

5 Year Integrated Dual Degree Programmes

LLM(IP), Ph.D Degree & LLM (IPR), Ph.D Degree

FACULTY OF LAW

Syllabus for LLM(IP), PhD Degree and LL.M (IPR), Ph.D Degree

The Concept of Law and Justice (4 credits)

- I. Theories of law – natural law – the concept of dharma – historical school – analytical positivism – sociological school – law and morality – role of public opinion, tradition and culture in the formation of Law
- II. Economic foundations of law and justice - class society and the content of law - Marxist view on law and justice - feminist critique of law and justice - gender bias in law - racial critique of law and justice - law in a pluralistic society - economic interpretations of law – critical studies
- III. Purpose of law – concept of justice – meaning and kinds – justice and law – approaches of different schools
- IV. Concept of justice underlying Indian constitutional scheme - interrelationship of part III and IV of the Constitution - role played by the Higher Courts of India in constitutional interpretation. Power of the Supreme Court under the Constitution and rationality of its exercise.
- V. Social Justice – minority protection and the legal system - protective discrimination - access to justice – public interest litigation – legal aid - compensatory jurisprudence.

Suggested readings:

1. Roscoe Pound, Introduction to Philosophy of Law, Transaction Publishers (1954) Chs. 1,2 & 3
2. Roscoe Pound, Jurisprudence, The Law Books Exchange, New Jersey, (1959) Vol. 1 Part I & II
3. Bodenheimer, Jurisprudence, Harward University Press, (1974) Part I
4. Friedmann, Legal Theory, Stevens & Sons Ltd., (1967)
5. Lon. L. Fuller, Anatomy of Law, Stanford University Press, California, (1984)
6. Lon. L. Fuller, The Morality of Law, The University of California, (1995) Reprint
7. H.L.A. Hart , The Concept of Law, Oxford University Press, (2012) Reprint
8. John Rawls, A theory of Justice, Oxford University Press (1972)

9. Amartya Sen, *The Idea of Justice*, Harvard University Press & London: Allen Lane, (2009).
10. H.M Seervai, *Constitutional Law of India*, N.M Thirpathi/Sweet and Maxwell, (latest edition)

Law and Social Change (4 Credits)

- I. Precedents – concept of *stare decisis* – ratio decidendi and obiter dicta - tests to determine ratio of a case - rules of interpretation of statutes
- II. Social change through law – precedent and social change – mechanisms that infuses change into the legal system - factors that influences decision making process - methods of decision making - analogical reasoning and growth of law - juristic techniques and possibility of change within the apparently logical process in decision making - Judicial process in India – peculiar features – prospective overruling
- III. Indian Judiciary and social change – constitutional interpretation - interrelation between fundamental rights and directive principles of state policy - right to property as a fundamental right – role of judicial review.
- IV. Change in the moral attitude of the society and its influence in judicial interpretation - attitude towards property - changing concept of property interference with life processes – biotechnology - concept of life and its relation to property - human body and the response of law - need for change in the no property rule - judicial attitude and statutory response.
- V. Law as an instrument of social change - pluralism - control by elite, class domination and the law - pressure groups, lobbying and legal policies

Suggested readings:

1. Friedmann, *Law in a Changing Society*, Penguin Books, (1972)
2. Friedmann (et.al.), *Law and Social Change*, Stevens & Sons, (1973)
3. Julius Stone, *Social Dimensions of Law and Justice*, Stanford University Press, (1996), Ch.14 (Part I &II)
4. Julius Stone, *Precedent and the Law*, Butterworth, (1985)
5. Rupert Cross, *Precedent in English Law*, Clarendon Press, (1977)
6. Rupert Cross and J. W. Harris, *Precedent in English Law*, Clarendon Press, (1991)
7. Von Mehren, *The Civil Law System*, Little Brown, (1977) Ch. 16
8. Levi, *Introduction to Legal Reasoning*, The University of Chicago, (1970)
9. Cardozo, *the Nature of Judicial Process*, Yale University Press, (1922)
10. Amartya Sen, *Development as Freedom*, Oxford University Press, (1999)

Research Methodology (4 Credits)

- I. Research as a social science and scientific research – qualities of scientific research, meaning of research – nature and utility of research - pure and applied research - value of research – problems of objectivity in research – the research process – multidisciplinary approach to research
- II. Formulation of problem in research - hypothesis, their nature and role – concepts and their role in investigation - research design
- III. Doctrinal research - data collection – doctrinal sources – primary and secondary sources – case study method – observation and interview - case books – writings – international documents – judgments of international bodies and superior courts of different countries—legislation – statutory instruments and judicial decisions.
- IV. Non-doctrinal research - empirical research – census method of data collection – sampling methods and techniques – random sampling – systematic sampling – stratified sampling – optimum sampling – different methods for collection of data – interview, preparation of questionnaires – classification of data – analysis of data – tabulation of data
- V. Statistical analysis of data and reporting – tabulation and graphical presentation of data – central tendencies – mean, median and mode – standard deviation – elements of probability study and its use in research – presentation of research reports – style of presentation - practical experience in collection of data and analysis of data using computer and internet

Suggested readings:

1. Pauline V. Young, *Scientific Social Survey and Research*, Prentice Hall,(1966)
2. William J. Grade and Paul K. Hatt, *Methods in Social Research*, Mc Graw-Hill Book Company, London (1952)
3. H.M.Hyman, *Interviewing in Social Research*, University of Chicago, (1965)
4. Payne, *The Art of Asking Questions*, Princeton University Press (1980)
5. Erwin C. Surrency, B.Felf and J. Crea, *A Guide to Legal Research*, Oceanea Publications, (1966)
6. Morris L. Cohan, *Legal Research in Nutshell*, West Publishing Co., (1996)
7. *The Blue Book: A Uniform System of Citations*, Havard Law Review Association, (2000)
8. *Legal Research and Methodology*, ILI Publication, (2001)
9. Manheim, *Sociological Research: Philosophy and Methods*, Doresy Press, (1997)Chs.6-17
10. Morris L. Cohen, *How to Find the Law*, University of Michigan, (1989) Chs. 1,13,17 &18
11. Peter Goodrich, *Reading the Law*, B. Blackwell, (1986) Ch.2
12. John A Yogis, Michalelosipeaea, Philip. W. Whitehead, *Legal Writing and Research Manual*, Lexis Nexis Butterworths, (2004)
13. Victor Tunkel, *Legal Research*, Blackstone Press, (1994)

Foundation Course – I on IPR (4 Credits) - Intellectual Property – General Principles, Nature and Content

- I. Theoretical justification for protection of IP – western theories on private property and IP – Marxian theory on private property and IP – Indian/Gandhian theories on private property and IP - constitutional values and protection of private property and IP
- II. The concept of copyright, patent and trademark, geographical indication of goods and traditional knowledge – the conceptual differences and the differences in the scope and extent of protection and in the standards required for protection for different forms of IP and its implications – copyright – the test of originality – idea/expression dichotomy – the problems created by digitization in determining the standards – subject matter of copyright protection and term of protection – performers rights and neighbouring rights scope and extent of protection including the term of protection
- III. Patentable inventions – patentability standards – test of novelty, inventive step and commercial utility and their significance – standards of patentability in the changing technological context – scope and extent of protection including the term of protection
- IV. Trademark – the concept of distinctiveness – relevance of confusion and deception – common law and statutory requirements for protection – the changing scenario of marketing and the changing demands for trademark protection
- V. The nature of property under geographical indications and traditional knowledge and its difference from other forms of IP – geographical indications – meaning – requirements for protection and the nature of property rights – difference from the western concept of exclusivity – traditional knowledge – types of TK – possibility of independent status as IP – difference from other forms of IP – the issue of defining the standards for protection and the nature of property right foundation

Suggested readings:

1. R.S. Bhalla, The Institution of Property : Legally, Historically and Philosophically Regarded, Eastern Book Co., (1984)
2. Penner, The Idea of Property in Law, Clarendon Press, Oxford (1997)
3. John Locke, Two Treatises on Government, Industrial Systems Research, (1970)
4. G.W.F. Hegel, The Philosophy of Rights, Cosimo Inc., (2008)
5. Karl Marx – Private Property and Communism, Hackett Publishing CO., (1844); Wage, Labour and Capital, Kessinger Publications, (1847); The Alienation of Labour, (Nicholas Beams), University of Tasmania, (1844)
6. M.K.Gandhi, Village Swaraj; Trusteeship, Navajivan Publishing house
7. Copinger & Skone James on Copyright, Sweet & Maxwell, (latest edition)
8. Terrel on Patents, Sweet & Maxwell (latest edition)

9. Kerly's Law of Trademarks and Trade Names, Sweet & Maxwell, (latest edition)
10. Silke von Lewinski (ed.) *Indigenous Heritage and Intellectual Property: Genetic Resources, Traditional Knowledge and Folklore*, Kluwer International, (2008)
11. Latha R. Nair and Rajendra Kumar, *Geographical Indications: A Search for Identity*, Butterworths Wadhwa, (2005)
12. Prabuddha Ganguli, *Geographical Indicators, its Evolving Contours*, MVIRDC, World Trade Centre, Mumbai, (2009)

Foundation Course II on IPR (4 Credits) - Intellectual Property Rights – The Social Relevance

- I. Internationalization of IP protection – TRIPS Agreement – basic principles and minimum standards – limits of one-size-fit for all – flexibilities under TRIPS – international politics in norm settings for IP protection - concerns of India
- II. Development and IP protection – lessons from the west – policy concerns in the Indian context – IP and transfer of technology – IP and competition – IP and foreign direct investment – Indian economy and IP protection
- III. Access to IP products – nature of exclusive rights and its impact on access - the significance of limitations and exceptions to IP rights and the concept of exhaustion of rights and parallel imports
- IV. Challenges to different forms of IP posed by emerging technologies and the possible solutions – digital technology, internet and biotechnology
- V. Alternatives to IP – open source movement – general public licence – creative commons – open source drug discovery – limits

Suggested readings:

1. Susan Sell et.al, *Who Governs the Globe?*, Cambridge University Press, (2010).
2. Odagiri et.al, *Intellectual Property Rights, Development, and Catch Up*, Oxford University Press, (2010)
3. Christopher May & Susan K. Sell, *Intellectual Property Rights: A Critical History*, Lynne Rienner Publications, (2005)
4. John Odell (ed.), *Negotiating Trade: Developing Countries in the WTO and NAFTA*, Cambridge University Press, (2006)
5. Gustavo Ghidini, *Intellectual Property and competition Law: The Innovation Nexus*, Edward Elgar, (2006)
6. David J. Teece, *The Transfer and Licensing of Know-how and Intellectual Property*, World Scientific (2008)
7. Susan K. Sell, *Private power, public law : The globalisation of IPR*, Cambridge University Press, (2006)

8. Kenneth L. Port, *Licensing Intellectual Property in the digital age*, Carolina Academic Press, (1999)
9. Merges, Lemley, et.al, (4th Ed.) *Intellectual Property in the new technological age* – , Aspen Publishers, (2007)
10. Thomas Pogge, Mathew Rimmer, Kim Rubenstein (ed), *Incentives for global public health: Patent law and access to essential medicines*, Cambridge University Press (2010)

Elective Courses (4 Credits each)

1. Patent Law and TRIPS Agreement

- I. Introduction to patent law – historical development – general principles – test of patentability – novelty, inventive step and commercial utility – theoretical justification for patent protection
- II. Development of international patent system – historical development of Paris Convention – basic principles of Paris Convention – minimum standards – revision of Paris Convention
- III. TRIPS Agreement and patent system – historical development of TRIPS – patentable subject matter – pharmaceuticals and agricultural products, biotechnology – rights and limitations
- IV. New international challenges to patent system – Convention on Biological Diversity and TRIPS interrelationship – traditional knowledge and the patent system – prior art, obviousness – disclosure requirements – benefit sharing and contractual agreements – Bonn Guidelines – International Treaty on Plant Genetic Resources for Food and Agriculture – issues on patent policy and farmers’ rights
- V. Indian patent system and international obligations – history of Indian patent law – structure of Indian Patent Act 1970 – Patent Amendment Act 1999, 2002 and 2005 – new challenges

Suggested readings:

1. E. Wyndham Hulms, “The History of Patent System under the Prerogative and at Common Law, 12 L.Q. R.141, 13 L.Q.R. 313 & 16 L.Q.R. 44
2. Hughes J. “Philosophy of Intellectual Property” 77 *The George Town Law Journal* 285
3. Peter Drahos, *A Philosophy of Intellectual Property*, Dartmoth, (1996)
4. Terrel on Patent, Sweet & Maxwell (latest edition)
5. The Paris Convention 1883

6. Bodenhausen, *Guide to the Application of Paris Convention for the Protection of Industrial Property*, WIPO (2004)
7. Rajiv Dhavan *et.al*, "Paris Convention Revisited" 31, JILI (1991)
8. Terence P. Stewart, *GATT Uruguay Round : Negotiating History*, Kluwer Law International (1999)
9. Reichman, Jerome, *Of Green Tulips and Legal Kudzu: Repackaging Rights in Subpatentable Innovations*, 2003
10. Rajagopal Iyengar, *Report on the Revision of the Patent Law*, Government of India 1959
11. Rajiv Dhavan *et.al*, "Whose Interest? Independent India's Patent Law and Policy", 32 J.I.L.I 429 (1990)

2. IPR and Computer Programme

- I. Introduction to computer programme – basic concepts of computer science – concepts, terminology and principles – distinction between computer programme and software – elements of computer programme – algorithm – computer languages – method of software development – materials used for software development – literal and functional elements of computer programmes
- II. Introduction to IP Protection for computer programme – historical development of IP protection for computer software – contractual agreements – role of IBM – cases on contractual violations
- III. Computer programme and copyright protection – historical development of copyright protection for computer programme – concept of originality – idea-expression dichotomy – originality in computer programmes – look and feel – abstraction, filtration and comparison – protection of non-literal elements – the US and English case law development – fair use – TRIPS obligations – copyright protection of computer programmes in India – originality, rights, fair use, remedies
- IV. Computer programme and patent protection – development of patent protection of computer programmes in the US – algorithm as patentable subject matter – patentability of computer related inventions – computer programme as a 'means to an end' for patent protection – patenting of business methods – TRIPS obligations – patent protection for computer programmes in India – implications
- V. IP protection of computer programme – alternatives – free software movement – legal validity of general public licence agreements – patenting software and challenges to open source movement

Suggested readings:

1. Pamela Samuelson *et.al*, " A Manifesto Concerning the Legal Protection of Computer Programmes", 1994 Columbia Law Rev. 2308

2. Peter S. Menkel, "Challenges of Reforming Intellectual Property Protection for Computer Programmes", 1994 Columbia Law Rev. 2644
3. Paul Goldstein, "Comments on Manifesto Concerning the Legal Protection of Computer Programmes", 1994 Columbia Law Rev. 2573
4. Leslie Melville, "Computer Software and the Relevance of Copyright", [1980] EIPR 354
5. Daniel J. Fetterman, "The Scope of Copyright Protection for Computer Programmes: Exploring the Idea/expression Dichotomy", 20 IPLR 399 (1988)
6. Julian Velasco, "The Copyrightability of Non-literal Elements of Computer Programmes" 27 IPLR 329 (1995)
7. Allen B. Wagner, "Patenting |Computer Science: Are Computer Instruction Writings Patentable?", (1998) The John Marshall Journal Of Computer and Information Law
8. Jur. Stobos, "Stalling the Exclusive Patentable Software: Are there Still Diehsor Was it Just a |Flook/" 6 Horr. J. Of Law & Tech. 363 (1992-93)
9. John Swinson, "Copyright or Patent or Both: An Algorithmic Appeal to Computer Software Protection", 5 Harv.J of Law & Tech. 145 (1991)
10. Allen B. Wagner, "Patenting Computer Science: Are Computer Instructions Writings Patentable?", 1998 The John Marshall Journal of Computer and Information Law, 5
11. Jur. Stobos, "Stalling the Exclusive Patentable Software: Are there Still Diehsor Was it Just a Flook" 6 Horr. J. Of Law & Tech. 363 (1992-93)
12. John Swinson, "Copyright or Patent or Both: An Algorithmic Appeal to Computer Software Protection", 5 Harv. J of Law & Tech. 145 (1991)

3. Protection of Traditional Knowledge

- I. Intellectual property – general – brief over view of different forms of IP – difference between intellectual property and traditional knowledge
- II. Detailed analysis of traditional knowledge and traditional cultural expressions - folklore - difference – conceptual analysis – international and national perspectives
- III. International development of traditional knowledge protection – CBD – FAO International Treaty on Plant Genetic Resources – protection of folklore/cultural expressions by UNESCO - developments in WIPO on traditional knowledge and traditional cultural expressions
- IV. Defensive protection of TK – TKDL – databases – ayurveda – biodiversity registers
- V. Positive protection of TK under Indian laws – patents – plant variety and biodiversity – geographical indications – trade secrets – test data protection – comparative analysis of protection in Philippines, Thailand and China

Suggested readings:

1. W. R. Cornish, *Intellectual Property: Patents, Copyrights, Trademarks and Allied Rights*, Sweet and Maxwell (latest edition)
2. Christoph Belman and Graham Dutfield, *Trading in Knowledge: development Perspectives on TRIPS, Trade and Sustainability*, Earthscan Publications Ltd. (2003)
3. WIPO Reading Material on Intellectual Property, WIPO, Geneva
4. FAO, *The State of World's Plant Genetic Resources for Food and Agriculture*
5. Patricia Lucia Marin, *Providing Protection for Plant Genetic Resources: Patents, Sui Generis Systems and Bio-Partnerships*, Kluwer Law International (2001)
6. Timothy M. Swanson (ed), *Intellectual Property Rights and Biodiversity Conservation: An Interdisciplinary Analysis of the Values of Medicinal Plants*, Cambridge University Press (1995)
7. Dr. N. S .Gopalakrishnan and Benoy K. Kadavan, *Study on Test data Protection in India*, Eastern Book Company, Lucknow (2005)
8. Convention on Biological Diversity, 1992 and International Treaty on Plant Genetic Resources for food and Agriculture, 2002
9. UNESCO/WIPO Model Provisions for Protection of Folklore/ Cultural Expressions.
10. Documents of Inter Governmental Committee, WIPO on TK & TCE protection, WIPO. Geneva.

4. TRIPS Agreement and Access to Medicine

- I. Development of international patent system – historical development of Paris Convention – basic principles of Paris Convention – minimum standards – revision of Paris Convention
- II. TRIPS Agreement and patent system – historical development of TRIPS – general principles of TRIPS - patentable subject matter - term of protection - rights and limitations - transitional arrangements
- III. Patenting of pharmaceutical inventions – new challenges to patent system – inventing new drugs – the process and challenges – issues on patenting – patenting improvements – ever greening of pharmaceutical patents – TRIPS flexibilities – patenting of pharmaceutical inventions under the Indian Patent Act – definition of new chemical entities – exclusions – limiting the scope of patentable subject matter and facilitating access to medicine
- IV. Facilitating access to medicine: Indian patent system and international obligations – limitations and exceptions – educational and research exceptions – bolar exceptions – parallel importation
- V. Compulsory licences under the Indian Patent Act and TRIPS flexibilities – Doha Declaration and its implementations structure of the Indian pharmaceutical industries - limits of the patent law in facilitating access to new medicines at affordable cost.

Suggested Readings:

1. Susan K. Sell, "TRIPS and the Access to Medicines Campaign" 20 *Wisconsin International Law Journal* 491 (2001-2002)
2. Aaron Xavier Fellmeth, "Secrecy, Monopoly, and Access to Pharmaceuticals in International Trade Law: Protection of Marketing Approval Data Under the TRIPS Agreement" 45 *Harvard International Law Journal* 443 (2004)
3. Amy Kapczynski, "Harmonization and Its Discontents: A Case Study of TRIPS Implementation in India's Pharmaceutical Sector" 97 *California Law Review* 1571 (2009)
4. Frederick M. Abbott, "The Doha Declaration on the TRIPS Agreement and Public Health: Lighting a Dark Corner at the WTO" 5 *Journal of International Economic Law* (2002) 469
5. Frederick M. Abbott and Jerome H. Reichman, "The Doha Round's Public Health Legacy: Strategies for the Production and Diffusion of Patented Medicines under the Amended TRIPS Provisions" 10 *Journal of International Economic Law* (2007) 921
6. Biswajith Dhar and K.M.Gopakumar, *Post-2005 TRIPS scenario in patent protection in the pharmaceutical sector: The case of the generic pharmaceutical industry in India*, ICTSD and UNCTAD, November 2006
7. Canada – patent protection of pharmaceutical Products WT/DS 114/R 8.
8. Graham Dutfield, "Delivering Drugs to the Poor: Will the TRIPS Amendment Help?" *American Journal of Law and Medicine* 1, (2008)
9. Frederick M. Abbott, "The WTO Medicines Decision: World Pharmaceutical Trade and the Protection of Public Health" 99 *American Journal of International Law* 317 (2005)
10. Janice M. Mueller, "The Tiger Awakens: The Tumultuous Transformation of India's Patent System and the Rise of Indian Pharmaceutical Innovation" 68 *University of Pittsburgh Law Review*, 491 (2007)

5. Genetic Resources and Associated Traditional Knowledge

- I. Genetic Resources and associated TK as property – nature of property in GR and associated TK – common heritage of mankind – CBD – permanent sovereignty
- II. Ownership in GR & TK – elements of ownership – exclusivity and possession – nature of ownership of GR and TK in CBD, and Nagoya Protocol (PIC & BS)
- III. Benefit sharing – different types of benefits and benefit sharing – beneficiaries – CBD, Nagoya Protocol and Indian law
- IV. Bilateral vs. Multilateral Benefit Sharing – CBD, Nagoya Protocol and ITPGRFA
- V. Interface between IPR and GR and TK – TRIPS-CBD conflict and proposed solutions

Suggested readings:

1. Chidi Oguamanam, *Intellectual Property in Global Governance : A Development Question*, Routledge, (2012)

2. Daniel F. Robinson *Confronting Biopiracy: Challenges, Cases and International Debates*, Earthscan, (2010)
3. Christoph Antons (ed.) *Traditional Knowledge, Traditional Cultural Expressions and Intellectual Property Law in the Asia Pacific Region*, Kluwer Max Planck Series, (2009)
4. Silke von Lewinski (ed.) *Indigenous Heritage and Intellectual Property: Genetic Resources, Traditional Knowledge and Folklore*, Kluwer Law International, (2008)
5. Jonathan Curci, *Protection of Biodiversity and Traditional Knowledge in the International Law of Intellectual Property*, Cambridge University Press, (2010)
6. Dutfield and Posey, *Beyond Intellectual Property: Toward Traditional Resource Right for Indigenous Peoples and Local Communities*, IDRC, (1996)
7. Geoff Tansey and Tasmine Rojotte (Eds.), *The Future Control of Food: A Guide to International Negotiations and Rules on Intellectual Property*, Earth Scan, London (2008)
8. Gerald Moore and Witold Timousky, *Explanatory Guide to the International Treaty on Plant Genetic Resources for Food and Agriculture*, IUCN, Gland, Switzerland and Cambridge, (2005)
9. Graham Dutfield, *Intellectual Property Rights, Trade and Biodiversity*, Earthscan Publications Ltd, London (2000)
10. J. E. Penner, *The Idea of Property in Law*, Clarendon Press, Oxford (1997), Kemal Baslar, *The Concept of Common Heritage of Mankind in International Law*, Martinus Nijhoff Publishers, (1998)
11. Michael I. Jeffery *et.al* (Eds.), *Biodiversity Convention, Law and Livelihood, Bridging the North South Divide*, IUCN Academy of Environmental Law Research Studies, IUCN, (2002)
12. Nico Schrijver, *Sovereignty over Natural Resources: Balancing Rights and Duties*, Cambridge University Press, UK, (1997)
13. R. S. Bhalla, *The Institution of Property*, Eastern Book Company, Lucknow, (1984)

6. Biotechnology and IPR

1. Introduction to Biotechnology: Concept of biotechnology – traditional and modern biotechnology through ages - basic techniques in biotechnology – fermentations, immobilization of cells and enzymes, recombinant DNA technology, protoplast fusion, cell fusion, cell and tissue culture, DNA finger printing & its applications - scope and importance of biotechnology in the new millennium
2. Agricultural and Food Biotechnology: Transgenic plants - synthetic seeds - terminator gene technology - virus free seedlings for economically important crop - applications of plant tissue and cell culture - transgenic animals - animal vaccines - development and production - artificial animal breeding - livestock production - recombinant DNA technology GLPS & GMPS - genetically modified foods – concepts and impact - milk based products – probiotics - lactic acid bacteria - genetically modified foods - fermented foods - application of biosensors in food - single cell proteins

3. Industrial biotechnology: Biopharmaceuticals – vitamins - organic acids - amino acids – enzymes - specialty chemicals – polysaccharides - recombinant products - insulin, human growth hormone, interferon, erythropoietin, recombinant vaccines - bio pesticides, bio fertilizers - biogas production - microbial production of alcohol, bio fuels, bio diesel - gene banks
4. Environmental Biotechnology: Solid waste management using biocatalysts - municipal sewage treatment - industrial waste treatment – bioremediation - water purification - pollution control - microbial fouling and corrosion - use of genetically modified organisms (GMO) and release of GMO into environment - biodiversity conservation - impact of biological weapons.
5. Bioethics, bio-safety and IPR: Ethical and moral issues in biotechnological research - (cloning, genetic testing and screening, stem cell research, human clinical trials and drug testing) Human rights issues; Biopiracy; bio weapons and bioterrorism - biosafety practices; general guidelines for rDNA research, NIH guidelines - guidelines for recombinant DNA research in India - norms for the release of GMOs, protection of biodiversity, convention on biodiversity and Indian Biodiversity Act - patenting issues with special reference to biotech products and activities.

Suggested Readings:

1. M.D. Trevan.S.Boffey, K.H.Goulding and P.Stanbury, *Biotechnology: The Biological Principles*, Tata Mc G Raw Hill (1987)
2. Keshav Tohan, *Biotechnology*, Wiley Eastern Ltd. (1990)
3. S.S.Purohit & S.K.Mathur, *Biotechnology: Fundamentals and Applications*, Aerobios Indian (2000).
4. Bodenhausen, *Guide to the application of the Paris Convention for the Protection of Industrial Property*, WIPO (1985).
5. Rajeev Dhavan et al, "Paris Convention Re-visited", J.I.L.I (1992)
6. Terence P. Stewart, GHATT Uruguay Round: *Negotiating History*, Kluwar Law International, (1999).
7. Reichman, Jerome, *Of Green Tulips and Legal Kudru: Repackaging Rights in Subpatentable Innovtions*, (2003).
8. Rajagopala Ayyangar, *Report on the Revision of the Patent Law*, Govt. of India (1959).
9. Rajeev Dhavan et.al., "Whose Interest? Independent India's Patent Law and Policy", 32 J.I.L.I 429 (1990).
10. Graham Dutfield, *Intellectual Property Rights, Trade and Biodiversity*, Earthscan Publications Ltd, London (2000)

Course work on IPR (8 Credits each)

Tentative List of Areas for Course Work

1. Computer Programmes and IP
2. Copyright protection in Digital Context
3. Patent and Biotechnological Inventions
4. Intellectual Property Protection of Performers
5. Protection of Broadcasting Organization
6. Protection of Traditional Knowledge
7. Drafting and Construction of Patent Claims
8. Intellectual Property Protection in the Internet
9. Protection of Well-known Marks
10. Protection of New Plant Varieties
11. Protection of Geographical Indication
12. IP and Transfer of Technology
13. Protection of Undisclosed Information
14. Legal Protection of Databases
15. Protection of Semiconductors
16. Collaborative research and innovation for neglected diseases and IP
17. TRIPS Flexibilities
18. WIPO Development Agenda
19. Patent Law and Access to Medicine
20. IPR and Farmers' Rights
21. TRIPS and Non-voluntary licensing of IP
22. Copyright Protection in Entertainment Industry
23. Copyright Exceptions in the International Context
24. Protection of Domain names
25. WTO dispute settlement and Developing Countries
26. The concept of Open source
27. Intellectual Property Right and Private international law
28. Copyright and technological Protection measures
29. Liability of Internet Service Providers
30. IPR and Human rights
31. IPR and genetic resources
32. International protection of plant genetic materials for food and agriculture
33. Limitations and Exceptions to patent law
34. Limitations and Exception to copyright law
35. Border measures and IPR protection
36. IP and competition law
37. IP and environment
38. IP – merger and acquisition
39. Trademark dilution
40. International protection of trademarks
41. IP and BRICS
42. IP and development

43. IP and development of SMEs
44. IP portfolio management
45. Utility models
46. IP and Protection of folklore
47. IP and access to knowledge
48. Access to medicine for the countries without manufacturing capabilities
49. International protection of Designs
50. Standards and patents
51. IP and Taxation
52. Patent and public funded research
53. The Govt's role in providing access to medicine in the TRIPS context
54. Copyright and the entertainment industry
55. International protection of new plant varieties (UPOV) New
56. CBD – TRIPS harmonization
57. Enforcement IPR
58. Design Protection
59. Test data protection
- 60. Working of Patent Cooperation Treaty**