET to NEST

- In January 2020, the Ministry of External Affairs (MEA) took the progressive step to establish India’s first, New and Emerging Strategic Technologies (NEST) division.
- NEST will act as the nodal division within the ministry for issues pertaining to new and emerging technologies.It will help in collaboration with foreign partners in the field of 5G and artificial intelligence.
- Its mandate shall include, but not be limited to, evolving India's external technology policy in coordination with domestic stakeholders and in line with India's developmental priorities and national security goals.
- It will also help assess foreign policy and international legal implications of new and emerging technologies and technology-based resources, and recommend appropriate foreign policy choice.
- NEST will negotiate technology governance rules, standards and architecture, suited to India's conditions, in multilateral and pluri-lateral frameworks.

Understanding Management

- By studying Management, one can gain the skills and **knowledge essential for managing key areas of organizations.**
- It helps to develop an understanding of the role and **interrelationship between strategic management, human resource management, operations management and so on.**
- Further, it also helps in appreciating of the **global challenges facing managers from both an operational and a strategic perspective,** and are sensitive to the need for mainstreaming of business ethics and corporate social responsibility into management policy and practice.
- **Managers often possess an attitude that separates legal issues from the strategic and operational concerns of the business**.
- However, in a global economy where goods, services, and investments move across political borders, subjecting businesses to the growing complexity of regulation and liability in other countries, this conventional approach to legal concerns is no longer realistic.

Business and Management

- The development of **business is heavily influenced by the legal environment, including the global legal environment and technology.**
- Business takes advantage of opportunities afforded by the economic, political, social, and technological environment. Business practices must change to meet the changing environment – including the legal environment.
- If the legal system is too rigid the economy is restricted. It may also be that certain fields of technological endeavor are more restricted by laws than others.
- Imagine doing **business** without any **legal** means **to** protect your best interests, you'll understand why the rule of **law** is important **to business**.
- The rule of **law** gives everyone a framework for **how to** act and operate. It holds people, **businesses** and government accountable for their actions, Origins of Management

Interplay between Law and Management

- The interplay between law and management helps to use law proactively in management situations, learn to use law and legal tools to increase total value created and the share of that value captured by the firm, understand the relationship between law and business, use knowledge of law to avoid difficult dispute situations and learn the role of legal advice in a corporation.
- Law helps learn and think about society, morality, public perception, politics and world events.
- It also helps further to understand the social impact, academic and professional skills.
- The purposes and functions of **business law** include maintaining order, protecting rights and liberties, establishing standards, and resolving disputes when it comes to **businesses** and their interactions with individuals, government agencies, and other **businesses**.

Forces and Phases Shaping the Global and Indian Defence and Security

- 5 Forces reshaping the global defence and Security industry
- 1. New actors: 2. New technologies: 3. New Frameworks 4. New Rules and 5. New budget and funding realities
- 5 Phases of India's defence industrialization
- (1) from independence till the mid-1960s, self-sufficiency was an overall economic principle behind India's industrial development;
- (2) from mid-1960 till the mid-1980s, self-reliance replaced self-sufficiency in defence production;
- (3) from mid-1980s till the early 2000s, the emphasis on self-reliance was through co-production;
- (4) from the mid-2000s to late 2014, self-reliance was tried through greater participation of the Indian private sector.
- (5) With the Modi government coming to power, Make in India has become the new model.

Recent Developments in Defence Technology

- Towards the onset of the 21st century, India opened its doors to liberalization and progressive economic reforms.
- The era of State-run enterprises and centrally planned economy took a back-seat and paved the way for entry of the private sector.
- The private sector was given access to the defence industry.
- Introduction of the 'Make' type of procurement in the Defence Procurement Policy 2006 allowed the industry to develop and produce advanced defence equipment, with govt. commitment to provide 80% of the development costs.
- FDI of 49% was also permitted in the defence sector. However, the government continued its reliance on import of advanced weaponry, with new fighter aircraft such as the Sukhoi 30 MKI being inducted into the Air force, submarines and missile destroyers being purchased for the navy and howitzers such as the BOFORS system being purchased for the army.
- In an attempt to boost domestic procurement, the government changed the order of preference in procurement under the Defence Procurement Policy of 2013- making it a preferred choice to develop, design or manufacture defence equipment indigenously.

International involvement in India

- The Indian Defense sector has established its presence worldwide by a continuous progressive escalation and showing tremendous progress in infrastructural development in the area of nuclear and rocket technology.
- India is the largest importer of arms in the world with the amount going as high as 60% of its requirements
- Various global defence companies have increased their investments into India. There have been various joint-venture announcements in the sector in the last few years. Major A&D companies such as, Airbus, Boeing, Lockheed Martin, and Safran already have a footprint in the Indian market, with some of them planning further investments.
- For instance, Airbus announced a joint-venture with Mahindra Defence Systems last year to manufacture helicopters for the Indian military.
- Similarly, Boeing entered into a joint-venture with Tata Advanced Systems in December 2015, wherein they will manufacture fuselages of Apache Helicopters in India
- One of the largest defence contracts in history is the Medium Range Multi-Role Combat Aircraft deal with the French manufacturer Dassault for 36 Rafale fighter jets

Issues and Challenges

- India's pace of defence modernisation has been slow because of a number of inherent holes in the system, such as the lack of a National Security Strategy doctrine, or a long-term strategic defence plan, which are impediments in terms of evolving a clear-cut strategy to meet the defence requirements of the Armed Forces by making a thorough analysis of the security challenges in the immediate regional security environment.
- Moreover, India's inability to produce advanced, sophisticated weapons systems and advanced defence technologies indigenously has severely affected its aspirations of becoming self-reliant in defence production, thereby remaining heavily dependent on foreign sellers for defence purchases, which in a way or other, do expose India's vulnerabilities
- India's indigenous defence production capabilities have, however, not grown because of a number of challenges.
- There is a lack of the greater political will that has severely affected decision-making in terms of acquiring weapons on time as per the needs of the Armed Forces.

Issues and Challenges Cont..

- The Indian defence industry suffers because of under-utilisation of human resources that has negatively affected India's defence R&D base.
- Because of the unfriendly defence industrial procurement system, it has resulted in few co-development and co-production ventures with foreign firms.
- The lack of a conducive financial framework for the local industry to do business in the defence sector, especially for the private sector, has also negatively impacted private participation in the defence sector.
- Therefore, the urgent focus for the Indian government should be to encourage private individuals and entities in India that could contribute in indigenous defence production.
- This would mean that India would achieve its goal of self-reliance only if it allows more private players in India to participate in the defence sector, and the true potential of the Indian minds are utilized.
- However, Government of India has taken a number of measures to increase the participation of Indian companies in the Defence Sector. From liberalizing the licencing regime to making remarkable changes in the Defence Procurement Procedures.

Recent Govt. Initiatives

- Presently, India is one of the largest importers of conventional defence equipment. According to government statistics, roughly 60% of India's defence requirements are met through imports.
- India has the potential to emerge as a global platform for defence research, manufacturing, supply chain sourcing, software development, and offsets, which will strengthen our defence capabilities and spur industrial development as well as exports in this sector.
- Government is also carrying out reforms in defence procurement to increase efficiency, invite foreign players with excellent capabilities and encourage domestic industry. It has introduced policies to strengthen technology transfer, including liberalized FDI in defence production.
- Also, Make in India the new flagship program of Government of India has put a renewed emphasis on creating a conducive policy environment for improving domestic defence manufacturing
- This will also further India's objective to create jobs, catalyze technology development, and transform India into a self-reliant nation with export capabilities in defence sector. India's existing wealth of talent, technology and cost advantages together can help make defence products globally competitive

Recent Govt. Initiatives

- The private sector is expected to assume a bigger role in transforming the "Make in India" vision into reality.
- To this end, several initiatives have been taken - FDI norms have been relaxed; the list of items to be manufactured under industrial licences has been substantially revised; the industrial licensing process has been streamlined and the licence validity extended; and exchange rate variation protection has been made applicable to the Indian private sector at par with PSUs.
- The new Defence Procurement Procedure (DPP) 2016 also focuses on achieving self-reliance in design, development and manufacturing
- A new procurement category –indigenously designed, developed and manufactured (IDDM) - has been introduced.
- The offset policy has been relaxed to encourage engagement from foreign OEMs and the export regulations have been simplified

What Further We Need to Do?

- However, the government and the industry would together have to iron out **several issues such as inadequate investments in innovation and R&D, bureaucratic delays in procurement, a limited vendor base, non-conformity of the offers with request for proposal (RfP) conditions, long field trials, complexities in contract negotiations, and long lead times for indigenisation, to achieve a faster turnaround of capital acquisition projects**
- Further Indian Private Industry including Larsen and Toubro, Ashok Leyland, Mahindra and Mahindra, Reliance Infra, Tata group, Adani Group etc., should be involved in defence manufacturing to produce military platforms like fighter jets and submarines in India.
- This kind of discussions government can boast the private participation under Make in India framework and create domestic expertise in key areas, specifically, fighter aircraft, helicopters, submarines, and armored vehicles & main battle tanks.

Defence Developments and Changing Management Patterns

- With the increasing globalisation of economies, liberalisation of defence and Security policies, new technological developments, private participation in defence industry, liberal and "open skies" bilateral agreements, are the some of the new trends.
- LPG and intensified global competition are forcing defence industry to become responsive, competitive and efficient governance.
- The technological, infrastructural, institutional, economic and human challenges have prompted those in charge of defence and security related agencies to effect a shift in their polices and approaches pursued for years.

Changing Management Patterns Cont..

- The attitude of the government and industry towards the regulation of defence has undergone a profound change over the past few decades in almost all parts of the world.
- The worldwide impact of Liberalization, privatization and globalization forced all parties to rethink the ground rules by which the defence industry had been regulated in the past.
- Even many countries in Asia and Africa, which once adopted a defensive position against liberalization and privatization have recognized powerful pressures for changes in the regulatory system
- The global economic forces are compelling the governments and industry everywhere to redefine their respective roles in defence and security Management.

Why Defence and Security Education?

- Defence studies, War studies, Strategic studies as currently taught in a handful of Universities of India..
- Teaching and research activities are done in few universities of India, having as its primary focus on India's national security.
- In all departments of Defence studies the approach to the study of national security as interdisciplinary and such encompasses such as aspects like Geopolitics and Military Geography, Science and Technology, Economics of Defence, Conflict Management and Conflict Resolution etc.
- However these universities despite their commendable efforts are unable to provide a wholesome education and knowledge having due regards to the international legal framework, world politics and contemporary practices.
- National defence is not only the obligations of peoples who are in armed forces but it is a responsibility of the all citizens of a nation.
- The aim of the defence studies is closely related to other spheres of life.
- Hence the course will target not only defence personnel of the country but will attract numerous scholars, who are engaged in research related activities in defence and strategic studies.

Rationale of Defence and Security Studies

- National defence and security has since time immemorial assumed a paramount role in determining national policies and assessing their impact on international peace and conflict.
- Threats and perceptions of threats from near and far neighbors of a country is an ongoing concern of every nation states at any point of time
- Security of a nation is influenced by its political stability, geostrategic environment, economic and international relations and the strength of its armed forces.
- Determining the nature of security and drawing appropriate defence policies and responses involves national consensus, coordinated approach by the nation's decision-making security and civilian institutions and the availability of resources and capabilities.
- The new techniques and changes have transformed the nature of war from its mercenary character to that of nationalized and total war. In this modern era every citizen from a country is involved in the process of war directly or indirectly

Rationale of Defence and Security Studies

- National Defence and security is of prime importance for any Government or nation. National Defence means the protection of a country against foreign invasion or aggression.
- We have several hostile neighbors like Pakistan and China. Unless we improve our relationship with Pakistan and China, strengthening defence sector is an unavoidable necessity.
- During the period of over 70 years of our country's existence since Independence, there has been invasions and aggression.
- This also means that in spite of our country's efforts to maintain peace in the region and with a population of peace loving nationals, we have been forced to devote a great deal of thought to the necessity of National Defence.
- The aim of the defence studies is closely related to other spheres of life.
- Hence the course will focus not only defence personnel of the country but will attract numerous scholars across the globe who are engaged in research related activities in defence and strategic studies

Why Defence Course at NALSAR?

- **About the NALSAR-** NALSAR University of Law established by Act 34 of 1998 and NALSAR consistently ranked as one of the best Law University in India. NALSAR is approved by the BCI and UGC. It has been graded as Category-I University by the UGC for Grant of Graded Autonomy Regulations, 2018. NALSAR has been accredited by NAAC A++ with 3.60 CGPA out of 4.00.
- **About CASL/CADL**. One of the contemporary but neglected areas in Indian legal realm is Air & Space laws.NALSAR established advanced Centre for Air and Space Law (CASL) in 2005. Since then, CASL has evolved a leader in promoting the study of and research in the specialized fields of Air and Space Law.
- CASL, NALSAR has **launched few innovative and value added programmes** in Aviation, Space, Defence, Telecommunications, GIS and Remote Sensing Laws to cater to the needs of unprecedented aviation growth, which calls for thousands of skilled manpower to meet the managerial requirements of the rapidly growing airports, airlines and aerospace sectors.
- There is an **acute shortage of aerospace legal and managerial professionals** around the world. The aforesaid courses are a unique value added qualifications which would help the aspirants acquire global placements in the aero-space and Defence industry.

Why Defence Course at NALSAR?

- None of the programmes till date have focussed on the legal aspects of defence and security studies..
- Hyderabad: Hub of India's aerospace and defence industries
- With an objective of bridging the gap between Law and defence studies intends to offer this programme with an intention to equip the course participants with national and international legal framework governing the defence industry in the world, at regional levels and in India
- The course would further train the participants in developing a strong foundation in management and governance of the defence sector by drawing from experiences across the globe and comparing the same in Indian context.
- In order to create a cadre of Legal and management professionals in Defence technology, NALSAR University has conceived an innovative Masters Programme in Defence Technology and Security Laws.

Why This Course?

- The course aims at producing Legal and management professionals who will be required to work in a large growing military- industrial complex in the country. India is emerging as one of the leading military powers in the world.
- The initiatives by the Defence Research Organisations along with the Public and Private sectors, has opened new windows of opportunities for skilled and trained professionals in the domain of Defence both in government and private sectors.
- Contemporary Developments in the Security, Defence and Maritime Laws: escalating globalization of economies
- liberalization of national defence and new technological developments in domestic defence and maritime industry
- Recent increase in bilateral agreements on pertinent aspects of defence and maritime issues
- Current policies of the government primarily the Make-in-India policy

Who made it and why?

- With the support from various organisations such as Ministry of Civil Aviation, Ministry of Defence, ISRO, Surveyor General of India and representatives of the Telecommunications industry and private sector.
- **Why?** NALSAR's initiative crystallizes an academic – industry partnership in the domain of Defence and Security Law, Air Transport Management, Space and Telecom Laws which makes the programme first of its kind not only in India but also in this part of the world.
- **Contribution of the CADL-** It is the only University in India which can proudly reveal the fact that it has offered Special courses in Air & Space Law at UG PG level and has been produced hundreds of students as Experts in the same domain and more than 900 Masters and Diplomas
- I will be glad to tell you that these students have been catering to the needs of National as well as international aviation sector by rendering their services in various capacities such as Legal advisors, legal consultants, Practicing lawyers, in-house counsels in various International & National Law firms.
- Suffice it to say, NALSAR is the one and only University which has established a dedicated centre for Aerospace and Defence Law in India

How this Course Helps Defence Professionals?

- The course, M.A. (Security and Defence Laws) is designed in order to meet the requisites of the users of the Armed services, designers of Defence technology, manufacturers in Defence industries in the public and private sectors.
- Further the educators and institutions engaged in academic programmes pertaining to Defence Technology, Management and Security related areas.
- Hence this course offers tremendous scope for developing knowledge-base in specialized areas and provide wide ranging career opportunities in Technological development, Management, Legal Aspect of Defence Industry, Defence Production, Research and related industries spread all over the country.

Objective of the Course

- To provide the course participants an opportunity to impart legal knowledge and skills in national security studies, and enhance their career prospects for the purpose of attaining their personal and professional goals.
- To develop participants' capacity to understand, critically assess and provide practical solutions to the type of problems commonly encountered in the practice of Law.
- To provide with an advanced knowledge and understanding of the theoretical underpinnings of different fields of Law and the skills required in practice.
- To bring together the best legal minds in India and abroad which would include leading academics, practitioners and industry professionals with special expertise, as well as visiting international scholars.
- The course participants will benefit from a rich educational environment while intermingling with professionals from many backgrounds and industries and building the specialized expertise and experience needed to gain a cutting professional edge.
- NALSAR-CADL intend to institutionalizes the academic-industry partnerships in the domains of air transport management and aviation law.

Conduct of Programme

- **Onsite Sessions**: Each paper is conducted by the experts in their respective fields who will apart from creating a strong theoretical base would also seek to impart information on practical and contemporary issues involved in the working of the aviation industry through mock exercises and case study methods during the onsite sessions.
- The onsite session will be conducted in each semester for Seven days will be held in the NALSAR Campus.
- **Online Sessions**: Such theoretical and practical dispersion of the knowledge so received during the Onsite Sessions is sought to be enhanced through the Online E-Learning Sessions.
- Relevant course materials will be updated on the web-site and the course participants will be given a user-id and password through which they can access these online reading materials.
- Participants can also have one-to-one discussions with the course experts through the online mode as well.

Evaluation Scheme

- Each paper shall carry 100 marks. The distribution of marks shall be as follows:
- Assignment(s):30 Marks
- End Semester Examination: 70 Marks

Percentage of Marks	Grade	Grade Value
80 and above	O (outstanding)	8
75 – 79	D	7.5
70 – 74	A++	7
65 – 69	A+	6
60 – 64	A	5
55 – 59	B+	4
50 – 54	B	3
Below 50	F (Fail)	0

Course Structure

- **Semester I**
- General Principles of Law
- International Security, Diplomacy and Conflict Resolution
- Defence Technology and Defence Laws
- International Institutions and Global Security
- **Semester II**
- Defence Management and Strategic Studies
- Defence Contracts and Tenders
- Defence Procurement Policies: National and International Perspectives
- Defence Laws and Policies in India
- **Semester III**
- Regional Security and Global Governance
- Terrorism and Counter Terrorism
- Aviation, Space and Maritime Security Laws
- Cyber Space, Cyber Security and National Defence
- **Semester IV:** Dissertation

Paper on General Principles of Law

- Why this paper is designed?
- This paper broadly divided into six modules:
- **Module I – Module I - Introduction to Law**: Discuss about the definition, nature, scope, sources and importance of law.
- **Module II – Indian Constitution and administrative law** including nature history and development, silent features of the Indian Constitution and administrative law.
- **Module III – Indian Judicial and Legal Systems including Indian Judiciary, Civil and Criminal Court Structure.**
- **Module IV – Dispute Settlement: The Role of ADR** also briefly touches the Quazi Judicial Settlement mechanisms
- **Module V – Interface Between Law and Technology**
- **Module VI- Legal Research Methodology and Project Writing Techniques**

PAPER-II – INTERNATIONAL SECURITY, DIPLOMACY AND CONFLICT RESOLUTION

- **MODULE-I: INTERNATIONAL RELATIONS AND SECURITY:** Meaning, Nature and Current views, International Politics and International Relations, Scope, Subject, Purpose, Theories of International Relations
- **MODULE-II: DIPLOMACY**: Introduction, Meaning, Definition, Nature and Purpose of diplomacy, History and Development of Diplomacy, The UN and the Changing World order
- **MODULE-III: CONFLICT RESOLUTION**: Conflict dynamics and conflict typology, Definition and Components of Conflict, Historical Background of Conflict Resolution etc.,
- **MODULE-IV: CONFLICT PREVENTION, CONFLICT MANAGEMENT AND PEACE-KEEPING**: Conflict prevention and conflict management, Pacific and Coercive methods of Conflict Resolution Peace-keeping, Classification of Peace-keeping
- **MODULE-V: IHL AND INTERNATIONAL SECURITY, DIPLOMACY AND CONFLICT RESOLUTION**: History and Evolution of (IHL), Basic Principles IHL, Means and Methods of Warfare, Distinction Between International and Non-International Armed Conflict, The Role of theICRC
- **MODULE-VI: CONTEMPORARY TRENDS: GLOBALIZATION AND GLOBAL GOVERNANCE**

PAPER- III: DEFENCE TECHNOLOGY AND DEFENCE LAWS

- MODULE-I: DEFENCE TECHNOLOGIES AND DEFENCE APPLICATIONS
- MODULE-II: DEFENCE TECHNOLOGY, DEFENCE LAWS AND IPR ISSUES
- MODULE-III: DEFENCE INDUSTRY AND TOT AGREEMENTS
- MODULE-IV: NEW AND EMERGING DEFENCE TECHNOLOGIES
- MODULE-V INDIA'S DEFENCE TECHNOLOGIES
- MODULE-VI - COVIDIZATION AND ITS IMPACT ON DEFENCE AND SECURITY INDUSTRIES

Paper IV: Int. Institutions and Global Security

- MODULE I: ORIGIN & DEVELOPMENT OF INTERNATIONAL INSTITUTIONS: A GLOBAL SECURITY PERSPECTIVE - Concept of International Institutions, Concept of Global Security, Role of International Institutions in maintaining global peace and security, First World War & the issue of Global Security, Emergence of League of Nations, Second World War & the decline of League of Nations.
- MODULE II: UNITED NATIONS & GLOBAL SECURITY - Emergence of UN, Organs of United Nations, Principle of Maintenance of international peace and security, Collective Security, Preventive Diplomacy, Role of Security Council & Global Security and From Peace-Keeping to Peace-Building.
- MODULE III: INSTITUTIONAL MECHANISM TO COMBAT INTERNATIONAL CRIMES & WAR - Fundamentals of International Criminal Law, Extradition and Asylum, International Police Cooperation, Nuremburg and Tokyo Tribunal, International Criminal Court, International Criminal Tribunal for Yugoslavia and Rwanda, International Humanitarian Law, Limitation on Means and Methods of Warfare, Law of International and Non-International Armed Conflicts.
- MODULE IV: INTERNATIONAL CONVENTIONS/TREATIES ON WEAPONRY - Convention on Certain Conventional Arms, CTBT, Nuclear Proliferation Treaty, Arms Trade Treaty 2014, Additional Protocol I to Geneva Convention, SALT I and II, START I and II, SORT, TTBT, Treaty on Prohibition of Nuclear Weapons, ICOC, and Convention on Cluster Munitions.

Paper V: Defence Management and Strategic Studies

- Module I: PRINCIPLES OF MANAGEMENT - Introduction to Management including nature and Process of Management, Functions and Dimensions of Management, General Theories of Management, Managerial Roles, Skills, Competencies, Organizational Planning, Organization, Directing and Motivation, Leadership,
- Module II: DEFENCE MANAGEMENT AND STRATEGIC STUDIES - Principles of Defence Management, Accounting for Defence Management, Organisational Behaviour for Defence Forces, Human Resources and Communication Management, Strategic Management in Defence Establishments
- Module III: ECONOMIC, SCIENCE & TECHNOLOGY ISSUES AND NATIONAL SECURITY - Broad Survey of Technological Changes from Industrial Revolution to Inform Action Revolution, Economic Theories of Defence., Basics of Defence Planning, WTO, TRIPS, TRIMS, NAFTA, SAPTA), Issues of Mobilization of Resources during War and Peace., Transfer of Technology: Dual use and critical technologies and their impact on national security
- Module IV: DEFENCE MANAGEMENT AND STRATEGC STUDIES; RECENT DEVELPMENTS- This module cover the recent management challenges including the challenges posed by technologies. Further, this module also covers the challenges in strategic studies both national and international context.

Paper VI: Defence Contracts and Tenders

- Module I: FUNDAMENTALS OF LAW OF CONTRACTS - Essentials of Law of Contracts, Offer and Acceptance, Consideration, Capacity to Contract, Consent including Meaning and Concept, Elements which affect the Consent of the Parties, Mistake, Misrepresentation, Fraud, Coercion, Discharge and Breach of Contract and Remedies for Breach of a Contract.
- Module II: APPLIED CONTRACTS FOR DEFENCE SECTOR - Contract of Pledge, Contract of Agency, Contracts of Indemnity and Guarantee, Contract of Bailment.
- Module III: INTERNATIONAL CONTRACT LAW: NORMS AND DRAFTING GUIDELINES - International Contractual Negotiations, Principles for Drafting of International Commercial Contracts, Norms for Drafting International Commercial Contracts, INCOTERMS: International Commercial Terms published by ICC including Incoterms 2010, Incoterms in Government Regulations, General Transport, Sea and Inland Waterway Transport, Allocations of costs to buyer/seller according to Incoterms 2010, Previous terms from Incoterms 2000 eliminated from Incoterms 2010
- MODULE IV: LAW RELATING TO TENDERS and BIDDING - Nature, Scope and Meaning of Tender and Tendering Process, Auctions (including rate and running contracts), Tendering Process and Guidelines, Tendering Construction Contracts, Tendering Consultant Contracts, Public Sector Tendering, Sub-Contract Tendering, Tendering Risks, PFI-PPP-DBFO Contracts, Turning tenders into Contracts, Tender Abuses, Right to Information Act, E Contracts and E Tenders

Paper VII: Defence Procurement Policies:

- MODULE I: INTRODUCTION TO PROCUREMENT AND DEFENCE PROCUREMENT CONCEPTS Concepts of Public Procurement and Defence Procurement, Public Procurement Process and Organizations, International Framework for Public Procurement, Global Procurement Trends and Practices, Conceptual Framework in Defence Procurement:
- Module II: EXPORT CONTROL REGIMES - Zangger Committee Report 1971, Nuclear Supplies Group 1974, Australia Group 1985, Missile Technology Control Regime 1987, Wassenaar Arrangement 1996, US International Traffic in Arms Regulations 1976
- Module III: DEFENCE PROCUREMENT: GLOBAL PERSPECTIVES - E-Procurement including key Issues in E-Procurement, Facilitators of Public E-Procurement: Lessons Learned from the U.K., U.S., and Australian Initiatives, Open Procurement, Harnessing the 'PPP' Model in Defence Acquisition, Defence and Security Public Contracts Regulations of UK 2011, UK Defence Reforms Act 2014, UN Arms Trade Treaty 2014, EU Standards and Best Practices in Defence Procurement, Bribery and Corruption in Defence Procurement Practices: Foreign Corrupt Practices Act USA 1977, UK Bribery Act 2010, Similar legislations across the world, Challenges of Defence Procurement: A User Perspective
- Module IV: DEFENCE PROCUREMENT IN INDIA - Changing Landscape of India's Defence Sector: Investments, India's Defence Procurement Policies 2006-2013 Overview, Defence Offset Policies and Impact on Indian Defence Industry, Taxation Policy, FDI Policy on defence Procurement, Impact of India's Offset Policy on Military Industrial Capability and Self-Reliance, Defence Acquisition and Process Reforms: Indian Army's and Indian Air Force Perspective

Paper VIII: Defence Laws and Policies of India

- Module I: INSTITUTIONAL FRAMEWORK FOR DEFENCE GOVERNANCE IN INDIA includes the British Period including brief Military History of India, British Indian Army, Indian National Army, Higher Defence Organisation in India, Ministry of Defence, Integrated Defence Staff, Defence Intelligence Agency,
- Module II: LAW RELATING TO DEFENCE SECTOR IN INDIA includes Military Doctrines, Maritime Laws of India including evolution of Naval Laws, Maritime Jurisdiction Act, 1976, Coast Guard Act 1978, Army Act of 1950, Air Force Act 1950, Armed Forces Special Powers Act, Official Secrets Act, Armed Forces Tribunal Act 2007 and Rules, Armed Forces in Aid of Civil Authorities (for law and order and disaster management), Civil Defence Act 1961 and Civil Defence Rules 1968,
- Module III : JUSTICE SYSTEM FOR DEFENCE IN INDIA comprises the Idea of Justice and Military Justice System in India, Court Martial System: System and Procedure at Trial, Pre-Trial Preparation, Trial by Court Martial, and Armed Forces Tribunal.
- Module IV : DEFENCE LAND ACQUISITION includes Land Acquisition Laws in India, Recent changes in Land Acquisition Laws, Procurement of Land for Defence Establishment and other purposes, Modes & Strategies of Defence Land Procurement

Paper IX: Regional Security and Global Governance

- Module I on REGIONALISM: ARCHITECTURE OF PEACE? includes the Historical Development, World Order Politics of Regionalisation, Developing a 'Regional-Global Security Mechanism, Complexities of Regionalism includes Effect on UN Security Planning: The 'Strategic Choice, Regional Security Organizations: NATO, CETO, Warsaw Pact, CENTO.
- Module II on REGIONAL SECURITY includes Security Regionalism, The Multidimensional Phenomenon of Regional Security, Regionalism and Collective Security including a Structure of 'Security Regions', a Structure of 'Chapter VIII of UN Charter - Regional Agencies', Identifying Possible 'Chapter VIII Regional Agencies', The Constitutional Position of the United Nations and Implications for Security Council Reform
- Module III deals with REGIONAL SECURITY ISSUES AND CONTEMPORARY DEVELOPMENTS
- Module IV on REGIONAL SECURITY: SAARC PERSPECTIVE includes Regionalization of Peace in Asia, Realism and Regionalism in SAARC, Military and Strategic Cooperation and Economic Cooperation.

Paper X: Terrorism and Counter Terrorism

- Module I on INTRODUCTION TO TERRORISM AND COUNTER TERRORISM comprises of Conceptual approaches to terrorism and terrorists, Counter-terrorism approaches and strategies, Transnational Perspectives to Terrorism including United Nations Security Council, terrorism and the rule of law, Global Anti-Terrorism Law, Cross Border Terrorism, Drug Trafficking, Money Laundering, Espionage, Cyber Terrorism
- Module II deals with UNITED NATIONS AND INTERNATIONAL TERRORISM
- Module III on INTERNATIONAL SECURITY AND TERRORISM includes improving international cooperation in the investigation and prosecution of terrorist, Terrorism: Legal Perspectives, The use of force against terrorists, Interaction between international human rights law and international humanitarian law in the fight against terrorism
- Module IV on ANTI-TERRORISM LAW AND POLICY IN ASIA: A COMPARATIVE STUDY includes Singapore's anti-terrorism laws: reality and rhetoric, Anti-terrorism efforts in Indonesia, Human Security Act and the IHL, Law of the Philippines: of security and insecurity, Responses to terrorism in China, Security laws for Hong Kong, Japan's response to terrorism post-9/11, Mapping anti-terror legal regimes in India

Paper XI: Aviation, Space and Maritime Security Laws

- Module I: MARITIME SECURITY AND MARITIME MILITARY LEGAL REGIME includes Fundamental Concepts – Maritime Security, Freedom of the Seas, Passage of Warships, Military Activities beyond the Territorial Seas, Law Enforcement and Law of the Sea, Terrorism and Proliferation of Weapons of Mass Destruction,
- Module II : INTERNATIONAL LEGAL REGIME FOR GLOBAL AIR SECURITY comprises of Airport Safety & Security including Montreal Protocol on Suppression of Unlawful Acts of Violence at Airports serving International Civil Aviation 1988, Global Air Safety Regulations including ICAO and Air Safety Regulations, International Conventions on Air Transport Security, Anti Hijacking, Aviation Terrorism And Global Regulations,
- Module III: INTERNATIONAL LEGAL REGIME FOR SPACE SAFETY, SECURITY AND SUSTAINABILITY includes Security for Outer Space Activities, Legal Regime for Outer Space Safety and Security, Space for National Defence including ABM Treaty 1972-74, International Code of Conduct against Ballistic Missile Proliferation (ICOC) – 2002, Missile Technology Control Regime (MTCR), and International Cooperation for Space Security
- Module IV: CONTEMPORARY DEVELOPMENTS comprises of Emerging Technologies including Small Satellites: Their Emerging Role in International Space Security, India's SATNAV Programme: GAGAN and IRNSS, Space-based Signal Intelligence Systems: Global Trends and Technologies, Space Exploration: A Measure of American Collaboration, Strategic Air and Outer Space including the Use of Outer Space for Security and Defence: The European Perspective Space and the Israeli Experience: Geography, Technology, Security.

Paper XII: Cyber Space, Cyber Security &National Defence

- MODULE I: INTRODUCTION TO NATIONAL SECURITY AND CYBER SPACE includes Conceptual Framework of Cyber Space and Cyber Security, Speculative Security, Operational Considerations in Cyber Attack and Cyber Exploitation and Cyber Crime and Cyber Terrorism
- MODULE II: ARMED CONFLICT AND CYBER DEFENCE includes the Law of Armed Conflict and Cyber Warfare: The Relationship, The Emerging Structure of Strategic Cyber Offense, Cyber Defense, and Cyber Deterrence, A New Framework for Cyber Deterrence, Cyber Conflict, Cyber Power, and Security Resilience as Strategy
- MODULE III: NATIONAL APPROACHES TO CYBER SECURITY AND CYBER WARFARE comprises of Persistent Enemies and Cyberwar: Rivalry Relations in an Age of Information Warfare, Competing Transatlantic Visions of Cyber security, The Bear Goes Digital: Russia and Its Cyber Capabilities, China in Cyberspace, Toward a Theory of Cyber Power: Strategic Purpose in Peace and War
- MODULE IV: CONTEMPORARY ISSUES ON CYBER SECURITY AND WARFARE includes Cyber Space & Cyber Threats: Recent Developments National Operationalization of Cyber Commands, Cyber Defence, Jurisdictional Concerns, Technological Complications : Lessons to be learnt and Roadmap for the future

Projects and Dissertation

- The spectacular fast developments in aircraft technology in the beginning of the 20th century, made law-making necessary in this new field of transportation.
- The course extensively tries to encompass numerous aspects of Aviation Law and Management. Given the nature of the course, there are numerous contemporary aspects of the aviation law and management that cannot be discussed in detail.
- The main objective of the Projects and dissertation component is to assess the research and writing skills of the students as well as to provide a platform for **creative legal scholarship** and can be refined and submitted for publication in scholarly journals or even serve as the basis for full-length dissertations in doctoral programmes.
- **The written Dissertation will carry a total of 150 marks** which will be followed by a **Viva-voce examination carrying 50 marks**. Dissertation shall be evaluated by one examiner and if a student secures a minimum of 50% marks in the written report, he/she may be called for viva-voce examination. In total, a student should secure a minimum of 50% marks in the Dissertation including the written report and viva-voce examination.

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