SEMESTER - I

SHSB1104	ENGLISH - I (LEGAL LANGUAGE AND LITERATURE)	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To enable the learner to communicate effectively and appropriately in real life situation.
- To develop and integrate the use of the four language skills i.e. Reading, Listening, Speaking and Writing.
- To inculcate the habit of reading, thereby, absorbing profound ideas, learning appropriate expressions and enhancing vocabulary.
- To enhance communication, collaboration and critical thinking skills.
- To explore creativity through blended learning contexts

UNIT 1 LEGAL LANGUAGE AND GRAMMAR 15 Hrs.

Defining Language - Nature of Language -Syntactical Competence (Introductory). Grammar and Usage: Sentence Structure - Subject and Predicate, Concord, Tenses, Use of Articles, Accurate Use of Prepositions, Making Questions (Why-and yes-no questions and question tags), Use of Modal Auxiliary Verbs (making requests, suggestions, seeking permission etc.), Common Errors in English.

UNIT 2 SENTENCE TRANSFORMATION 15 Hrs.

Active and Passive Voice - Types of Sentences (Statements, interrogative, exclamatory and imperative), Simple, complex and compound sentences- Reported Speech- Syntactic Ambiguity.

UNIT 3 COMMUNICATION SKILLS 15 Hrs.

Communication- Verbal, Non-Verbal and Written. Significance of Communication Skills for Lawyers- Listening, Speaking, Reading and Writing (Introductory).Electronic Communication and its types (Telephone, Facsimile, E-Mail, Voice Mail, Tele-conferencing, Video-Conferencing, Word Processor, Internet, Social Media) - Formal Correspondence -Resume Writing.

UNIT 4 STUDY SKILLS FOR LAW STUDENTS 15 Hrs.

SQ3R (Survey Question Read, Recite and Review). Reading-Types-intensive and extensive; techniques-scanning, skimming and critical. Note making -Writing (Correct grammar, spelling, punctuation and clarity) - Paragraph Writing.

UNIT 5 PROSE WITH LEGAL THEMES 15 Hrs.

Of Judicature-Francis Bacon- Some Reminiscences of the Bar - M.K. Gandhi- The Joy of Reading - A P J Abdul Kalam.

Max.75 Hrs.

COURSE OUTCOMES

On the completion of the course, the student will be able to

CO1 - Remember knowledge of linking words related to both spoken and written discourse.
CO2 - Understand collocations, words to express one's point of view in both writing and speaking.
CO3 - Apply the rules for writing compare and contrast paragraphs by using cohesive devices based on prompts given.
CO4 - Analyse critical thinking skills by framing questions related to elements of reasoning.
CO5 - Evaluate written pieces to self-correct in the topic areas of verbs, reported speech, and punctuation.
CO6 - Equip the students with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. Bhatnagar. R. G. Law and Language. Trinity Press Private Limited, 2012. Print.
2. Martin Hewings. Advanced Grammar in Use. 3rd Edition. Cambridge University: 2000.
3. A.J. Thomsan. Practical English Grammar. Fourth Edition. 2015. Print.
4. William Strunk, Jr. Richard De A'Morelli. The Elements of Style. Classic Edition: 2018. Print.
5. Jane Straus. The Blue Book of Grammar Punctuation: An Easy-to-Use with Clear rules and Real-World. 2014. Print.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1103	LAW OF CONTRACTS AND SPECIFIC RELIEF	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To introduce the basic Concepts and principles of law.
- This course seeks to regulate the behavior between persons making contracts.
- To apply the basic principles in contractual relations, students must have a clear understanding about the basic concepts in Law of contracts.

UNIT 1 INTRODUCTION 15 Hrs.

Basic nature of contract – Formation of contract – Offer, acceptance, revocation, lapse of offers and acceptance – Intention to create legal relationship –Terms of contract- Consideration (Quid Pro Quo)- Unlawful Considerations and its effects.

UNIT 2 CAPACITY TO CONTRACT AND CONSENT 18 Hrs.

Legal disability to enter into contract -Minors, persons of unsound mind- Persons disqualified by Law- Fraud by a Minor – Ratification and Estoppel – Other Illustrations of Incapacity. Free Consent- Factors Vitiating Free Consent- Coercion – Undue Influence – Misrepresentation – Fraud – Mistake.

UNIT 3 LEGALITY OF OBJECTS AND QUASI –CONTRACTS 18 Hrs.

Legality of Objects – Lawful and Unlawful Considerations-Objects – Void, Voidable-Illegal and Unlawful Agreements-Their Effects. Quasi Contracts-E- Contracts – Government Contracts– Kinds of Govt. Contracts and Performance of Such Contracts- Settlement of Disputes and Remedies.

UNIT 4 DISCHARGE OF CONTRACT 17 Hrs.

Performance of contract- Privity of contract-conditions for valid tender of performance – Discharge by agreement - novation, alteration – Discharge by breach - Waiver - Accord & satisfaction – Material alteration.

UNIT 5 REMEDIES AND SPECIFIC RELIEF 17 Hrs.

Remedies under Indian Contract Act: Damages – Remoteness of Damages-Ascertainment of Damages- Injunction Specific Relief Act, 1963: specific performance of contracts -Persons against whom specific enforcement can be ordered- Recession and cancellation-Injunction-Discretion and powers of court.

Max.85 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - Emphasized to understand the Legal dimensions of the law relating to the formation of contracts.

CO2 - An insight into the legal provisions, which buttress the operative performance of contracts.

CO3 - Comprehend & appreciate the significance of the various modes in which contracts can be discharged.

CO4 - Familiarize with the redressed mechanisms available to the aggrieved parties.

CO5 - Students will be conversant with the principles underlying the grant of specific reliefs and the different remedies provided under the Specific Relief Act.

CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. G.C.V. Subba Rao, Law of Contracts – I & II, S. Gogia & Co., Hyderabad, 11th ed., 2014.
2. Raman, A.MLJ Law of Contract and Specific relief. 2 vols. Nagpur: Lexis Nexis Wadhwa, 2nd ed., 2009.
3. Avtar Singh, Law of Contract and Specific Relief, Eastern Book Company, Lucknow, 10th ed., 2008.
4. Jack Beatson et.al, Ansons Law of Contract, Oxford University Press, 29th ed., 2010.
5. RK Bangia, Law of Contract – I with Specific Relief Act, Jain Book Agency, 6th ed., 2014.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1104	LAW OF TORTS INCLUDING MV ACCIDENT AND CONSUMER PROTECTION LAWS	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To introduce the basic Concepts and principles of law.
- To make the students to understand the various principles of law of torts by the way of analyzing the historical evolution of the law of torts.
- The course also helps the students to understand the conditions of liability with established cases along with the Consumer Protection law and Motor Vehicle Acts.

UNIT 1 INTRODUCTION 15 Hrs.

Nature – Definition and Elements of Tort – Development of Law of Torts – Wrongful Act and Legal Damage – Damnum Sine Injuria and Injuria Sine Damnum – Tort Distinguished from Crime and Breach of Contract – General Principles of Liability in Torts – Fault – Wrongful Intent- Malice- Liability Without Fault- Statutory Liability- Parties to Proceedings.

UNIT 2 GENERAL DEFENCES 18 Hrs.

General Defenses to an Action in Torts – Volenti Non Fit Injuria (Consent)- Plaintiff The Wrongdoer – Inevitable Accidents – Act of God – Private Defence – Mistake – Necessity – Statutory Authority.

UNIT 3 VICARIOUS LIABILITY 18 Hrs.

Vicarious Liability – Principal and Agent – Master and Servant – Partners – Liability of the State – Doctrine of Sovereign Immunity – Joint Tort-feasers- Rule of Strict Liability – Exception – Rule of Absolute Liability.

UNIT 4 SPECIFIC TORTS 17 Hrs.

Nuisance- Negligence- Essentials of Tort of Negligence -Proof of Negligence: Res Ipsa Loquitor- Nervous Shock – Contributory Negligence- Remoteness of Damage- Trespass – Assault- Battery- Libel and Slander – Defamation.

UNIT 5 CONSUMER PROTECTION LAW & MV ACT 17 Hrs.

Consumer Protection Act, 1986: Meaning of Consumer & Deficiency in Service- Caveat Emptor and Caveat Vendator- Deceit and False Advertisement- Consumer Protection Redressal Agencies. Motor Vehicles Act, 1988: Compensation Provisions of The Motor Vehicles Act, 1988- Insurer's Liability for Third Party Risk- Extent of Liability of Insurer- Claims – Tribunal.

Max.85 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - This Course gives a brief introduction of common law paper – law of torts which provides historical perspective to students.

CO2 - The concepts of negligence, trespass and defamation gives civil way of approach to the students.

CO3 - The concept of strict liability and Absolute liability gives wider perspective about social litigation.

CO4 - Provides a deeper knowledge about consumer protection laws to the students which helps them in practical aspects.

CO5 - Making the students to understand tribunal and quasi- judicial bodies other than regular procedures.

CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. R.K. Bangia, Law of Torts including Compensation under the Motor Vehicles Act and Consumer Protection Laws, Allahabad Law Agency, 2013.
2. B.M. Gandhi, Law of Torts with Law of Statutory Compensation and Consumer Protection, Eastern Book Company, 4thedn, 2011.
3. Ratanlal & Dhirajlal, The Law of Torts, Lexis Nexis, Nagpur, 26thedn, 2013.
4. Ramaswamylyer's, The Law of Torts, Lexis Nexis, Nagpur, 10thedn, 2007.
5. W.V.H. Rogers, Winfield and Jolowicz, Tort, Sweet & Maxwell, 18thedn, 2010.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1303	CONSTITUTIONAL LAW -I	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To introduce the basic Concepts and principles in Constitutional law.
- To know the significance of the Constitution of India.
- To impart knowledge about the Fundamental Rights and Directive Principles Enshrined in the Constitution of India.

UNIT 1 INTRODUCTION 15 Hrs.

Meaning and Significance – Evolution of Modern Constitution – Classification of Constitution – Indian Constitution- Historical Perspectives – Government of India Act, 1919 – Government of India Act, 1935 – Drafting of Indian Constitution- Role of Drafting Committee of the Constituent Assembly.

UNIT2 FEATURES OF INDIAN CONSTITUTION AND FUNDAMENTAL RIGHTS 18 Hrs.

Nature and Salient Features of Indian Constitution – Preamble of Indian Constitution – Union and its Territories- Citizenship – Definition of State- General Principles Relating to Fundamental Rights.

UNIT 3 RIGHT TO EQUALITY AND FUNDAMENTAL FREEDOMS 18 Hrs.

Right to Equality (Art. 14-18) – Freedoms and Restrictions Under Art.19 – Protection Against Ex-post Facto Law – Guarantee Against Double Jeopardy – Privilege Against Self-incrimination – Right to Life and Personal Liberty – Right to Education – Protection Against Arrest and Preventive Detention- Right Against Exploitation.

UNIT 4 RELIGIOUS RIGHTS AND CONSTITUTIONAL REMEDIES 17 Hrs.

Right to Freedom of Religion – Cultural and Educational Rights – Right to Constitutional Remedies.

UNIT 5 DIRECTIVE PRINCIPLES OF STATE POLICY & FUNDAMENTAL DUTIES 17 Hrs.

Directive Principles of State Policy – Significance – Nature – Classification – Application and Judicial Interpretation- Relationship Between Fundamental Rights and Directive Principles – Fundamental Duties – Significance – Judicial Interpretation.

Max.85 Hrs.

COURSE OUTCOMES

On the completion of the course the students will be able to

CO1 - To help students understand both the legal and political aspects of the important constitutional decisions that has shaped our country.

CO2 - Imparting the significance of fundamental rights and helps them in analyze, critically evaluate the merits and demerits in present context.

CO3 - Make the students to understand about religious freedom and interpret with the prevailing scenario.

CO4 - Helps the students to possess a factual and practical knowledge of directive principles and fundamental duties.

CO5 - Make the students to understand the spirit of the Constitution.

CO6 - This Course will equip the students with the required Professional Skill.

TEXT/ REFERENCE BOOKS

1. Shukla, V.N., Constitution of India, Eastern Book Agency, Lucknow, 10th Edition, 2014.
2. Jain, M.P., Indian Constitutional Law, Lexis Nexis, Nagpur, 6th Edition, 2013.
3. Seervai, H.N., Constitutional Law of India, Universal Law Publishing Co., Reprint, New Delhi, 2013.
4. Bakshi, P.M., The Constitution of India, Universal Law Publishing Co., New Delhi, 10th Edition, 2014
5. Basu, D.D., Introduction to the Constitution of India, Lexis Nexis Publication, Nagpur, 22nd Edition,2015

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1304	FAMILY LAW- I	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To introduce the basic Concepts and principles in personal laws.
- To impart knowledge about various sources of personal laws.
- To endow the students with knowledge of both the codified and uncodified portions of personal laws.

UNIT 1 INTRODUCTION 15Hrs.

Nature and origin of Hindu Law, Muslim Law, Christian Law- Sources and schools of Hindu Law and Muslim law.

UNIT 2 MARRIAGE AND DIVORCE UNDER THE HINDU MARRIAGE ACT & SPECIAL MARRIAGE ACT 18 Hrs.

Marriage-Essentials & conditions- Doctrine of Factum Valet- Matrimonial Remedies – Restitution of Conjugal Rights – Judicial Separation – Nullity of Marriage – Void Marriage & Voidable Marriage – Grounds of Divorce – Legitimacy of Children – Ancillary Relief – Alimony Pendente lite – Permanent Alimony and Maintenance – Custody of Children- Special Marriage Act.

UNIT 3 ADOPTION AND MAINTENANCE UNDER THE HINDU ADOPTION AND MAINTENANCE ACT, 1956 17 Hrs.

Adoption-Conditions and ceremonies-Who may take- Who may give-Effect of Adoption – Relationship of Adopted Child-Maintenance: Wife- Widowed Daughter-in-law – Children and Aged Parents – Amount of Maintenance – Maintenance of Dependant-surrogacy-recent trends.

UNIT 4 MOHAMMEDAN LAW & CHRISTIAN LAW 18 Hrs.

Marriage- Contract or Sacrament- Essentials of a Valid Marriage- Muta Marriage- Dower: Concept and Legal Significance- Divorce: Types- Dissolution of Muslim Marriage Act, 1939. Maintenance Under Mohammedan Law- Sec. 125 Cr.P.C- Muslim Women (Protection of Rights on Divorce) Act, 1986- Christian Marriage Act of 1872- Conditions for Marriage- Registration- Special Provisions for Indian Christians- The Indian Divorce Act, 1869- Grounds for Divorce- Recent Amendments.

UNIT 5 GUARDIANSHIP UNDER THE HINDU MINORITY AND GUARDIANSHIP ACT, 1956 17 Hrs.

Natural Guardian – Powers of Natural Guardian – Testamentary Guardian – Powers of Testamentary Guardian- Guardianship of Minor's Property – Custody of Minor – Consideration for Appointment of Guardian.

Max.85 Hrs.

COURSE OUTCOMES

On the completion of the course the students will be able to

CO1 - Centers around the core concept relating to traditional law with the reformed modern Hindu law which is based on statues.

CO2 - Emphasized on the concept of marriage and divorce under Hindu and Muslim law.

CO3 - Gives a better understanding of the core concepts of Hindu adoption laws.

CO4 - This course also helps students analyze it from sociological perspective thereby understanding the importance of adoption laws.

CO5 - Emphasized the law relating to guardianship and the importance of guardian in matter relating to wards.

CO6 - This Course will equip the students with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. Prof. G.C.V. Subba Rao's Family Law in India Revised by Prof. (Dr.) T.V. Subba Rao & Prof. (Dr.) Vijender Kumar, Narender Gogia & Company (10th ed.) (Reprint) 2018
2. Dr. Paras Diwan, Family Law: Allahabad Law House, (11th ed.) 2018.
3. Prof. Kusum, Family Law Lectures: Lexis Nexis Butterworths Wadhwa (3rd ed.)
4. Gandhi, B.M., Family Law: Eastern Book Company, New Delhi, (8th ed.) 2012.
5. M. Hidayatullah and Arshad Hidayatullah, Mulla Principles of Mahomedan Law, Lexis Nexis Butterworths Wadhwa Nagpur (19th ed) 2010.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

STAB1103	தமிழ் – முதல்தாள்	வி	ப	செ	வரவு	மொத்த மதிப்பெண்கள்
		3	0	0	3	100

நோக்கம்

மாணவர்களுக்குத் தமிழ் இலக்கியப் பரப்பை எடுத்துரைத்து சிற்றிலக்கியம், உரைநடை, புதினம், சிறுகதை, புதுக்கவிதை ஆகிய இலக்கிய வகைமைகளை அறிமுகப்படுத்துதல்.

அலகு - ஒன்று: சிற்றிலக்கியம் **8 மணிநேரம்**

1. **சிற்றிலக்கியம்** – தோற்றமும்வளர்ச்சியும்.
2. **கலிங்கத்துப்பரணி** – போர்பாடியது : 404 - 408 பாடல்கள்.
3. **திருக்குற்றாலக்குறவஞ்சி –மலைவளம்**
   i. வானரங்கள்கனிகொடுத்து … எனத்தொடங்கும்பாடல்.
   ii. முழங்குதிரைப்புனலருவிகழங்கெனமுத்தாடும் … எனத்தொடங்கும்பாடல்

அலகு - இரண்டு: புதுக்கவிதைகள் **8 மணிநேரம்**

1. புதுக்கவிதை – தோற்றமும்வளர்ச்சியும்.
2. பாரதியார்

நெஞ்சுபொறுக்குதிலையே … என்றுதொடங்கும்கவிதை.

3. பாரதிதாசன்
   உலக ஒற்றுமை – **தன்பெண்டுதன்பிள்ளை**… என்றுதொடங்கும்கவிதை.
4. நா.காமராசன் – கருப்புமலர்கள்
   காகிதப்பூக்கள் – **காலமழைத்தூறலிலே…**என்றுதொடங்கும்கவிதை.
5. இன்குலாப் – மரங்களின்சுற்றம்.
6. பாரதிபுத்திரன் – மாரிக்காலஇரவுகள்
   சிவகாசிச்சிசுக்கள் – **மகனேஅன்றொருநாள்**…. என்றுதொடங்கும்கவிதை.

அலகு - மூன்று:சிறுகதை **8 மணிநேரம்**

1. சிறுகதை– தோற்றமும்வளர்ச்சியும்.
2. புதுமைப்பித்தன் சிறுகதைகள்
   அ. சாபவி மோசனம்,
   ஆ. கடவுளும் கந்தசாமிப்பிள்ளையும்,
   இ. அன்று இரவு,
   ஈ. வாடாமல்லி,
   உ. ஒரு நாள் கழிந்தது.

அலகு - நான்கு :புதினம் **8 மணிநேரம்**

1. புதினம் – தோற்றமும் வளர்ச்சியும்.
2. புதினம் வாடிவாசல் – சி.சு. செல்லப்பா.

அலகு - ஐந்து :உரைநடைப்பகுதி **8 மணிநேரம்**

1. உரைநடை – தோற்றமும்வளர்ச்சியும்.
2. தமிழ்ப்பண்பாடு – த.அருள்பத்மராசன்

பண்பாடு – அறிமுகம்.

மாணவர்கள்அடையும்பயன்

அலகு - ஒன்று

சிற்றிலக்கியங்கள் தோற்றம் வளர்ச்சி குறித்தும் அவற்றுள் பரணி இலக்கியங்களில் முதன்மையான கலிங்கத்து பரணியையும் குறவஞ்சி இலக்கியங்களில் திருக்குற்றாலக் குறவஞ்சியையும் மாணவர்கள் இவ்வலகின் மூலம் அறிந்து கொள்வர்.

அலகு – இரண்டு

புதுக்கவிதை தோற்றம் வளர்ச்சி குறித்தும் புதுக்கவிதைகளின் முன்னோடிகளான பாதியாாஃ, பாரதிதாசன், நா.காமராசன், இன்குலாப், பாரதிபுத்தின் ஆகியோர்தம் கவிதைகள் குறித்து மாணவர்கள் அறிந்து கொள்வர்.

அலகு – மூன்று

தமிழ் இலக்கிய வரலாற்றில் சிறுகதைகளின் தோற்றம் வளர்ச்சி குறித்தும் சிறுகதை உலகின் மன்னன் என்று புகழப்படும் புதுமைப்பித்தன் அவர்களின் தேர்ந்தெடுக்கப்பட்ட சில சிறுகதைகளையும் அவற்றின் உள்ளடக்கங்களையும் மாணவர்கள் அறிந்து கொள்வர்.

அலகு – நான்கு

மறுமலர்ச்சி இலக்கியவரலாற்றில் புதின இலக்கியம் பற்றியும் அதன் தோற்றம் வளர்ச்சி குறித்தும் அவற்றுள் சி.சு.செல்லப்பாவின் வாடிவாசல் புதினம் குறித்தும் மாணவர்கள் அறிந்து கொள்வர்.

அலகு – ஐந்து

தமிழ் இலக்கிய வரலாற்றில் மறுமலர்ச்சி இலக்கியவகைகளில் முதன்மையானதான உரைநடைகளின் தோற்றம் வளர்ச்சி குறித்து மாணவர்கள் அறிந்து கொள்வர்.

அலகு – ஆறு

- நெடிய தமிழ் இலக்கிய வரலாற்றில் சிற்றிலக்கியம், உரைநடை, புதினம், சிறுகதை, புதுக்கவிதை ஆகிய இலக்கியவகைமைகளை அறிதல்.
- பல்வேறு இலக்கிய ஆளுமைகளையும் அவர்தம் படைப்பு, மொழிநடை, மொழிப்பற்று ஆகியவற்றை உணர்ந்து கொள்ளுதல்.
- நவீன சிந்தனைகளோடு மாணவர்தம் கருத்தாக்கங்கள் உருப்பெறல்.
- படைப்பாக்க உத்திகளையும் திறன்களையும் அறிதல்.
- மாணவர்கள் இலக்கிய படைப்புகளை உருவாக்க அறிந்து கொள்ளுதல்.

***

பார்வைநூல்கள்

1. புதுக்கவிதை தோற்றமும் வளர்ச்சியும் – வல்லிக்கண்ணன்
2. தமிழில் சிறுகதை வரலாறும் வளர்ச்சியும் – சிட்டி, சிவபாதசுந்தரம்
3. தமிழ்நாவல் (புதினம்) தோற்றமும் வளர்ச்சியும் – சிட்டி, சிவபாதசுந்தரம்,
4. தமிழ் உரைநடை வரலாறு - வி.செல்வநாயகம்
5. நூற்றாண்டு தமிழ் உரைநடை – சு.சக்திவேல்
6. கலிங்கத்துப்பரணி – புலியூர்க்கேசிகன் உரை
7. குற்றாலக் குறவஞ்சி – புலியூர்க்கேசிகன் உரை
8. பாரதியார் கவிதைகள்
9. பாரதிதாசன் கவிதைகள்
10. மரங்களின் சுற்றம் - இன்குலாப்
11. கருப்பு மலர்கள் – நா.காமராசன்
12. மாரிக்கால இரவுகள் - பாரதிபுத்திரன்
13. புதுமைப்பித்தன் சிறுகதைகள்
14. வாடிவாசல் – சி.சு. செல்லப்பா
15. தமிழ்ப்பண்பாடு – த.அருள்பத்மராசன்

<u>பருவத்தேர்வுவினாத்தாள்அமைப்பு</u>

மொத்தமதிப்பெண்கள்: 100 **காலம்: 3 மணிநேரம்.**

பகுதி அ:	10 வினாக்களுக்குத்தலா 2 மதிப்பெண்கள்	**20 மதிப்பெண்கள்**
பகுதி ஆ:	7 வினாக்களில் 5 வினாக்களுக்குத்தலா 7 மதிப்பெண்கள்	**35மதிப்பெண்கள்**
பகுதி இ:	3 வினாக்களுக்குத்தலா 15 மதிப்பெண்கள்	**45 மதிப்பெண்கள்**

SFRB1104	FRENCH	L	T	P	Credits	Total Marks
		2	0	0	2	100

COURSE OBJECTIVES

- To teach basic skills in written and spoken French.
- To encourage students' oral and written mastery of the language.

UNIT 1 **9 Hrs.**

Se présenter à des publics différents et saluer – Saluer et Prendre conge – La presentation. Pronoms, objets et sujets. Articles définis /indéfinis.Des cartes d'identité.Présenter quelqu'un.Les chiffres 1 à 50.Épreuves.

UNIT 2 **9 Hrs.**

Exprimer ses goûts, ses preferences. La negation. Les mois et les jours / le calendrier – Les verbes – L'interrogation avec intonation – Décrire un lieu, les noms des différentes salles – Les adjectifs – Les articles. Épreuves.

UNIT 3 **9 Hrs.**

Donner des directions / localiser un lieu/ trouver un lieu-Les verbes aller et mettre.-L'article contracté et les prépositions de lieu – L'impératif- Les mots de caractérisation d'un lieu et les lieux urbains – Les transports. Épreuves.

UNIT 4 **9 Hrs.**

Discuter et acheter des produits – Les expressions de quantité-Les fruits, les légumes, les produits alimentairesles produits propres aux pays différents.-La negation-le COD-Le conditionnel et les verbes-irréguliers -Épreuves.

UNIT 5 **9 Hrs.**

Fixer un rendez-vous avec le médecin-L'heure et Les nombres de 51 à 100-L'interrogation avec est-ce que-Les parties du corps, avoir + les expressions et les-maladies communes-Les adjectifs possessifs – Le COI – L'entraînement DELF et épreuves

Max.45 Hrs.

TEXT / REFERENCE BOOKS

1. Panorama De La Langue Francaise: Level 1 by Jacky Girardet, Jean-Marie Cridlig, CLE International, 2004.
2. Krishnan, C & Albert Adeline, Le Tramway Volant – I, Saraswathi House Pvt Ltd, India, 2011.
3. CAPELLE Guy; MENAND, Robert Taxi-1, Hachette, Paris, 2008.
4. MERIEUX, Régine; LOISEAU, Yves, Connexions-1, Didier, Paris, 2004.
5. MIQUEL, Claire,Vite et Bien-1, CLE International, Paris, 2009.
6. POISSON QUINTON, Sylvie, SIREJOLS, Evelyne, Amical -1, CLE International, Paris, 2001.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SJAB1105	JAPANESE	L	T	P	Credits	Total Marks
		2	0	0	2	100

COURSE OBJECTIVES

- To teach basic skills in written and spoken Japanese.
- To encourage students' oral and written mastery of the language.
- To understand key contexts and concepts underlying contemporary Japanese culture.

UNIT 1 INTRODUCTION ABOUT JAPAN 9 Hrs.

Geographical features, culture - Introduction and history of Japanese Script - Hiragana and Katakana Script - Greetings and classroom expressions - Doubling of consonants in half case - Self introduction.

UNIT 2 PRONOUNS 9 Hrs.

Introduction of demonstrative pronouns - Introduction of particles は, が, も, か - Introduction of verbs, their dictionary form, masu form (simple present tense and simple future tense.)

UNIT 3 INTRODUCTION OF PREPOSITIONS 9 Hrs.

Introduction of prepositions – なか, した, うえ, etc. - Introduction of basic sentence pattern i.e. ~に~があります/います. (Existenal pattern.) - Introduction of Japanese unique counting system, numerals - Introduction of multiples of 100,1000,10,000 - Introduction of days, date, year, age, duration,clock - Use of particles で、から,まで、,ぐらい,ごろ,を etc.

UNIT 4 INTRODUCTION TO ADJECTIVES 9 Hrs.

Introduction of い、なadjectives - To make adverbs from adjectives - Past tense, present tense, affirmarion, negation in case of verb, naa an see adjectives - Superlative degree.

UNIT 5 TRANSITIVE VERBS 9 Hrs.

Transitive verbs - てforms of verbs and their various uses i.e. for sequence in action/method of action/giving reasons - Introduction of participles (v + ing), present continuous tense - たforms of verbs.

Max.45 Hrs.

TEXT/ REFERENCE BOOKS

1. Nihongo shoho Vol. I - Pub By Japan Foundation, Tokyo, Japan(Paperback edition available with JALTAP, Pune)
2. Kanji Picture book Vol. I & II Japan foundation.
3. SulabhJapaniVyakaran – Part-(I) Dr. V.N. Kinkar, Pune.
4. Aural Comprehension in Japanese –Osamu & Nobuko Mizutani.
5. An Introduction to Modern Japanese – Osamu & Nobuko Mizutani.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SGEB1106	GERMAN	L	T	P	Credits	Total Marks
		2	0	0	2	100

COURSE OBJECTIVES

- The complete course provides a comprehensive operational capability in the workplace.
- The course presents a variety of scenarios from various professional fields and work areas regarding the daily work and give professional language and intercultural skills.
- Provides fundamentals of German language.

UNIT 1 ERSTER KONTAKT 9 Hrs.

GutenTag! –Familie und Beruf- Die Gruppe Allianz- Karten, Ausweis, Scheine- Neue Kollegen.

UNIT 2 BESUCHER KOMMEN 9 Hrs.

Wiewar Die Reise?- Herzlich willkommen!- die Leutesind da! Wer sind die Leute? –Kate Carlosbeginntihr Praktikum.

UNIT 3 LEUTE 9 Hrs.

MeineFamiliw –Auf einem Seminar –EineVerabredung. Freizeit und Hobbys.

UNIT 4 KOMMUNIKATIONSAUFGABE 9 Hrs.

Eine andere Person und sich vorstellen –Uber den Berufund die familiesprechen –Uber die Teilnehmer von einem seminar sprechen – Visitenkarten und Ausweise lessen und verstehen- informationen zur personen fragen.

UNIT 5 GRAMMATIK INHALT 9 Hrs.

Verben in Prasen (ich,er/sie)- Possessivartikel: mein, sein/ihr Adverben (und, aber, oder, auch, schon, erst, noch)- Prasens/Prateritum: haben und ein. Zeitangaben: Wann/Wie lange?

Max.45 Hrs.

TEXT / REFERENCE BOOKS

1. Becker, Braunert et al. UnternehmenDeutsch.Stuttgart: ErnstKlettSprachen, 2011.
2. Egnor, Anton; Müller, Bernhard; Renz, Rudolf u.a.: Geschichte 13, Die Welt auf dem Weg ins 21. Jahrhundert, Schroedel Verlag, Hannover, 2003.
3. Hertle, Hans-Hermann: Die Berliner Mauer Biographie eines Bauwerkes, Links Verlag, Berlin 2011.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SEMESTER - II

SALB1203	SPECIAL CONTRACTS	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To introduce the basic Concepts and principles of law.
- To acquaint students the knowledge of special contracts apart from equipping with general principles of contract.
- This course equips the students to better appreciate the legal services required in a corporate office so that they can enhance their relevance as a lawyer in society.

UNIT 1 CONTRACT OF INDEMNITY & CONTRACT OF GUARANTEE 15 Hrs.

Contract of Indemnity: Definition – English and Indian Distinction- Rights of the Indemnity Holder and Indemnifier Implied Indemnity -Contract of Guarantee: Essentials and Nature of Guarantee- Distinction Between Guarantee and Indemnity – Continuing Guarantee- Co Surety- Kinds – Rights of Surety- Nature and Extent of Surety's Liability- Discharge of Surety's Liability.

UNIT 2 CONTRACT OF BAILMENT & CONTRACT OF PLEDGE 18 Hrs.

Contract of Bailment: Definition of Bailment – Kinds of Bailees – Rights and Duties of Bailor & Bailee – Finder of Lost Goods as a Bailee. Contract of Pledge: Meaning- Comparison with Bailment – Definition – Rights of the Pawner and Pawnee- Pledge by non-owner- Lien- Kinds of Lien- Their Nature and Incidents.

UNIT 3 CONTRACT OF AGENCY 18 Hrs.

Kinds of Agents and Agencies – Distinction Between Agent and Servant – Essentials of an Agency Transaction – Various Methods of Creation of Agency – Delegation – Duties and Rights of Agent – Scope and Extent of Agent's Authority – Liability of the Agent towards the Principal and Vice Versa – Termination of Agency Contract – Liability of the Principal and Agent Before and After such Termination.

UNIT 4 THE SALE OF GOODS ACT, 1930 17 Hrs.

Definition – Sale and Agreement to Sell- Hire Purchase Agreement – Specific Goods- Future Goods- Mercantile Agent – How Sale is made- Rules for Fixing Price- Perishable Goods – Stipulation as to time and Other Stipulation, Conditions and Warranties – Effect of Breach- When Condition is treated as Warranty- Implied Conditions and Warranties – Sale by non-owners- Nemo dat quod non habet- Rules as to Delivery- Rights of Unpaid Vendor – Remedies Available to Seller and Buyer- Auction Sale.

UNIT 5 THE INDIAN PARTNERSHIP ACT, 1932 17 Hrs.

Definition of Partnership- Essentials of Partnership- Distinction Between Partnership and Co-ownership – Joint Hindu Family – Incorporation of Companies – Kinds of Partners and Duration of Partnership – Mutual Rights and Duties of Partners- Minor as a Partner- Rights of Legal Representative and Surviving Partners- Authority of Partners – Implied and Emergency – Principle of Agency in Partnership – Partnership Property – Tests – Settlement of Accounts – Good will Distribution of Assets – Retirement of Partners – Dissolution of Firm – Effect of non – Registration of Firm.

Max.85 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Made to understand the need and importance of contract of indemnity and the special relationship between the indemnifier and the indemnity holder.

CO2 - Enabled the students to be familiar with the nature of contracts of Agency and the relationship between the Principal and Agent.

CO3 - Made to understand the legal responsibilities and liabilities of bailor and bailee in a contract of bailment.

CO4 - Enabled the students to understand the essentials of a valid sale and the legal relationship between the buyer and the seller.

CO5 - Made to understand various commercial associations, legal regulation of partnership firms and joint and several liability of the partners.

CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. R.K Bangia, Contract (Part-2) – Law of Contract-II with Indian Partnership Act and Sale of Goods Act, Jain Book Agency, Reprint 2015.
2. G.C.V. Subba Rao, Law of Contracts – I & II, S. Gogia& Co., Hyderabad, 11th ed., 2014.
3. Jack Beatson et.al, Ansons Law of Contract, Oxford University Press, 29th ed., 2010.
4. Pollock and Mulla, The Indian Partnership Act, Lexis NexisButterworthsWadhwa Nagpur, 2007 ed., Reprint 2011.
5. Avatar Singh, Law of Contract and Specific Relief, Eastern Book Company, Lucknow, 10th ed., 2008

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1204	JURISPRUDENCE (LEGAL METHOD, INDIAN LEGAL SYSTEM AND BASIC THEORY OF LAW)	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To provide the students with basic knowledge, abilities and skills in the area of law.
- To learn legal concepts and theories Law in relation to other social controls and the relationship of law and justice.
- To understand theories of justice and concepts of obligation and authority and to engage in identification, articulation and critical evaluation of legal theory and the implications for policy.

UNIT 1 INTRODUCTION 15 Hrs.

Meaning of Jurisprudence- Legal Theory and Legal Concepts- Nature-Need and Scope – Notion of Law, Justice and Morality- Schools of Jurisprudence- Introduction and Scope.

UNIT 2 SCHOOLS OF THOUGHT AND THEORIES 18 Hrs.

Natural Law School- Analytical School- Sociological School- Historical School- Realist School- Economic School- Imperative Theory- Pure Theory.

UNIT 3 SOURCES OF LAW 18 Hrs.

Custom: Meaning-Origin and Essentials of a Valid Custom – Precedent: Definition, Importance- Merit and Demerits of the Doctrine – Legislation: Meaning, Types of Legislations-Place of Legislation in Modern Times.

UNIT 4 LEGAL CONCEPTS 17 Hrs.

Definition of Rights- Theories of Right – Elements of Legal Right – Classification of Rights – Meaning of Duty – Classification of Duty – Co-relation Between Rights and Duties. Obligations- Personality- Person: meaning and Definition – Different Kinds of Persons (Natural Person and Juristic Person)– Legal Status of Animals, Idols and Unborn Child – Theories of Corporate Personality- Possession and Ownership.

UNIT 5 THEORY AND CONCEPT OF JUSTICE 17 Hrs.

Basic Legal Concept of Reasonableness with Reference to Indian Cases- The Basic Structure Doctrine- KesavanandaBharathiVs. State of Kerala: Shankari Prasad Deo Vs. Union of India: Sajjan Singh Vs. State of Rajasthan: I.C. GolakNath Vs. State of Punjab: Indira Nehru Gandhi Vs. Raj Narain.

Max.85 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Made to understand the meaning, nature and scope of jurisprudence.
CO2 - Enabled the students to understand various schools of Jurisprudence.
CO3 - Created awareness on various sources of law.
CO4 - Made to understand the relationship between ethics and the law.
CO5 - Created awareness on the doctrine of Basic Structure.
CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Dr Avtar Singh, Dr Harpreet Kaur, Introduction to Jurisprudence, Lexis Nexis 4th Edition, 2013.
2. Smith, A.T.H., Glanville Willaim's Learning the Law, Sweet & Maxwell, 15th edition, 2013.
3. Mahajan, V.D., Jurisprudence and Legal Theory, Eastern book company, 5th Edition, Reprinted 2015.

4. Granville Austin, Indian Constitution, The Cornerstone of a Nation, New Delhi, Oxford University Press, 3rd Edition, 2007.
5. Amartya Sen, The Idea of Justice, Cambridge, Mass.: Belknap Press/Harvard University Press, 10th Edition, 2009.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1401	CONSTITUTIONAL LAW – II	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- The purpose of the course is to acquaint the students with remarkable postulates of the Constitution like the Federalism, Centre – State relations and Indian Judiciary.
- To study the powers and functions of President and Governor**.**
- To gain knowledge about the emergency provisions enshrined under the Constitution of India.

UNIT 1 INDIAN FEDERALISM AND CENTRE – STATE RELATIONS 15 Hrs.

Federalism – Definition and characteristics of Federalism – Co-operative Federalism Distribution of Legislative Powers – Doctrine of Territorial Nexus – Subject matter of laws made by Parliament and Legislatures of States – Doctrine of Harmonious Construction – Doctrine of Pith and Substance – Doctrine of Occupied Field – Colourable Legislation – Parliament's Power to Legislate in State List – Doctrine of Repugnancy – Administrative Relations-Financial Relations: Freedom of Trade and Commerce.

UNIT 2 UNION AND STATE EXECUTIVE 18 Hrs.

Union Executive – The President – Election, Term of Office, Powers and functions, Impeachment – Immunities –Pardoning power -Ordinance making power – Council of Ministers. The State Executive – Governor – Appointment, Powers and functions – Immunities – Pardoning power –Removal of Governor, Doctrine of Pleasure -State Council of Ministers.

UNIT 3 LEGISLATURE AND JUDICIARY 18 Hrs.

Parliament and State legislatures – Office of the Speaker – Qualification/Disqualification of Members – Legislative Procedures – Privileges – Judicial interpretations – Anti Defection law, X Schedule.JUDICIARY: Supreme Court of India: Composition – Appointment and Removal of Judges of Supreme Court – Writ Jurisdiction of Supreme Court under Art 32 – Appellate Jurisdiction – Special Leave to Appeal – Power of Review – Advisory Jurisdiction – Public Interest Litigation – Compensatory Jurisprudence – Independence of Judiciary – Tribunals – State Judiciary -High Courts in the States – Composition, Appointment and Removal of Judges -Writ Jurisdiction of High Courts under Art. 226.

UNIT 4 AMENDMENT AND EMERGENCY PROVISIONS 17 Hrs.

AMENDMENTS: Procedure – Kinds – Amendment of Fundamental Rights – Limitations.EMERGENCY PROVISIONS: National Emergency – Duty of the Union to protect the States against external aggression and internal disturbance – Power of Union Executive to issue directions and the effect of non-compliance. State Emergency – Imposition of President's Rule in States – Grounds, Limitations, Parliamentary Control, Judicial Review (Articles 356-357) – Financial Emergency (Article 360) Emergency and suspension of fundamental rights.

UNIT 5 OTHER CONSTITUTIONAL FUNCTIONARIES 17 Hrs.

Election Commission of India: Organisation, powers and functions, Union Public Service Commission, State Public Service Commission, Comptroller and Auditor General, Attorney General & Advocate General– Constitutional safeguards for Civil Servants Art 311 – Protection against arbitrary dismissal, removal, or reduction in rank – Exceptions to Art 311 – Role of Finance Commission – Interstate Council – National Development Council – Local Self Government (Panchayat Raj).

Max.85 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - Helps the students to understand the system of Government and the numerous changes in parliament and state legislature.

CO2 - Gives them a clear picture of functioning of State Legislature, Election Commission and Other autonomous bodies.

CO3 - Emergency provisions which opens the wider discussion to student community in debating aspects.

CO4 - A detailed view of teaching of Amendments to the students will help them understanding the changes in the society.

CO5 - The concept of Judiciary will open various avenues of practicality to students.

CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Shukla, V.N., Constitution of India, Eastern Book Agency, Lucknow, 10th Edition, 2014.
2. Jain, M.P., Indian Constitutional Law, Lexis Nexis, Nagpur, 6th Edition, 2013.
3. Seervai, H.N., Constitutional Law of India, Universal Law Publishing Co., Reprint, New Delhi, 2 013.
4. Bakshi, P.M., The Constitution of India, Universal Law Publishing Co., New Delhi, 10th Edition, 2014.
5. Basu, D.D., Introduction to the Constitution of India, Lexis Nexis Publication, Nagpur, 22nd Edition, 2015.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1402	FAMILY LAW –II	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To introduce the basic Concepts and principles in personal laws.
- To gain knowledge about Law of inheritance under various personal laws.
- To acquaint knowledge on religious and charitable endowments.

UNIT 1 INTRODUCTION 15 Hrs.

Concept of Joint Hindu Family and Coparcenary: Formation and Incidence of coparcenary property under Mitakshara and Dayabhaga Schools- Alienation of Joint Family Property–Karta of Joint Family: Position- Powers and Privileges.

Partition: Division of right and division of property- Persons entitled to demand partition- Re-opening of partition-Re-union.

UNIT 2 THE HINDU SUCCESSION ACT 18 Hrs.

Intestate succession- Succession to the Property of a Male Intestate- Succession to property of Female Intestate- Women's Estate- General rules of Succession- Disqualifications- Testamentary Succession. Changes introduced by Hindu Succession (Amendment) Act, 2005: Women as Coparcenar-Doctrine of Notional Partition- Special Rules relating to Dwelling House.

UNIT 3 MOHAMEDAN LAW 18 Hrs.

Law relating to Inheritance: General rules of inheritance of Sunnis and Shias- Classification of heirs. Law Relating to Gifts: Meaning and essentials of a valid gift- Gift of Mushaa- Gift made during Marz-ul-Maut. Law Relating to Wills: Capacity to make Will- Subject matter of Will- To whom Will can be made- Abatement of legacies.

UNIT 4 INDIAN SUCCESSION ACT,1925 17 Hrs.

Christian Law of Inheritance- Succession to a Male Intestate- Succession to a Female Intestate Domicile- Will- Codicil- Interpretation- Revocation of Will- Bequests- Conditional- Contingent or Void Bequest- Legacies- Probate and Letters of Administration- Executor- Administrators- Succession Certificate.

UNIT 5 RELIGIOUS AND CHARITABLE ENDOWMENTS 17 Hrs.

Meaning- Kinds and Essentials- Math- Powers and Obligations of Mahant and Shefait- Wakf: Meaning- Kinds- Advantages and Disadvantages- Pre-emption: Origin- Classification- Effects- Constitutional Validity.

Max.85 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - This course helps students to understand the property relations in a family and understanding the legal incidence of joint family and testamentary succession.

CO2 - Knowledge and understanding of intestate succession under the act.

CO3 - Student gain knowledge of Mohammedan law of inheritance and succession.

CO4 - Emphasized on the appraise of property transaction and its nature that exist in Hindu family relations and the importance of ancestral property and Karta in Hindu family.

CO5 - Revolve around the Religious and Charitable Endowments

CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Prof. G.C.V. Subba Rao's Family Law in India Revised by Prof. (Dr.) T.V. Subba Rao & Prof. (Dr.) Vijender Kumar,Narender Gogia & Company (10th ed.) (Reprint) 2018.
2. Dr. Paras Diwan, Family Law: Allahabad Law House, (11th ed.) 2018.
3. Dr. Poonam Pradhan Saxena, Family Law Lectures: Lexis Nexis Publication (4th ed.) 2019.
4. Gandhi, B.M., Family Law: Eastern Book Company, New Delhi, (8th ed.) 2012.
5. M. Hidayatullah and Arshad Hidayatullah, Mulla Principles of Mahomedan Law, Lexis Nexis Butterworths Wadhwa Nagpur (19th ed) 2010.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1205	INTRODUCTION TO LAW, LEGAL SYSTEMS & LEGAL RESEARCH	L	T	P	Credits	Total Marks
		2	0	0	2	100

Objectives of the Course:

- The course work will be skill based. Enquiry cum learning by doing based approach is adopted to facilitate the students to imbibe intellectual abilities, self-evaluation and working culture towards accessing the teacher and law library.
- It ensures the transformation of a trainee into a student of law (ethical and knowledge dimensions).
- Importantly, the subject and related learning experience lays the platform for the students to evolve systematically towards the realisation of intellectual excellence in law.

UNIT 1 INTRODUCTION TO LAW, CLASSIFICATION AND LEGAL SYSTEMS 9 Hrs.

Role of Law in Human Life and Welfare-Characterisation of Law-Classification of Law- Basic Concepts in Legal Philosophy-Ancient Indian Legal Thought-Continental Law-Common Law-Comparative Laws-Notion of Public and Private Laws- Principle based Approaches-Understanding Legal Terminologies and Maxims.

UNIT 2 SKILLS TO LEARN LAW AND METHODS OF LEGAL REASONING 9 Hrs.

Art of Questioning-Intellectual Enquiry-Developing Critical Thinking-Language Usage Skills- Skills of Interpretation-to read, to write, deduce the hidden assumptions and test its accuracy-Texts of and about the Law-Improving Legal Insights on Contemporary Social Problems- Methods of Legal Reasoning-Logic-Inductive and Deductive Reasoning-Analysis-Legal Fictions-Assumptions.

UNIT 3 UNDERSTANDING LEGISLATIONS 9 Hrs.

Defining Statute Law-Kinds of Statutes-Legislative Drafters-Legal Writing and Legislative Drafting-Stages of Legislative Drafting-Elements of Legislation-Principles of Legislation-Schools of Interpretation-General Clauses Act, 1897.

UNIT 4 JUDICIAL METHODS 9Hrs.

Defining Justice-Concept of Dharma-Judicial Behaviour-Judicial Activism-Components of Judgment-Doctrine of Reasoned Decisions-Identifying ratio decidendi; - Judges make or declare Law-Hierarchy of Courts in India-Supreme Court-High Courts-District & Sessions Court-Metropolitan Courts-Subordinate Courts and Judges along with classifications.

UNIT 5 FUNDAMENTALS OF LEGAL RESEARCH AND METHODOLOGY 9 Hrs.

Defining Research and Legal Research-Qualities of Legal Researcher-Doctrinal and Non-Doctrinal Modes of Research-Drafting Synopsis-Basic Components- Principles of Date Collection-Modes of Data Collection-Questionnaire-Interview-Survey-Sampling-Statistical- Research Manual-Utilising Law Library-Information Communication Assisted Legal Research-Multi-Disciplinary Approaches.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the classifications of legal system.
CO2 - Enhance them to think in legal perspective/way.
CO3 - Describe the legislations and principles.
CO4 - Get clear cut ideas on judicial methods.
CO5 - Enhance them to understand the fundamentals and legal methodology.
CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. V.C.R.A.C. Crabbe (1993), Legislative Drafting, Cavendish Publishing: United Kingdom.
2. Subhash C.Kashyap (1994), Our Constitution: An Introduction to India's Constitution and Constitutional Law, National Book Trust of India: India.
3. John Trayner (1998), Latin Maxims, W. Green/Sweet & Maxwell: United Kingdom.
4. Sharon Hanson (1999), Legal Method, Cavendish Publishing: United Kingdom.
5. S.K. Vermaand M. Afzal Wani (Editors) (2001), Legal Research and Methodology, Indian Law Institute: India.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1406	ACADEMIC WRITING	L	T	P	Credits	Total Marks
		2	0	0	2	100

COURSE OBJECTIVES

- Demonstrate skills of academic based legal writing and legal reasoning.
- Analyse the judgement in order to understand the principle as laid down by the case.
- Evaluate as against other events of a similar nature and articulate the problem areas.

UNIT 1 MEANING AND CLASSIFICATION OF LAWS 9 Hrs.

Meaning and definition; Functions of law; Classification of laws: Public and Private Law, Substantive and Procedural Law, Municipal and International Law.

UNIT 2 SOURCES OF LAW 9 Hrs.

Meaning; Primary and Secondary sources; Custom; Precedent- Categories of precedents, dissenting and concurring opinion, overruling of judgments, Article 141 of the Constitution; stare decisis, Ratio decidendi- Tests to determine ratio decidendi, obiter dictum; Legislations, Juristic writings; Justice, Equity and Good Conscience, International law as a source of Municipal Law.

UNIT 3 LEGAL REASONING 9 Hrs.

Legal materials – Case law, Case Briefing; Statutes, Reports, Journals, Manuals, Digests etc.; Use of Law Library; Importance of legal research; New Dimensions in Legal Research- Use of Online Databases and e-resources; Techniques of Legal Research; Legal writings and citations; Judicial Reasoning; Analogizing – the application of principles laid down in similar cases, static and dynamic analogy; Case Synthesis.

UNIT 4 READING AND ANALYSIS OF JUDGEMENTS AND STATUTES and LEGAL RESEARCH 9 Hrs.

Reading and analysis of various landmark judgements in Constitutional Law, Criminal Law and the Law of Torts; FILAC and IRAC methods; Reading and Understanding of Statues- Aids to the interpretation of Statute (Internal and External Aids); Research – Meaning – Reflective thinking – Dewey-Kelly system – Doctrinal and Non-doctrinal Methods – Basic statistical tools.

UNIT 5 BASIC CONCEPTS OF INDIAN LEGAL SYSTEM 9 Hrs.

Constitution as the Basic Law; Rule of Law; Separation of Powers; Delegated Legislation; Judicial system in India- Hierarchy of Courts in India, Jurisdiction of Courts (Territorial, Pecuniary, Subject Matter); Fora and Tribunals-Alternative Dispute Resolution Methods, Arbitration, Negotiation, Mediation and Conciliation, Lok Adalats.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the significance and classification of laws.
CO2 - Get the fundamental sources of law
CO3 - Apply to legal reasoning in their professional.
CO4 - Analyze the Judgments by applying doctrinal and non-doctrinal methods.
CO5 - Understand the basic concepts of legal system and other related methods.
CO6 - This Course will equip the students with the required Professional Skills

TEXT BOOKS/ REFERENCES

1. A.V. Dicey, An introduction to the Study of the Law of Constitution, Universal Law Publishing Co., 10th edn. 4th Indian Reprint, 2003.
2. B S Hansai, A Critical Study of ADR System: Special Focus on LokAdalat in India
3. Benjamin Cardozo, Nature of Judicial Process, Universal Law Publishing Co., 9th Indian Reprint 2011.
4. Bodenheimer, Jurisprudence; , Universal Law Publishing Co., 7th Indian Reprint, 2011.
5. C K Takwani, Lectures on Administrative Law, 4th Edition, 2008, Eastern Book Company.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SEMESTER – III

SALB1305	LAW OF CRIMES -I (IPC)	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To introduce the basic Concepts and principles in criminal law.
- To understand the meaning of crime and the essential principles of criminal liability.
- To study about various offences under the Indian Penal Code.

UNIT 1 INTRODUCTION 15 Hrs.

Constituents of Crime and General Principles of Criminal Liability- Punishment: Theories, Crime: Elements of Crime – Actus Reus – Mens Rea – Concurrence between Actus Reus &Mensrea – Causation- Principle of Legality – Corporate Liability – Vicarious Liability Specially Referring to Sec. 34, 114, 149 of IPC- Strict Liability- Jurisdiction of IPC (Sec. 2-5).

UNIT 2 GENERAL EXCEPTIONS 18 Hrs.

Judicial Acts (Sec.77, 78) – Mistake of Fact (Sec. 76-79) – Defence of Accident (Sec.80) -Defence of Necessity (Sec.81) – Defence of Minority (Sec. 82,83) – Defence of Insanity (Sec.84) – Defence of Intoxication (Sec. 85,86) – Consent (Sec. 87-92) – Right of Private Defence (Sec. 96 to 106) – Abetment (Sec. 107- 120) – Criminal Conspiracy (Sec. 120A and 120B).

UNIT 3 OFFENCES AGAINST HUMAN BODY AND OTHER OFFENCES 18 Hrs.

Offences Affecting Life: Culpable Homicide – Murder – Causing Death by Negligence – Dowry Death – Abetment- Attempt to Suicide – Hurt- Grievous Hurt- Acid Attack – Criminal Force and Assault – Wrongful Restraint – Wrongful Confinement – Kidnapping and Abduction – Offences Relating to Marriage: Bigamy – Adultery – Cruelty by Husband and Relatives of Husband – Sexual Offences: Rape – Amendment of Rape Laws in India – 2013 Amendment – Unnatural Offences – Other Offences: Defamation – Public Nuisance – Criminal intimidation.

UNIT 4 OFFENCES AGAINST PROPERTY AND PUBLIC TRANQUILITY 17 Hrs.

Property Offences: Theft- Extortion- Robbery- Dacoity – Criminal Misappropriation of Property – Criminal Breach of Trust – Cheating – Mischief – Criminal Trespass – Offences against Public Tranquility: Unlawful assembly – Rioting – Assaulting or obstructing public servant – Provocation and communal enmity – Affray.

UNIT 5 OFFENCES AGAINST STATE 17 Hrs.

Waging War against the State – Assaulting High Officer – Sedition – Offences relating Army: Navy and Air force – Suffering Escape or Harbouring a State Prisoner or Prisoner of War.

Max.85 Hrs.

COURSE OUTCOMES

On the completion of the course the students will be able to

CO1 - This Course is designed to impart to the students the conceptual foundations of crime, punishments and certain exceptions.

CO2 - Helps the students in understanding the offences relating to human body, the most important aspect of criminal law with the relevance of heinous crimes of present situation.

CO3 - This course focuses on another aspect of property related crimes which helps the students in choosing their area of specialization.

CO4 - Enhances the students to have a wider perspective of offences against state and high commands.

CO5 - Helps the students to have better perspective about the punishments and their applicability.

CO6 - This Course will equip the students with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. G. Williams, Text Book of Criminal Law, Universal Law Publishing, New Delhi, 2012.
2. Ratanlal & DhirajLal, The Indian Penal Code, Lexis NexisWadhwa, Nagpur, 2012.
3. K.D. Gaur, Textbook on Indian Penal Code, Universal Law Publishing, New Delhi, 2012.
4. K.I. Vibhuti, PSA Pillai's Criminal Law, Lexis Nexis, ButterworthsWadhwa, Nagpur, 2012.
5. Pal, Tejinder. Supreme Court on Crimes. Chandigarh, ICC Publications, 2004.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1701	LABOUR LAW - I	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To introduce the basic Concepts and principles in labour law.
- To know the significance of Trade Unions.
- To learn about various dispute settlement mechanisms under ID Act.

UNIT 1 EVOLUTION OF LABOUR LEGISLATIONS 15 Hrs.

Meaning of Industrial Relations- Object and Scope of Labour Legislation- Concept of Master and Servant – Employer–Employee Relationship- Prevalence of Laissez-Faire Policy- State Regulation of Labour Legislations – Significance of Collective Bargaining- Standards set up by ILO to Govern Industrial Relations.

UNIT 2 TRADE UNIONS ACT, 1926 18 Hrs.

Trade Unionism in India- Definition of Trade Union- Trade Dispute- Registration of Trade Union- Legal Status of a Registered Trade Union- Mode of Registration- Powers and Duties of Registrar- Cancellation and Dissolution of a Trade Union- Procedure for Change of Name- Amalgamation of Trade Unions- Office of the Trade Union- Their Powers and Functions- Funds of the Trade Union- Immunities Granted to Office Bearers- Recognition of Trade Union and Collective Bargaining.

UNIT 3 INDUSTRIAL DISPUTES ACT, 1947 18 Hrs.

Object of the Act – Significance of the Terms Used in the Definition Section- Concept of Strike- Lock out – Lay-off- Retrenchment and Closure – Various Mechanisms Provided to deal with Industrial Disputes- Awards and Settlements- Protection to Workmen – Voluntary Arbitration – Labour Court – Tribunal – Unfair Labour Practices.

UNIT 4 THE WORKMEN'S COMPENSATION ACT & FACTORIES ACT 17 Hrs.

Object of the Act- Workmen Covered by the Act- Liability of the Employer to Pay Compensation- Accident Arising out of and in the Course of Employment- Notional Extension of Employer's Premises- Personal Injury- Occupational Diseases- Calculation of Compensation- Principal- Employer's Right of Indemnity- Powers and Functions of the Commissioner.

Introduction, Scope – Applicability – Definitions: factory – occupier – manufacturing process -hazardous process – worker – approval – Licensing and Registration of Factories – Notice by Occupier: Duties of Occupier and Manufacturer – Health, Safety and Welfare Measures, Working hours of Adults – Employment of Young Persons – Leaves and Wages – Special Provisions.

UNIT 5 INDUSTRIAL EMPLOYMENT (STANDING ORDERS ACT, 1946) 17 Hrs.

Concept- Nature- Scope of Standing Orders – Procedure for Certification- Conditions for Certification- Appeals Against Certification- Binding Nature and Effect of Certified Standing Orders- Date of Operation – Posting of Standing Orders- Modification and Temporary Application of the Model Standing Orders- Interpretation and Enforcement – Penalties and Procedure.

Max 85 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - This course helps the students to have an idea about the need and evolution of labour legislations.

CO2 - It gives scope for the students to interpret various and definitions used in the Act.

CO3 - The explanation of Trade Union and its powers will give clarity about existing scenario in Industries

CO4 - Various G.O's and regulation will help the students to study the law in-depth.
CO5 - Detailed explanation about the dispute settlement machineries will give a practical outlook to the students.
CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. S.C. Srivastava, Industrial Relations and Labour Law,Vikas Publishing House, New Delhi, 6thedn., 2012.
2. Chaturvedi, Labour and Industrial Law, Central Law Agency, 2004.
3. H.L. Kumar, Workmen's Compensation Act, Universal Law Publishing, 2009.
4. A.M.Sharma, Industrial Relations And Labour Laws, Himalayan publishing House, 2nd edn 2013.
5. S. R. Samant, S. L. Dwivedi, Labour Laws, Labour Law Agency's Employer's Guide, 15th edn, 2015.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1501	PUBLIC INTERNATIONAL LAW	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To know about the evolution and significance of international law.
- To provide students with an overview of the functional aspects of public international law and their role in bringing nations together.
- To understand the concept of state.

UNIT 1 INTERNATIONAL LAW – EVOLUTION AND ITS APPLICABILITY 15 Hrs.

Introduction- Definitions – Nature – Legality of International Law – Positive Morality-Theories – sources: International Customs, Treaties: Kinds of Treaties – Binding Force of Treaties – Pacta Sunt Servanda- Jus Cogens- Parties of a Treaty-Formation and Termination of Treaties, Other Sources – Subjects of International Law – Difference between International law and Municipal Law.

UNIT 2 STATES AND ITS ATTRIBUTES 18 Hrs.

Concept of State- Essential Ingredients of State-Different kinds of States- Recognition of States: De Facto and De Jure – Theories of Recognition- Recognition of Belligerency and Recognition of Insurgency- Collective Recognition – State Responsibility and State Succession: Responsibility of States – Original and Vicarious Responsibility- State Responsibility for various Acts- Individual Acts, Mob Violence, Insurgency, etc. State Succession: Theories of State Succession- Rights and Duties arising out of State Succession.

Jurisdiction of State: Territorial and Exterritorial Jurisdiction: Territorial Sovereignty Exemptions and immunity from state jurisdiction, Nationality, Asylum and Extradition.

UNIT 3 DIPLOMATIC AGENTS AND CONSULAR RELATIONS 18 Hrs.

Diplomatic Agents and Consuls: Institution of diplomatic agents – Vienna convention on diplomatic relations, 1961– Vienna convention on consular relations, 1963 – Classes of diplomatic representatives and consuls – Immunities and protection.

UNIT 4 MARITIME JURISDICTION 17 Hrs.

Law of the Sea: UNCLOS – Extent and Measurement of territorial Waters – High Seas- Contiguous Zone- Exclusive Economic Zone – Continental Shelf, Sea Bed and Ocean Floor – International Sea Bed Authority – Sea Piracy.

UNIT 5 THE UN AND SETTLEMENT OF INTERNATIONAL DISPUTES 17 Hrs.

The United Nations Organization: League of nations: Origin, purpose – Principles and membership of UNO, Organs: The General Assembly – Security Council and Secretariat – Jurisdiction and powers, The International Court of Justice, composition, jurisdiction and contribution to international law- International Criminal Court – Legal and Political Disputes – Pacific Means of Settlement- Arbitration-Negotiation-Mediation-Good Offices- Conciliation-Settlement under UNO- Compulsive Means– Retortion, Reprisals, Embargo, Pacific Blockade, Intervention- Institutional Settlement of Disputes.

Max.85 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Introduce students to the new regime of law and its applicability to our Nation.
CO2 - Have an idea of laws prevailing across the countries and their accountability.
CO3 - Understand new arena of treaties and agreements.
CO4 - Understand practical issues prevailing in and acrossnations.

CO5 - The dispute settlement machinery at the International level will be gives them a brief practical approach.

CO6 - Equip the students with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. Smith, A.T.H. Glanville Williams:Learning the Law. Sweet and Maxwell Printing Press, 14th edition. 1945.
2. SP Bakshi. Easily Accessible: Suitable for Beginners. Descriptive Analysis.
3. Bhatnagar. R. G. Law and Language. Trinity Press Private Limited, 2012. Print.
4. Raymond Murphy, Essential English Grammar. 2nd Edition. Cambridge University: 1990, Print.
5. Raymond Murphy. English Grammar in Use. 4th Edition. Cambridge University: 1995.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1503	PROPERTY LAW	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To understand the concept and classification of property as well as principles governing transfer of immovable property and easements.
- To study about the concept of 'Property', the 'nature of property rights' and the general principles governing the transfer of property.
- To gain knowledge about the substantive law relating to particular transfers, such as sale, mortgage, lease, exchange, gift and actionable claims.

UNIT 1 INTRODUCTION AND DEFINITIONS 15 Hrs.

Jurisprudential Contours of Property – Possession and Ownership- Object and Scope of the Transfer of Property, 1882- Concept and Meaning and Definition of Transfer of Property- Subject Matter of Transfer- Persons Competent to Transfer- Kinds of Property – Tangible and Intangible Property – Intellectual Property- Copyright, Patents and Designs- Trademarks.

UNIT 2 GENERAL PRINCIPLES OF TRANSFER 18 Hrs.

Concept of Property – Definition of transfer of property, kinds of interest, conditional transfer, Doctrine of Election ostensible owner, feeding the grant, improvement made by bonafide purchaser, Lis pendens, fraudulent transfer Doctrine of part performance and other general principles of transfer.

UNIT 3 SPECIFIC TRANSFERS – TRANSFER OF ABSOLUTE INTEREST 18 Hrs.

Sale – Definition of Sale- Rights and Liabilities of Buyer and Seller- Marshalling by Subsequent Purchaser- Mortgage – Definition of Mortgage and Kinds of Mortgage – Rights and Liabilities of Mortgagor – Rights and Liabilities of Mortgagee – Doctrine of Subrogation- Charge – Lease – Definition of Lease- Rights and Liabilities of Lessor and Lessee – Different Modes of Determination of Lease – Gifts Exchanges and Actionable Claims.

UNIT 4 EASEMENTS 17 Hrs.

Easements Generally – Imposition – Acquisition and Transfer of Easements – Incidence of Easements –Disturbance- Extinction- Suspension and Revival of Easements – Riparian Rights.

UNIT 5 RECORDATION OF PROPERTY RIGHTS 17 Hrs.

Laws Relating to Registration of Documents Affecting Property Relations- Investigation of Title to the Property – Encumbrance Certificates- Law Relating to Stamp Duties – Effects of Non -Payment of Stamp Duty – Inadmissibility and Impounding of Instruments.

Max.85 Hrs.

COURSE OUTCOMES

On the completion of the course the students will be able to

CO1 - This Course makes the students to understand the basic legal concepts of Property.

CO2 - It helps the students to have deeper knowledge of transfer of property, the guiding principles regarding this aspect.

CO3 - The students will understand the rights and duties of the seller and the buyer before and after sale.

CO4 - Other than property students will also have an understanding about lease, gift, mortgage and other related concepts.

CO5 - This Course will equip the students with the knowledge of all kinds of property related litigations.

CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Poonam Pradhan Saxena, Property Law: Lexis Nexis Butterworths Wadhwa, Nagpur, 3rd Edition 2017.
2. Mulla, Transfer of Property Act, Lexis Nexis Butterworths Wadhwa, Nagpur, 11th ed., 2013.
3. Subbarao, G. C.V. Law of Transfer of Property (Easement, Trust and Wills) 2 Vols. Lucknow: Eastern Book Co., 2002.
4. Tripathi, G. P. Transfer of Property Act, 15th ed. Allahabad: Central Law Publications, 2006.
5. J.D. Jain, Indian Easement Act, Allahabad Law Agency, 15th ed., Reprint 2011.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1504	LEGAL LANGUAGE AND LEGAL WRITING	L	T	P	Credits	Total Marks
		2	0	0	2	100

COURSE OBJECTIVES

- To introduce students to the nuances of legal language and writing.
- To familiarize students with the principles governing legal drafting.
- To equip students with the ability to draft simple legal documents.

UNIT 1 INTRODUCTION 9 Hrs.

Language- Importance of language-interplay between language and the law- legal language - significance of legal language.

UNIT 2 LEGAL COMPREHENSION (SELECTED JUDGEMENTS) 9 Hrs.

A study of several landmark decisions delivered by the Apex Court aimed at familiarising students with some fundamental and well established legal principles that guide the Indian legal system. Common Cause: Gain Kaur vs. State of Punjab. AIR 1996 SC 1257 – ParamanadaKatara vs. Union of India. AIR 1989 SC 2039 – Varadrajan vs. State of Madras AIR 1965 SC 94 – K.M. Nanawati vs. State of Maharashtra AIR 1962 SC 605 – People'S Union For Civil vs State Of Maharashtra AIR 1997 SC 568.

UNIT 3 LEGAL MAXIMS AND ITS SIGNIFICANCE 9 Hrs.

Actus non facit reum nisi mens sit rea (The act itself does not constitute guilt unless done with guilty intent) – Audi Alteram Partem (Non man shall be condemned unheard) – Delegatus non potest delegare (Delegate cannot further delegate) – Ignorantia facti excusat, ignorant juris non excusat (Ignorance of fact excuses, ignorance of law does not excuse) – Respondent superior (Let the principal be held responsible) – Res ipsa loquitur (The thing itself speaks) – Ubi jus ibi remedium (Every right has a remedy).

UNIT 4 USE OF WORDS AND PHRASES IN LEGAL WRITING 9 Hrs.

Meaning and use of legal words and phrases in legal writing.

UNIT 5 GENERAL PRINCIPLES GOVERNING LEGAL DRAFTING 9 Hrs.

A study of the general rules and guidelines about legal manner Basic Legal Drafting – A practically oriented Unit intended to introduce students to elementary drafting-Academic Legal Writing: General principles of academic legal writing, through the study of eminent authors' works, as well as practical writing exercises-Research papers.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the students will be able to

CO1 - This course will bring clarity about significance of language and the implications of legal language.
CO2 - It helps the students to read judgements of Courts and understand their facts and principles.
CO3 - Equip them to explain the meanings of latin maxims.
CO4 - It enhances the students to understand the legal meanings of certain terms and know how they differ from their meanings outside law.
CO5 - Makes the students to draft simple notices.
CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Broom's Legal Maxims. 11thed. New Delhi: Universal Publishing Ltd., 2011.
2. B. M. Gandhi, Legal Language, Legal Writing and General English, Eastern Book Company, 2010.
3. Blacks' Law Dictionary, Universal Publishing Ltd., 2000.
4. C.R. Datta & M.N. Das, DeSouza's Conveyancing, Eastern Law House, 13th ed., 2004.
5. Justice B.K. Behera's, Better Drafting, Vinod Publications (P) Ltd. Edition 2023.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SEMESTER – IV

SALB1801	LABOUR LAW – II	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To gain knowledge about various social security legislations.
- To know about various social security legislations enacted for the labourers in India
- To understand the necessity of Minimum Wages Act.

UNIT 1 LAW RELATING TO WAGES- I 15 Hrs.

MINIMUM WAGES ACT 1948: Wages- Concept of Wages- Minimum- Fair- Living Wages- Wage and Industrial Policies- Whitley Commission Recommendations- Timely Payment of Wages – Definitions- Types of Wages- Minimum Rates of Wages- Procedure for Fixing and Revising Minimum Wages – Authorized Deductions- Claims – Remedy. International Conventions.

UNIT 2 LAW RELATING TO WAGES – II 18 Hrs.

THE PAYMENT OF WAGES ACT, 1936: Objects – salient features – application and definitions, Payment of wages and deductions from wages – Authorities under the Act and procedures – Penalty for offences under the Act.

UNIT 3 PAYMENT OF BONUS ACT 18 Hrs.

Bonus- Concept- Right to Claim Bonus- Full Bench Formula- Bonus Commission- Payment of Bonus Act 1965- Application- Computation of Gross Profit- Available- Allocable Surplus- Eligibility of Bonus- Disqualification of Bonus- Set On- Set Off of Allocable Surplus- Minimum and Maximum Bonus- Recovery of Bonus.

UNIT 4 SOCIAL SECURITY LEGISLATION- I 17 Hrs.

The Employee's Provident Funds and Miscellaneous Provisions Act, 1952: Scope – Coverage- Application and Definitions – Authorities, Their Powers and Functions- Contributions – Employees Provident Fund Scheme- Employees' Pension Scheme and Deposit Linked Insurance Scheme – Penalties. Employees State Insurance Act, 1948 – Application – Benefits under the Act- Adjudication of Disputes and Claims– ESI Corporation.

UNIT 5 SOCIAL SECURITY LEGISLATION – II 17 Hrs.

The Maternity Benefit Act, 1961: Object and Application- Eligibility and Maternity Benefits- Notice of Claim- Prohibition Against Dismissal- Wage Deduction- Powers and Duties of Inspectors. Equal Remuneration Act, 1976: Application- Importance of the Act. Payment of Gratuity Act, 1976: Background, Object and Definitions – Eligibility for Payment of Gratuity – Forfeiture-Exemption-Determination – Controlling Authority – Penalties.

Max.85 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - Students will be aware of practical procedures in social security legislations.

CO2 - Provident Fund Act, Employees Insurance Act etc will give a new way of learning procedural aspects.

CO3 - Payment Wages Act will show the present scenario of the workers to the students.

CO4 - Awards and Settlements for the employees and the employer's liability will be learnt by the students in detailed manner.

CO5 - This course will show them a different perspective of society and the much needed regulations and schemes to combatthe needy.

CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. S.C. Srivastava, Industrial Relations and Labour Law, Vikas Publishing House, New Delhi, 6thedn., 2012.
2. S.C. Srivastava, Commentaries on the Factories Act, 1948, Universal Law Publishing House, Delhi, 2002.
3. H.L. Kumar, Workmen's Compensation Act, Universal Law Publishing, 2009.
4. A.M. Sharma, Industrial Relations And Labour Laws, Himalayan publishing House, 2nd edn 2013.
5. S. R. Samant, S. L. Dwivedi, Labour Laws, Labour Law Agency's Employer's Guide, 15th edn, 2015.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1802	LAW OF CRIMES – II (CRIMINAL PROCEDURE CODE, JUVENILE JUSTICE ACT & PROBATION OF OFFENDERS ACT)	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To drive the students towards understanding the pre-trial, trial and the subsequent process in criminal law.
- To acquaint the students with the practical approaches and procedures followed in the court.
- To understand the reasons for enactment of Juvenile Justice and Probation of Offenders Act.

UNIT 1 DEFINITIONS AND AUTHORITIES UNDER THE CODE 18 Hrs.

Important Definitions Under the Code – Constitution of Different Criminal Courts and Officers – Power of Courts – Distinction Between Cognizable and Non- Cognizable, Summons and Warrant, Bailable and Non-Bailable Offences – Compoundable and Non-Compoundable Offences.

UNIT 2 PRE – TRIAL PROCEEDINGS 18 Hrs.

Stages of Investigation – process compelling for the presence of the presence of accused for investigation and trial – Arrest- procedure for arrest – rights of arrested persons- consequences of non – compliance of arrest procedures – Search and Seizure – process of investigation by police – investigation of unnatural and suspicious death – Local jurisdiction of the Courts in Inquires and Trials – Cognizance of offence and commencement of proceedings – Bail procedures –types of bail – Other Provisions.

UNIT 3 FAIR TRIAL 18 Hrs.

Principal features of fair trial – Charge – Some common features regarding trial – Disposal of Criminal cases without full Trial – Preliminary plea to bar trial – Trial before a Court of Session – Trial of warrant cases by Magistrates – Trial summons cases and Summary Trial – Rules of Evidence applicable.

UNIT 4 PROCEDURES FOR APPEAL 18 Hrs.

Types of Appeals – Reference and Transfer of Criminal Cases – Execution, Suspension, Remission and Commutation of Sentences – Execution of Death penalty and Imprisonment – Execution of Sentence of fine – Preventive and Precautionary Measures for keeping peace and good behaviour.

UNIT 5 JUVENILE JUSTICE ACT & PROBATION OF OFFENDERS ACT 18 Hrs.

Juvenile Delinquency – Nature and Magnitude- Juvenile Court System – Treatment and Rehabilitation of Juveniles– Legislative and Judicial Protection of Juvenile Offender- Juvenile Justice Act, 2000- Recent Amendments. Probation of Offenders Act – Mechanism- Problems and Prospects of Probation – Duties of Probation Officers –Report of the Probation Officers – Conditions and Cancellation of probation – Judicial Approach.

Max.90 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - This course introduces students to the basic aspects of criminal procedure and understanding the various stages in trial proceedings.

CO2 - This course is designed to impart knowledge about various aspects of investigation and related aspects.

CO3 - The Proceedings related to Bail will gives procedural knowledge to the students.

CO4 - Provisions related to accused also makes the student to think in different perspective rather than traditional way of approach.

CO5 - Law relating to Juvenile and the Amendments will helps the students to compare with present scenario.

CO6 - This Course will equip the students with the required Professional Skills

TEXT / REFERENCE BOOKS

1. K N Chandrasekharan Pillai, R V Kelkar's Criminal Procedure, Eastern Book Company, Lucknow, 6th Ed. 2014.
2. Ratanlal&Dhirajlal, The Code of Criminal Procedure – Covering The Criminal Law (Amendment) Act, 2013, Lexis Nexis Wadhwa, Nagpur 19th Ed, 2013.
3. Woodroffe: Commentaries on Code of Criminal Procedure, 2 Vols. Law Publishers India Pvt. Ltd., 3rd Ed., Reprint 2014.
4. S C Sarkar, The Law of Criminal Procedure, 2nd (Reprint), 2010, Lexis Nexis Wadhwa, Nagpur, 11th ed., 2015.
5. Principles of Criminal Law: Srivastava, Eastern Book Company, 2013.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100		**Exam Duration: 3 Hrs.**
PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1403	LAW OF EVIDENCE	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To understand the significance of Law of Evidence.
- To acquaint the students with the rules of evidence in relation to relevancy of facts and proof.
- To Gain Knowledge About Oral and Documentary Evidence.

UNIT 1 INTRODUCTION & CENTRAL CONCEPTIONS IN LAW OF EVIDENCE 15 Hrs.

The Main Features of the Indian Evidence Act – Applicability of Evidence Act – Facts- Definition and Distinction – Relevant Facts/Facts in Issue – Evidence-Oral and Documentary – Circumstantial Evidence and Direct Evidence – Presumption – "Proving" "not Proving" and "Disproving" – Witness – Appreciation of Evidence- Relevancy of Facts- Facts Connected with Facts in Issue- The Doctrine of Res Gestae – The Problems of Relevancy of "Otherwise" Irrelevant Facts – Facts Concerning Bodies and Mental State- Relevancy and Admissibility of Admissions- Privileged Admissions- Evidentiary Value of Admissions.

UNIT 2 RELEVANCY AND ADMISSIBILITY OF CONFESSIONS 18 Hrs.

General Principles Concerning Confession– Differences Between "admission" and "Confession" – non-admissibility of Confessions caused by "any inducement, threat or promise" – Inadmissibility of Confession made before a Police Officer – Admissibility of Custodial Confessions – Admissibility of "Information" received from accused person in custody- with special reference to discovery based on "joint statement" – Confession by co-accused – The problems with the judicial action based on a "retracted confession- Dying Declaration- The justification for relevance of dying declarations – The judicial standards for appreciation of evidentiary value- Section 32(1) with Reference to English Law-Other Statements by Persons who cannot be called as Witnesses– Conclusive Evidence. Relevance of Judgements- Admissibility of Judgments in civil and criminal matters – "Fraud" and "Collusion". Expert Testimony: (Secs. 45 to 50) Who is an expert? Types of expert evidence – Opinion on relationship especially proof of marriage – Judicial defences to expert testimony.

UNIT 3 ORAL AND DOCUMENTARY EVIDENCE 18 Hrs.

General Principles concerning Oral Evidence, Primary / Secondary Evidence – General Principles concerning Documentary Evidence – General Principles regarding exclusion of Oral by Documentary Evidence, Public & Private Documents; Special Problems: Re-hearing Evidence.

UNIT 4 BURDEN OF PROOF AND PRINCIPLE OF ESTOPPEL 17 Hrs.

General Principles- Conception of onus- Probans and Onus- Probandi – General and Special Exceptions to onus probandi – The justification of Presumption and Burden of Proof With Special Reference to Presumption to Legitimacy of Child and Presumption as to Dowry Death- Doctrine of Judicial Notice and Presumptions.Estoppel: Scope- Its Rationale – Estoppel, Waiver and Presumption – Estoppel Distinguished From Res Judicata- Kinds of Estoppel- Equitable and Promissory Estoppel-Tenancy Estoppel.

UNIT 5 WITNESS, EXAMINATION AND CROSS EXAMINATIONS 17 Hrs.

Competency to Testify – Privileged Communications- State Privilege – Professional Privilege – Approval Testimony – General Principles of Examination and Cross Examination – Leading Questions – Approver's Testimony- Hostile Witnesses- Lawful Questions in Cross-examination – Re-examination – Compulsion to answer questions put to Witness– Impeaching of the Standing or Credits of Witness-Questions for Corroboration- Improper Admission of Evidence.

Max.85 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Analyze and define the concept and general nature of evidence, and illustrate the different types of evidence.

CO2 - Determine and analyze the standard of proof and burden of proof in civil and criminal cases, and specify types of presumptions.

CO3 - Analyze the rule relating to relevance of evidence.

CO4 - Analyze and evaluate the rules governing examination in chief, cross examination and re-examination, and establish the procedures in the conduct of a civil or criminal trial.

CO5 - Determine the rules relating to competence and compellability of witnesses in relation to case study material.

CO6 - This Course will equip the students with the required Professional Skills

TEXT / REFERENCE BOOKS

1. Vepa Sarathi,Law of Evidence, Eastern Book Company,5th Ed., 2002.
2. Dr.Satish Chandra, Indian Evidence Act, Allahabad Law Agency, 2007.
3. Ratanlal & Dhirajlal, Law of Evidence (1994), Lexis Nexis Wadhwa, Nagpur, 2011.
4. Avtar Singh, Principles of Law of Evidence, Central Law Publications, 2013.
5. Sarkar, Law of Evidence,LexisNexis Wadhwa, Nagpur, 18th Ed., Reprint 2014.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1601	ADMINISTRATIVE LAW	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To gain knowledge about delegated legislation.
- To know the importance of principles of natural justice.
- To understand the basic principles that govern review of administrative action by courts and tribunal.

UNIT 1 INTRODUCTION 15 Hrs.

Evolution, Nature and Scope of Administrative Law - Laissez- faire state, social welfare state and modern state - Relationship Between Constitutional Law and Administrative Law- Droit Administrative - Rule of Law - Doctrine of Separation of Powers – Classification of Functions.

UNIT 2 LEGISLATIVE FUNCTIONS 18 Hrs.

Meaning, Nature, Origin, Development and causes of growth of delegated legislation - Necessity and Constitutionality – Forms and requirements – Control: Legislative, Judicial, Procedural – Sub-delegation of legislative power, conditional legislation - Doctrine of Excessive Delegation.

UNIT 3 JUDICIAL FUNCTIONS OF ADMINISTRATION 18 Hrs.

Principles of Natural Justice: Doctrine of Bias - Audi Alter Partem - Need for devolution of adjudicatory authority on administration - Writs - Nature of Tribunal: Constitution, Power, Procedures, Rules of evidence -Administrative Tribunals - Rules of evidence - no evidence, some evidence and substantial evidence -Institutional Decisions.

UNIT 4 ADMINISTRATIVE DISCRETION 17 Hrs.

Need for administrative discretion- Limitations – Malafide exercise, irrelevant considerations & non-exercise of discretionary power - Judicial review of administrative discretion – Remedies - Informal method of settlement of disputes and Grievance Redressal procedures - Conciliation and meditation, public inquiries & Commissions of enquiry, Right to Information Act.

UNIT 5 OMBUDSMAN, LOKPAL, LOKAYUKTA AND CENTRAL VIGILANCE COMMISSION 17 Hrs.

Meaning, Object, Main characteristics, Need and Utility - Origin and development of the Institution - Ombudsman in New Zealand - Ombudsman in England (Parliamentary Commissioner) – Ombudsman in India –Lokpal - Lokayukta in States - Central Vigilance Commission.

Max.85 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Particular emphasis upon the advanced principles of administrative law which helps the students to look beyond traditional concepts.

CO2 - Students will be taught to have a practical approach towards administrative law principles to complex legal problems.

CO3 - This course will help them understand both legal and political controls on governmental bodies and their decisions.

CO4 - Will be able to critically analyze the various control mechanisms on public power.

CO5 - Students will have a clear understanding about administrative mechanism in current scenario.

CO6 - This Course will equip the students with the required Professional Skills

TEXT / REFERENCE BOOKS

1. Massey, I.P., Administrative Law, Eastern Book Company, Lucknow, 5th Edition, 2008.
2. Griffith and Street, Principles of Administrative Law, London, 3rd Edition, 2006.
3. Kesari, U.P.D, Lectures on Administrative Law, Central Law Agency, 15th Edition, Allahabad, 2005.
4. Takwani, Thakker, C.K., Lectures on Administrative Law, Eastern Book Company, 3rd Edition, Lucknow, 2003.
5. M P Jain and S N Jain's Principles of Administrative Law, Revised by Amita Dhanda, Lexis Nexis Wadhwa, Nagpur, 7th Edition, 2017.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1603	COMPANY LAW	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To understand the formation, management and other activities of the companies.
- To learn the importance of memorandum of association and articles of association.
- To study the roles and responsibilities of directors.

UNIT 1 INTRODUCTION 18 Hrs.

Historical development of concept of corporate law in India - Company - Definition, Meaning, Nature and its Characteristics - Nature and Forms of Business - Company vis-à-vis other Forms of Business - Types of Companies - Public and private sector - Concept of Corporate Personality, Corporate Veil, Limited Liability and Citizenship - Companies Act and its amendments.

UNIT 2 INCORPORATION AND ITS CONSEQUENCES 18 Hrs.

Promoters - Meaning, Position, Duties, Rights, Responsibilities and Liabilities - Formation of Companies - Procedural Aspects - Memorandum of Association & Articles of Association and their Alteration - Contracts and Conversion of Companies - Commencement of Business- Doctrine of Ultra-Vires, Constructive Notice, Indoor Management, Alter Ego.

UNIT 3 FINANCIAL STRUCTURE 18 Hrs.

Sources of capital – Shares - Application and allotment of shares - members and shareholders shares and share capital - Alteration and Reduction of Share Capital - Forfeiture and Surrender- Lien on shares- Prospectus - debentures, charges and debenture holder, dividends, borrowings, lending, investments, contracts. Floating Charge - Preferential Payments - Unclaimed Dividends.

UNIT 4 MANAGEMENT AND CONTROL OF COMPANIES 18 Hrs.

Directors -Types - Appointment/Reappointment - Qualification - Vacation of Office - Retirement - Resignation and Removal - Role and Responsibilities of Directors - Powers and Duties - Loans to Directors -Remuneration of Directors - Meetings– Kinds of Meetings; Law, Practice and Procedure- Voting - including voting through Electronic Means- Sole Selling and Buying Agents – Investments, loans and Deposit- Inspection and Investigation.

UNIT 5 RECONSTRUCTION, AMALGAMATION AND WINDING UP 18 Hrs.

Reconstruction, rehabilitation and amalgamation: Concept - jurisdiction and powers of courts& NCLT-vesting of rights and transfer of obligations - take over and acquisition of minority rights - Winding up - Grounds - Who Can Apply - Appointment of Liquidators - Procedure under different modes - Voluntary winding up -compulsory winding up - Winding Up of Unregistered Company.

Max.90 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - This course develops the cognitive skills to analyze, evaluate and synthesize information about corporations, corporate officers, shareholders and Creditsors so as to identify and resolve legal and business related issues.

CO2 - This course helps student to develop critical thinking about Corporate Law.

CO3 - Understand the consequences of incorporation including the concept of corporate personality.

CO4 - Revolves around financial structure, management and control of company.

CO5 - This course imparts the students, the corporate management, control, possible abuses, the remedies and government regulation of corporate business and winding up of companies.

CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. ICSI, Companies Act 2013, Institute of Company Secretary of India, 2013.
2. Ramaiya, Ramaiya Guide to the Companies Act, Lexis Nexis, Butterworths Wadhwa, Nagpur, 18th ed., 2014.
3. Avtar Singh, Company Law, Eastern Book Company, Lucknow, 16th ed., 2015.
4. Karn Gupta, Company Law, Lexis Nexis India, 1st ed., 2013.
5. Lalit Kakkar, Companies Act, 2013 Along With New Rules & Forms, Young Global, 4th ed., 2015.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1405	DISASTER MANAGEMENT	L	T	P	Credits	Total Marks
		2	0	0	2	100

COURSE OBJECTIVES

- To introduce the basic Concepts in disaster management.
- To create awareness towards natural and man-made disasters, disaster preparedness and disaster management.
- To have an insight into the problem arising out of disasters and inadequacies of the court process.

UNIT 1 INTRODUCTION TO DISASTERS 9 Hrs.

Natural resources and its importance – understanding on fragile eco-system – characteristics and types of Disasters, Geological and Mountain Area Disasters: Earthquakes, Volcanic eruption, landslides – Wind and Water Related Natural Disaster: Floods, Droughts, Cyclones, And Tsunami – Man Made Disasters: Forest fires, Nuclear, Biological and Chemical disaster – Causes and effects – Disaster Profile of India – Disaster Management cycle.

UNIT 2 DISASTER PREPAREDNESS 9 Hrs.

Disaster management, mitigation and preparedness: Disaster Preparedness for People and Infrastructure, Community based Disaster Preparedness Plan – Roles & Responsibilities of Different Agencies and Government: Education, Communication & Training, Central, State, District and local administration, Armed Forces, Police, Para Military Forces, International Agencies, and NGO's – Disaster Mitigation: Strategies, Emerging Trends, Mitigation management and Role of Team and Coordination.

UNIT 3 REHABILITATION, RECONSTRUCTION & RECOVERY 9 Hrs.

Damage assessment – Development of Physical and Economic Infrastructure – Nature of Damage to Houses and Infrastructure due to Disasters – Funding Arrangements for Reconstruction – Monitoring and Evaluation of Rehabilitation Work: Training, Rescue and planning the rescue activities and rehabilitations- Role of Government and NGO's – Participative Rehabilitation Process: Case Studies.

UNIT 4 DISASTER RESPONSE AND DISASTER MANAGEMENT 9 Hrs.

Disaster Response Plan: Communication, Participation and Activation of Emergency Preparedness Plans, Search, Rescue, Evacuation and other logistic management – Human Behavior and Response Management: Psychological Response and Psychological Rehabilitation, Trauma and Stress Management, rumor and Panic Management, Medical and Health Response to Different Disasters – Relief Measures: Minimum Standard of Relief, essential components of Relief Management, and funding.

UNIT 5 RISK ASSESSMENT AND VULNERABILITY ANALYSIS 9 Hrs.

Hazard, Risk and Vulnerability: Concept and Relationship: Disaster Risk Reduction, People Participation in Risk Assessment – Vulnerability Analysis, Vulnerability Identification – Vulnerability profile of India – Strategies for Survival – Social Infrastructure for Vulnerability Reduction.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Help the students to develop an understanding about the key concepts, definitions key perspectives of all Hazards Emergency Management.

CO2 - Provide a basic conceptual understanding of disasters and its relationships with development.

CO3 - Analyze the legal provision and role of NGO during the disaster period.

CO4 - Understand Medical and Psycho-Social Response to Disasters.
CO5 - Develop a basic understanding of Prevention, Mitigation, Preparedness, Response and Recovery.
CO6 - This Course will equip the students with the required Professional Skills

TEXT / REFERENCE BOOKS

1. Bryant Edwards, "Natural Hazards", Cambridge University Press, U.K, 2005.
2. Carter, W. Nick, "Disaster Management, Asian Development Bank", Manila, 1991.
3. Government of India, "Vulnerability Atlas of India", New Delhi, 1997.
4. Sahni, Pardeep et.al. (eds.), "Disaster Mitigation Experiences and Reflections", Prentice Hall of India, New Delhi, 2002.
5. Sahni, Pardeep and Ariyabandu, Madhavi Malalgoda, 2012: "Disaster risk reduction in South Asia", Phi learning pvt. Ltd.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SEMESTER – V

SALB1702	CIVIL PROCEDURE CODE AND LIMITATION ACT	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To make the students conversant with the basic terminology and with the jurisdiction of civil courts.
- To equip students with the knowledge of different stages in a civil proceeding and the procedure at each of these stages.
- To learn the execution proceedings, remedies available to a party aggrieved by the order of a court, equip students with the knowledge of the important provisions of Limitation Act.

UNIT 1 SUITS AND PLEADINGS 18 Hrs.

Introduction Salient features of the Code, 1908 – Definitions – Jurisdiction of Civil Court – Place of Suing – Institution of Suits – Presentation of Plaint – Parties to the suit-principles of res subjudice and res judicata. PLEADINGS: Plaint – Written Statement – Service of Summons – Appearance and Non-Appearance of Parties – Set off and counter claim: distinction – Discovery, Inspection and Production of Documents – Admission – Production, Impounding and Returning of Documents- transfer of suits decree and judgment – Remand – Restitution – Appeals: from original decree – from appellate decree – from orders – Appeal to the Supreme Court – Reference – Review – Revision.

UNIT 2 SUITS IN PARTICULAR 18 Hrs.

Suits by and against government and public officer – Suits by indigent person – suits by or against minors and lunatics, aliens and foreign rulers, soldiers, corporation, Firms, trustees, executors and administrators – suits relating to family matters, mortgages, public nuisance and public charities-interpleader suits – summary procedure.

UNIT 3 EXECUTION 18 Hrs.

General principles – courts by which decree may be executed – payment under decree – application for execution– mode of execution – stay of execution – questions to be determined by executing court – arrest and detention –attachment of property sale and delivery of property -distribution of assets.

UNIT 4 CIVIL PROCEDURE CODE RECENT AMENDMENTS 18 Hrs.

Code of Civil Procedure (Amendment) Act, 2002: Salient features – Major Changes, Civil Procedure Amendment Rules, 2013, Civil Procedure (Amendment) Act, 2016.

UNIT 5 LIMITATION ACT 18 Hrs.

Definitions – Limitation of Suits – Appeals – Computation of Period of Limitation – Legal disabilities.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - This course is designed to equip students with the knowledge of different stages in a civil proceeding and the procedure at each of these stages.
CO2 - Drafting exercises will form a major part of the course which helps the students to a greater extent.
CO3 - Will introduce students to the execution proceedings which is happening in civil courts.
CO4 - Will acquaint the students with remedies available to a party aggrieved by the order of a court.
CO5 - This course also teaches students about the importance of Limitation Act and its provisions.
CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. C.K.Takwani, Civil Procedure Code,11th ed., Eastern Book Company,2013.
2. MP Tandon, Code of Civil Procedure, Allahabad Law Agency, 2011.
3. Mulla, The Code of Civil Procedure, Lexis Nexis Butterworths Publications, 17thedn, 2007.
4. M. P. Jain, Code of Civil Procedure, 3rd ed., Lexis Nexis, 2011.
5. Sarkar, Code of Civil Procedure, 11th ed., Lexis Nexis, 2013

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1904	ENVIRONMENTAL LAW	L	T	P	Credits	Total Marks
		3	1	0	4	100

COURSE OBJECTIVES

- To introduce the basic Concepts and principles in environmental law.
- To know about national and international environmental concerns, the bases for them and policy responses to them both within India and internationally.
- To analyse the legislative and judicial responses to environmental problems and the administrative system of environment related laws such as air, water, land, forest and hazardous substances laws.

UNIT1 INTRODUCTION AND INTERNATIONAL PERSPECTIVES OF ENVIRONMENTAL LAW 15 Hrs.

Meaning of Environment- Environmental Pollution and the Law- Kinds- Causes and Effects- Ancient Environmental Ethics Climate Change- Ozone Depletion and International Response- Earth Summit- International Environmental Law and the Sustainable Development- Indian Environmental Policies and Legal Responses. Environmental Policy - Stockholm Conference - Johannesburg Declaration (Rio) - Nairobi Declaration, 1982 - Brundtland Report, 1987 - Agenda 21

UNIT 2 INDIAN CONSTITUTIONAL AND ENVIRONMENTAL LAW 18 Hrs.

Five Year Plans – Forest Policy - Conservation of Natural Resources and its Management – Fundamental Rights – Article 14 (Right to equality, non-arbitrary and non-discriminatory treatment), Article 19(1)(g) (Freedom to carry on trade or business), Article 21 (Right to life, livelihood and wholesome environment) and Article 32 (Right to Constitutional remedies); Directive Principles of State Policy – Article 47, 48-A; Fundamental Duty – Article 51-A(g); Article 226 (Powers of High Courts); Public Interest Litigation – Nature – Non-Adversarial, Collaborative, Co-operative and Investigative; Locus Standi – Pro Bono Publico; Representative Standing; Citizens' Standing Role of Judiciary on Environmental Issues - Polluter Pays Principle – Precautionary Principle – Public Trust Doctrine- Judicial Activism.

UNIT 3 POLLUTION CONTROL LAWS 18 Hrs.

Water (Prevention and Control of Pollution) Act, 1974 – Air (Prevention and Control of Pollution) Act, 1981 – Environment (Protection) Act, 1981 – Power of Central Government– Rules relating to Management of Hazardous, Plastic Waste, Bio-Medical Waste, E-Waste, Municipal Solid Wastes and Batteries – Noise Pollution Rules, 2000 – Environmental Impact Assessment – Coastal Regulation Zone Notification – Disaster Management Act, 2005.

UNIT 4 RESOURCE CONSERVATION AND ANIMAL WELFARE LAWS 17 Hrs.

Wildlife Protection Act, 1972 – Forest Conservation Act, 1980 – Prevention of Cruelty Against Animals – Problems in Legal Regulation of Medicinal Plants – The Plant Varieties Act – Wetland Conservation - Experimentation on Animals – Legal and Ethical Issues.

UNIT 5 PREVENTION AND CONTROL OF POLLUTION 17 Hrs.

Common Law Remedies/Remedies under Law of Tort – Penal Remedies – Indian Penal Code and Code of Criminal Procedure – Remedies under Constitutional Law – Writs – Public Interest Litigation - Public Liability Insurance Act, 1991 – The National Green Tribunal Act, 2010.

Max.85 Hrs.

COURSE OUTCOMES

CO1 - This course creates the concepts of environment and pollution, and impresses them to protect the environment.

CO2 - It creates knowledge about international environment protection regime.
CO3 - It gives students a comprehensive idea of Water and Air Pollution Acts along with Environment Protection Act.
CO4 - It enhance the students to conserve forest and protect wildlife.
CO5 - It provides awareness about Environment among the students
CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Gurdip Singh, Environmental Law in India, MacMillan Publisher, 2005.
2. P. Leelakrishnan, Environmental Law Case Book, Lexis Nexis, 2nd edn, 2006.
3. S. C. Shastri, Environmental Law, Eastern Book Company, 4th edn, 2012.
4. Shyam Diwan& Armin Rosencranz, Environmental Law and Policy in India, Oxford University Press, 2nd Edition, 2001.
5. P. Leelakrishnan, Environmental Law in India, Lexis Nexis, 3rd edn, 2008

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1901	PRINCIPLES OF TAXATION LAW	L	T	P	C	Credits	Total Marks
		3	1	0	4	4	100

COURSE OBJECTIVES

- To give an insight about National and International Taxation Laws to students.
- To impart the knowledge of taxing statutes in and across the nations.
- To understand the difference between tax and fee.

UNIT 1 CONCEPT OF TAX 18 Hrs.

Nature and Characteristics of Taxes – Distinction between Tax and Fee, Tax and Cess – Direct and Indirect Taxes- Tax Evasion and Tax Avoidance – Scope of Taxing Powers of Parliament, State Legislatures and Local Bodies – Canons of Taxation – Applicability of doctrines under the constitution to taxation laws – interpretation of tax laws.

UNIT 2 THE INDIAN INCOME TAX ACT, 1961 18 Hrs.

Concepts: income, agricultural income, casual income: Residential status – Previous year, Assessment year, Income – Received – Arising – Exemption from taxation, Taxability under' specific heads': Income from salaries, Income from house property, Income from business or profession, Income from 'capital gains', Income from other sources – Clubbing of income – Treatment of losses – set-off- carry forward of loss – Procedure for assessment: Deduction – Assessment of special class.

UNIT 3 INCOME TAX AUTHORITIES 18 Hrs.

Their Appointment – Jurisdiction – Powers and Functions – Provisions Relating to Collection and Recovery of Tax– Refund of Tax, Appeal and Revision Provisions, Offences and Penalties – Wealth Tax – Charge of Wealth Tax-Assets –Deemed Assets – and Assets Exempted from Tax – Wealth Tax Authorities – Offences and Penalties.

UNIT 4 CENTRAL SALES TAX AND EXCISE LAWS 18 Hrs.

Nature – Scope and Basis of Levy of Central Excise Duty – Meaning of Goods – Manufacture and Manufacturer – Classification and Valuation of Goods – Duty Payment and Exemption Provisions – Provisions and Procedure Dealing with Registration and Clearance of Goods – An Overview of Set- off of Duty Scheme – Appointment of Customs Officers – Ports– Warehouses – Nature and Restrictions on Exports and Imports – Registration of Dealers and Determination of Taxable Turnover- Service Tax – Main Features of Service Tax – VAT – Recent Amendments.

UNIT 5 GENERAL SALES TAX – GST AND INTERNATIONAL TAX LAWS 18 Hrs.

Structure of GST (SGST, CGST, UTGST & IGST) – GST Council – State Mechanism – Registration – Levy and collection of GST – Valuation for GST- Valuation rules – Exemption from GST: Small supplies and Composition Scheme – Classification of Goods and Services: Composite and Mixed Supplies. INTERNATIONAL TAX LAW: International Tax Agreements and Treaties – Double Taxation – UN Model Convention on Double Taxation – OECD – Guidelines.

Max.90 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - This course provides the fundamental notions of the Income Tax Act, 1961 to the students and also its underlying concepts.

CO2 - Helps the students with the knowledge of tax treatment under various heads of income.

CO3 - Will give a detailed outlook on the aspect of the computation of income for the purpose of taxing and determination of tax liability.

CO4 - This course will give a better understanding about Central Sales Tax and Excise duty.

CO5 - Will help the students to have clarity about GST and International Taxation treaties and guidelines.

CO6 - This Course will equip the students with the required Professional Skills

TEXT / REFERENCE BOOKS

1. Vinod Singhania & Kapil Singhania, Direct Taxes Law and Practice, Taxmann, 2014. Chaturvedi & Pithisaria, Income Tax Act with Relevant Tax Allied Acts, Lexis Nexis, 2013
2. Gupta, S.S., GST- How to meet your obligations (April 2017), Taxmann Publications.
3. Dr. Girish Ahuja and Dr. Ravi Gupta, Systematic Approach to Taxation, Bharat 32nd Edition,2014-2015.
4. J.K. Mittal, Law, Practice and Service of Service tax Law,Lexis Nexis25th Eddition,2013.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1902	DRAFTING, PLEADING AND CONVEYANCE (CLINICAL COURSE – I)	L	T	P	Credits	Total Marks
		4	1	0	5	100

COURSE OBJECTIVES

- To apply general principles of drafting and conveyancing and use effective writing techniques to draft different types of legal documents.
- To draft different types of Deeds including deed of sale of land, mortgage deeds, licence deeds, lease deeds, assignment deeds, trust deeds, partnership deeds and power of attorney deeds.
- To learn Drafting of different types of contracts including commercial agreements, professional services agreement.

UNIT 1 FUNDAMENTAL RULES OF PLEADINGS 18 Hrs.

Introduction – Fundamental Rules of Pleadings- Plaint Structure – Parties to Suit- Written Statement – Appeals –Reference- Review and Revision- Execution.

UNIT 2 CIVIL PLEADINGS 18 Hrs.

Plaint – Written statement – IA – OP – Affidavit – Execution Petition – Memorandum of Appeal and Revision Petition – Petition for Dissolution of Marriage Under the Hindu Marriage Act, 1955 – Petition for Eviction Under the Rent Control Act- Application for Temporary Injunction Under the Code of Civil Procedure, 1908- Caveat Under the Code of Civil Procedure, 1908.

UNIT 3 GENERAL PRINCIPLES OF CRIMINAL PLEADINGS 18 Hrs.

Application for Maintenance Under Section 125 of the Code of Criminal Procedure, 1973 – Application for Anticipatory Bail and Bail – Criminal Miscellaneous Petition – Application for Execution of a Decree – Criminal Complaint – Appeal/Complaint – Appeal/Revision in Criminal Cases – Special Leave Petition Under Article 136 of the Constitution of India- Memorandum of Appeal and Revision.

UNIT 4 CONVEYANCING 18 Hrs.

Components of a Deed – Forms of Deeds and Notices – Promissory Note- Will and Codicil- Trust Deed- Gift Deed- Agreement to Sell- Sale Deed – Indemnity Bond – Lease Deed – General Power of Attorney – Special Power of Attorney – Partnership Deed – Deed for Dissolution of Partnership – Mortgage Deed- Notice to the Tenant – Notice Under Section 80 Code of Civil Procedure, 1908 – Reply to the Notice.

UNIT 5 PUBLIC INTEREST LITIGATION PETITION 18 Hrs.

Drafting of Writ Petition and Public Interest Litigation Petition under Articles 32 and 226 of Indian Constitution – Concurrent Jurisdiction of the High Court and Supreme Court.

Max.90 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - know more about the fundamental principles of drafting which are very crucial.
CO2 - Apply of the said rules with respect to pleadings in civil matters.
CO3 - Achieve the above with reference to criminal matters.
CO4 - Observe the principles of conveyance with reference to different deeds.
CO5 - It teaches the students the skills of scrutiny of reports and the rules of Judgment Writing.
CO6 - Equip the students with the required Professional Skills

TEXT / REFERENCE BOOKS

1. G.C. Mogha, Indian Conveyancer, Dwivedi Law, Agency 14th edn, 2009.
2. R.N. Chaturvedi, Conveyancing and Drafting and Legal Professional Ethics, Eastern Book Company, 7th edn, 2011.
3. Rathwade, Rajaram S. Legal Drafting, Pune: Hind Law House, 2010.
4. G.C. Mogha& S. N. Dhingra, Mogha's, Law of Pleading in India with Precedents, Eastern Law House, 18th edn, 2013.
5. CA VirendraPamecha,Public Interest Litigation (PIL) & How to File A Writ Petition, Jain Book Agency, 1st edn, 2014.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1903	ARBITRATION, CONCILIATION & ALTERNATIVE DISPUTE RESOLUTION SYSTEM (CLINICAL COURSE – III)	L	T	P	Credits	Total Marks
		4	1	0	5	100

COURSE OBJECTIVES

- To gain knowledge about different methods of dispute resolution.
- To understand the meaning and general principles of arbitration.
- To study about the roles and responsibilities of Conciliator.

UNIT 1 INTRODUCTION 18 Hrs.

Meaning- Various Procedures of ADR- General- Different Methods of Dispute Resolution- Inquisitorial Method- Adversarial Method- Other Methods – Both Formal and Informal Advantages and Disadvantages of Above Methods- Need for ADRs- International Commitments- Domestic Needs- Suitability of ADRs to Particular Types of Disputes- Civil Procedure Code and ADRs- International Mechanism in ADR.

UNIT 2 ARBITRATION 18 Hrs.

Arbitration and Conciliation Act, 1996 – Meaning of Arbitration – Attributes of Arbitration- General Principles of Arbitration- Different Kinds of Arbitration- Qualities and Qualifications of an Arbitrator- Arbitration Agreement and its Drafting- Appointment of Arbitrator- Principal Steps in Arbitration- Arbitral Award- – Writing Arbitration Award- Recent Amendments.

UNIT 3 CONCILIATION 18 Hrs.

Meaning – Different Kinds of Conciliation: Facilitative, Evaluative, Court: Annexed, Voluntary and Compulsory- Qualities of a Conciliator- Duties of a Conciliator- Role of a Conciliator- Confidentiality and Neutrality- Stages of Conciliation- Procedure- Conciliation Under Statutes: Industrial Disputes Act, 1947 – Family Courts Act, 1984 – Hindu Marriage Act, 1955- Arbitration and Conciliation Act, 1996- Writing the Award- Ethical Issues in Conciliation.

UNIT 4 NEGOTIATION 18 Hrs.

Meaning – Theory of Negotiation- Different Styles of Negotiation – Different Approaches to Negotiation – Phases of Negotiation – Positional Bargaining- Interest Based Bargaining or Principled Negotiation- Preparation for Negotiation- Qualities of a Negotiator – Collaborative Communication Skills- Negotiating Skills- Power to Negotiate.

UNIT 5 MEDIATION 18 Hrs.

Meaning – Qualities of Mediator – Role of Mediator – Essential Characteristics of the Mediation Process: Voluntary, Collaborative, Controlled, Confidential, Informal, Impartial and Neutral, Self-Responsible – Code of Conduct for Mediators- Ethical Issues in Mediation Mediation in India, Institutions, Their Role – Recent Amendments – International Instruments and their Implementation.

Max.90Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - This Course will give a brief idea about growing new area of legislation and its scope in present scenario**.**

CO2 - Helps the students in understanding the Alternate Dispute Settlement Machinery, its significance and the ways to implement the procedures.

CO3 - Enhances practical based skills in students.

CO4 - Provides the students a brief overview about the implementation and regulation mechanisms.

CO5 - This course also gives an understanding about the International mechanism in ADR and its functions which can be adopted in India

CO6 - This Course will equip the students with the required Professional Skills

TEXT / REFERENCE BOOKS

1. Avtar Singh, Law of Arbitration and Conciliation, Eastern Book Company, 10th edn, 2013.
2. J. G. Merrills, International Dispute Settlement. U.K: Cambridge University Press, 5th edn, 2005.
3. G.K. Kwatra, The Arbitration and Conciliation Law of India, Universal Law Publications, Delhi, 2000. World Trade Organization, The WTO Dispute Settlement Procedures: A Collection Of The Relevant Legal Texts, 2nd Ed., (Cambridge, UK: Cambridge Univ Press, 2002).
4. Markanda. P.C, Law Relating to Arbitration and Conciliation, Lexis Nexis Butterworths&Wadhwa, Nagpur, 7th edn, 2009.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SEMESTER – VI

SALB1001	PROFESSIONAL ETHICS AND PROFESSIONAL ACCOUNTING (CLINICAL COURSE – II)	L	T	P	Credits	Total Marks
		4	1	0	5	100

COURSE OBJECTIVES

- To imbue students with high values forming the basis of the profession so that they can live up to those standards in their professional life.
- To teach responsibilities and moral standards to be followed in the profession.
- To know the salient features of Advocates Act, 1961.

UNIT 1 THE LEGAL PROFESSION AND ITS RESPONSIBILITIES 18 Hrs.

Development of Legal Profession in India- Privileges and Rights of Legal Profession- Distinction from Other Profession- Admission and Enrolment of Advocates- Conduct in Court- Professional Conduct in General – Privileges of a Lawyer- Salient Features of the Advocates Act, 1961.

UNIT 2 DUTIES TOWARDS THE COURT AND SOCIETY 18 Hrs.

Duty to the Court – Duty to the Profession – Duty to the Opponent – Duty to the Client – Duty to the Self- Duty to the Public and the State- Duties to Render Legal Aid- Difference Between Duty and Interest.

UNIT 3 CONTEMPT OF COURT 18 Hrs.

Contempt of Court Act, 1972 – Selected Major Judgments of the Supreme Court (i) Re: Ajay Kumar Pandey, A.I.R 1997 SC 260 (ii) SC bar Association vs U.O.I, AIR 1998 SC 1895, (iii) Nirmaljit Kaur vs State of Punjab, AIR 2006 SC 605 (iv) ZahiraHabidullah Sheikh vs State of Gujarat, AIR 2006 SC 1367 (v) Rajendra Sail vs M.P High Court Bar Association, AIR 2005 SC 2473. (vi) P.J. Ratnam vs D. Kanikaram, AIR 1964 SC 244. (vii) N. B. Mirzan v. The Disciplinary Committee of Bar Council of Mahastra and Another, AIR 1972 SC 46- Bar Council of Mahastra vs M. V. Dabholkar etc. AIR 1976 SC 242, (viii)
V. C. Rangadurai vs D. Gopalan& Others, AIR 1979 SC 201, ix) Supreme Court Bar Association vs Union of India, AIR 1998 SC 1895. X) Chandra ShekharSoni vs. Bar Council of Rajastahan& Others, AIR 1983 SC 1012.

UNIT 4 PROFESSIONAL AND OTHER MISCONDUCT 18 Hrs.

Selected Opinions of the Disciplinary Committees of Bar Councils on the Subjects- Powers of the Disciplinary Committee of the Bar Council of India – Procedure of Complaints Against Advocates – Punishments for Misconduct and Remedies Against Order of Punishment – Judgements related to Professional Misconduct- (i) Ex. Capt. Harish Uppal v. Union of India A.I.R. 2003 S.C 739 (ii) P.D. Gupta v. Ram Murthi AIR 1998 SC 283 (iii) Shambhu Ram Yadav- v. Hanuman Das Khatry AIR 2001SC 2509 (iv) Harish Chandra Tiwari v. Baiju AIR 2002 SC 548 (v) Bar Council of Andhra Pradesh v. KurapatiSatyanarayana AIR 2003 SC175.

UNIT 5 ACCOUNTANCY FOR LAWYERS 18 Hrs.

Need for Maintenance of Accounts – Books of Accounts that need to be Maintained – Cash Book, Journal and Ledger – Aspects of Book Keeping – Meaning- Object- Journal- Double Entry System – Journal Especially with Reference to Client's Accounts – Ledger- Trial Balance and Final Accounts – Balance Sheet – Standard Costing.

Max.90 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - The students will be able to understand the historical evolution of the legal profession as well as the various codes of conduct and ethical norms for the advocates.

CO2 - The standards expected in the profession will be well known to the students.

CO3 - This course explains the contempt law in India and the classifications of contempt, the punishments and remedies which helps them in practical aspects.

CO4 - To acquaint the students with general principles of accounting.

CO5 - Helps the students to have a clear maintenance of records which plays a significant part in this profession

CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. J.P.S. Sirohi, Professional Ethics, Accountancy for Lawyers and Bench Bar Relations, Allahabad Law Agency, 2015.
2. Mallick, Advocates Act, Professional Ethics/Bench & Bar Relationship, Indian Law Books, 2007.
3. Krishna Keshav, Singahal's Advocacy, Professional Ethics and Accountancy for Lawyers, 2018
4. Subramanyam, Advocates Act, Commentaries on Advocates Act with Bar Council Rules (Central & States) with Professional Ethics & Allied Laws, Law Publishers India, 3rd edn, 2010.
5. Dr.Rakesh Kumar Singh & Souvik Dhar, Professional Ethics, Accountancy for Lawyers and Bar-Bench Relations, 2022

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB1002	EXERCISE & INTERNSHIP (CLINICAL COURSE- IV)	L	T	P	Credits	Total Marks
		1	1	4	6	100

COURSE OBJECTIVES

- To understand the practical aspects of the profession by presenting in moot courts by sending them to courts for a personal experience of the functioning of courts.
- To obtain a first-hand information of the practicalities of the working of courts.
- To learn research, oratorical and articulation skills required of a lawyer and also to get a practical exposure to the techniques of client interviewing and the substantive as well as procedural steps involved in preparation of a brief by lawyers.

UNIT 1 OBJECTIVE OF MOOT COURT 18 Hrs.

Introduction – Scope and Importance – A Brief Idea on Moot Court- The Benefits of attending Moot Court Competitions – General Knowledge on the Different Aspects of Law- Sources of Law – Statute, Precedents, Customs, Treaties, Logic and Reasoning – Hierarchy of Courts -Different Kinds of Courts.

UNIT 2 RESEARCH LIBRARY 18 Hrs.

Research – Research for Cases – Research for different Journals and Publications – Online Research. MODE OF CITATIONS– The Blue Book Citations – Reading and Understanding Case laws.

UNIT 3 MEMORIAL 18 Hrs.

Approach towards a Moot Problem – Identifying the Issues – Using Different Resource Authorities to Substantiate the Arguments Framed for Both Sides – Quoting Cases and Other Authorities in the Memorial – Bibliography.

UNIT 4 PRESENTATION 18 Hrs.

Language – Court Manners – Citing Authorities – Emphasis on the Law – Thorough Knowledge of the Facts -Application of the Facts to the Question Asked.

UNIT 5 RECORD MAINTANENCE 18 Hrs.

Pre – trail preparations – Maintenance of Record during court proceedings – Preparation of documents – Internship.

Max.90 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - This course is designed to introduce the students to the practical aspects of the profession.
CO2 - This exercise enables them to obtain direct experience about the practical procedure.
CO3 - They will also get a practical exposure to the techniques of client interviewing and other related aspects.
CO4 - Will help the students further to observe the preparation of documents and court papers and procedure for the filing.
CO5 - Will help the students to unearth the potential they possess towards the profession.
CO6 - This Course will equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Dr. S.R.Myneni, Moot Court, Exercise and Internship, 2nd Edition, 2023
2. Dr. KailashRai, Moot Court, Pre-Trial Preparations and Participation in Trial Proceedings, Jain Book Agency, 5th edn, 2012.
3. Dr. S.P. Gupta, Moot Court, Pre-Trial Preparations and Participation in Trial Proceedings, Jain Book Agency, 3rd edn, 2012.
4. Bighuti Bhushan Mishra, Moot Court and Mock Trial: A practical Exposure, 2021.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN
(Practical Examination)

OPTIONAL COURSES

SALB3071	INFORMATION TECHNOLOGY LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To understand Cyber space and The Information Technology Act, 2000.
- To learn multifarious changes brought into substantive and procedural legislations.
- To know various facets of Cyber Law and its impact on modern world.

UNIT 1 INTRODUCTION 12 Hrs.

Concept of Information Technology and Cyber Space- Interface of Technology and Law -Jurisdiction in Cyber Space and Jurisdiction in Traditional Sense – Internet Jurisdiction – Indian Context of Jurisdiction – Enforcement Agencies- International Position of Internet Jurisdiction – Cases in Cyber Jurisdiction.

UNIT 2 INFORMATION TECHNOLOGY ACT, 2000 12 Hrs.

Aims and Objects — Overview of the Act – Jurisdiction-Electronic Governance – Legal Recognition of Electronic Records and Electronic Evidence -Digital Signature Certificates – Securing Electronic Records and Secure Digital Signatures – Duties of Subscribers – Role of Certifying Authorities – Regulators Under the Act-The Cyber Regulations Appellate Tribunal – Internet Service Providers and Their Liability – Powers of Police Under the Act – Impact of the Act on Other Laws.

UNIT 3 E-COMMERCE 12 Hrs.

E-Commerce – UNCITRAL Model – Legal Aspects of E-Commerce – Digital Signatures – Technical and Legal Issues – E-Commerce, Trends and Prospects – E-taxation, E-Banking, Online Publishing and Online Credits Card Payment – Employment Contracts – Contractor Agreements, Sales, Re-Seller and Distributor Agreements, Nondisclosure Agreements- Shrink Wrap Contract-Source Code- Escrow Agreements etc.

UNIT 4 CYBER LAW AND IPRS 12 Hrs.

Understanding Copy Right in Information Technology – Software – Copyrights Vs Patents Debate – Authorship and Assignment Issues – Copyright in Internet – Multimedia and Copyright Issues – Software Piracy –Patents – Understanding Patents – European Position on Computer Related Patents – Legal Position of U.S. on Computer Related Patents – Indian Position on Computer Related Patents –Trademarks – Trademarks in Internet – Domain Name Registration- Domain Name Disputes & WIPO-Databases in Information Technology – Protection of Databases – Position in USA,EU and India.

UNIT 5 CYBER CRIMES 12 Hrs.

Meaning of Cyber Crimes–Different Kinds of Cyber Crimes – Cyber Crimes Under IPC, Cr.P.C and Indian Evidence Law – Cyber Crimes Under the Information Technology Act,2000 – Cyber Crimes Under International Law – Hacking- Child Pornography- Cyber Stalking- Denial of Service Attack- Virus Dissemination- Software Piracy- Internet Relay Chat (IRC) Crime- Credits Card Fraud- Net Extortion-Phishing etc – Cyber Terrorism – Violation of Privacy on Internet – Data Protection and Privacy.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - Student are able to have in-depth understanding of Information Technology Law.
CO2 - Student are able to understand various Cyber Crimes.
CO3 - Student are able to understand e-commerce.
CO4 - Student are made to be acquainted with social and intellectual property issues in Cyberspace.

CO5 - Student are equipped with the regulations of the Information Technology law and various mechanisms working under the IT Act.

CO6 - This Course will equip the Student with the required Professional Skills.

TEXT/REFERENCE BOOKS

1. AnirudhRastogi, Cyber Law: Law of Information Technology and Internet, Lexis NexisWadha, Nagpur, 1st ed., 2014.
2. Vakul Sharma, Information Technology Law and Practice, Universal Law Publishers, 3rd ed., 2011.
3. Harish Chander, Cyber Laws and IT Protection, PHI Learning Pvt. Ltd., 2012.
4. Nandan Kamath, Law Relating to Computers, Internet and Ecommerce, Universal Law Publishing Co., Ltd., 2006.
5. PavanDuggal, Mobile Crime and Mobile Law, Saakshar Law Publications, 2013.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3072	LAW ON AGRICULTURAL LABOUR	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVE

- To emphasize the legislation on Agricultural Labourers.
- To wider perspective on the social security legislations and the schemes framed by the Appropriate Government for Agricultural labourers.
- To learn international conventions relating to Agriculture labour.

UNIT 1 INTRODUCTION 12 Hrs.

Definition of Agriculture Labour – National Commission on Labour – First Agriculture Labour Enquiry committee 1950 – 1955 – Problems faced by Agriculture labour in India – seasonal employment, migration to other occupation, famine, debts, Socio – Economic Problem, Agriculture and Indian Economy.

UNIT 2 CONSTITUTIONAL PROVISIONS ON AGRICULTURAL LABOUR AND LEGISLATIONS ON AGRICULTURAL LABOURERS 12 Hrs.

Article 23, 43 of the Constitution of India, Trade Union for Agricultural laborers – Plantations Labour Act, 1951-Debt Relief Act, 1976.

UNIT 3 SOCIAL SECURITY LEGISLATIONS FOR AGRICULTURAL LABOURERS 12 Hrs.

The Workmen's Compensation Act, 1923 and Agricultural Labour – Minimum Wages Act, 1948: Its applicability to Agricultural Labour – Impact of Equal Remuneration Act, 1976 on Agricultural Labour – Protection of Child Worker in Agriculture via Child Labour (Prohibition and Regulation) Act, 1986 Unorganized Workers' Social Security Act, 2008: Salient Features with Special Emphasis on Agricultural Labour.

UNIT 4 NATIONAL SCHEMES FOR AGRICULTURAL LABOURERS AND STATE LEGISLATIONS 12 Hrs.

Mahatma Gandhi National Rural Employment Guarantee Act, 2005 [MGNREGA], Jawahar Gram Samridhi Yojana, Swarnjayanti Gram Swarozgar Yojana, Indira Awas Yojana, Pradhan Mantri Gram Sadak Yojana, Krishi Shramik Samajik Suraksha Yojana, Food for Work Program Kerala Agricultural Workers' Act, 1974 – A Model Legislation – The Tamil Nadu Agricultural Labourers Farmers (Social Security and Welfare) Act, 2006- Recent Developments.

UNIT 5 INTERNATIONAL CONVENTIONS 12 Hrs.

The ILO Conventions – Workmen's Compensation (Agriculture) Convention 1921, Sickness Insurance (Agriculture) Convention 1933, Invalidity Insurance (Agriculture) Convention 1933, Survivors' Insurance (Agriculture) Convention 1933, Minimum Age (Agriculture) Convention 1921, Holidays and Pay (Agriculture) Convention 1952, and Labour Inspection (Agriculture) Convention 1969 provided for social security schemes.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - This course gives an outlook about the conditions of agricultural laborers in and across the nation.

CO2 - Helps the Student to have an in-depth analysis about the problems undergone by the agricultural laborers.

CO3 - Various welfare schemes enacted by state legislations and its implementation procedures will have them an overall understanding about the situation prevailing.
CO4 - International Conventions dealing with the agricultural laborers will create an avenue for research.
CO5 - This Course helps the Student to have a clear perspective about the oppressed section of labour in and across the nation.
CO6 - This Course will equip the Student with the required Professional Skills.

TEXT/REFERENCE BOOKS

1. Prof. S.N. Misra, labour and Industrial Laws, 28th Edn, 2016.
2. Dr. Avtar Singh & Dr. Harpreet Kaur, Introduction to Labour and Industrial Laws, 4th Edn, 2017.
3. Dr. G V Goswami, Labour Industrial Laws, 8th Edn. – 2004.
4. P.L.Malik, INDUSTRIAL LAW, An Encyclopaedia of all Labour Laws and Industrial Laws in India, 2017.
5. P Malhotra, The Law of Industrial Disputes, 6th Edn.-2004, Butterworths, New Delhi, Vol. 1 & 2.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3073	INTERNATIONAL HUMAN RIGHTS	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To introduce basic human rights philosophy, principles, instruments and institutions.
- To explore aspects of the diverse and increasingly complex body of international law of human rights that has both national and international application.
- To understand enforcement, implementation, remedies of International Human Rights Law.

UNIT 1 HISTORICAL BACKGROUND 12 Hrs.

Historical origins- state and self-determination-Ideological foundations- normative differences between "civil rights", "constitutional rights" and "human rights"-The charter and the declaration: universality, inalienability and right- balancing introduced in the 1948 Universal Declaration of Human Rights.

UNIT 2 HUMAN RIGHTS NORMS 12 Hrs.

International Bill of Rights- UN- The ICCPR (International Covenant on Civil and Political Rights) Framework Provisions-The Prohibition against Torture -Economic and Social Rights-Minority Rights-Universal Declaration of Human Rights (UDHR).

UNIT 3 HUMAN RIGHTS INSTITUTIONS 12 Hrs.

The Charter and Treaty Bodies- Regional Arrangements: emergence of regional arrangements for human rights – advantages and disadvantages of promoting human rights on a regional basis- Critical Perspectives: criticisms against the human rights movement- effectiveness and legitimacy and exposing its alleged biases.

UNIT 4 PROTECTION OF HUMAN RIGHTS 12 Hrs.

Human Rights, Peace, Non-Violence, and Conflict Resolution-Implementing Human Rights Standards and Required Legal Aid, Remedies and Reforms-Role of Judiciary- Role of National Human Rights Commission and State Legal aid -Public Interest Litigation and Media- Refugee right- rights of prisoners and prison reforms- rights of women and children- Role of other agencies- Rights of Children- Convention on Rights of Children- CEDAW.

UNIT 5 IMPLEMENTATION, ENFORCEMENT, REMEDIES OF INTERNATIONAL HUMAN RIGHTS LAW 12 Hrs.

Magna Carta- International enforcement of international law of human rights- International adjudication- International political implementation- International procedures for making human rights complaints within the UN system.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - Identify main historical trends in the development of international human rights law.
CO2 - Compare the international human rights law system and regional human rights law systems.
CO3 - Evaluate the various mechanisms and procedures for human rights law enforcement.
CO4 - Critically assess specific areas of international human rights law with reference to relevant legal instruments and contemporary cases.
CO5 - Reflect on the lessons drawn from international human rights law about the domestic human rights situation.
CO6 - This Course will equip the Student with the required Professional Skills.

TEXT/REFERENCE BOOKS

1. Upendra Baxi, “The Future of Human Rights”, Oxford University Press, New Delhi.
2. Daniel Moeckli, Sangeeta Shah and Sandesh Sikumaran “International Human Rights Law”, 2014.
3. Alison Bisset, “Blackstone’s International Human Rights Documents”, 2014.
4. Asbjorn Eide, “International protection of human rights”, Strasbourg, 1995.
5. Henry Steiner, Philip Alston, “International Human Rights in Context- Law, Politics and Morals”, 2000.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3074	ANIMAL PROTECTION LAWS	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVE

- To understand the development of Animal Protection Laws and its application in Indian scenario.
- To impart knowledge on Wild Life protection Act.
- To learn International conventions relating to animal welfare.

UNIT 1 HISTORICAL BACKGROUND AND LEGISLATIONS 12 Hrs.

Protection of Animals under Ancient and British Laws, – Sources of Law: Constitutional Provisions. 7th Schedule, 11th Schedule and 12th Schedule – Provisions under Indian Penal Code 1860 – Prevention of Cruelty Act, 1960 – Wildlife Protection Act, 1972 – Food Safety & Standards Regulations 2011 – Drugs and Cosmetics Act, 1940 and Rules 1945 – Animal Welfare Act, 2011.

UNIT 2 WILD LIFE PROTECTION ACT, 1972 12 Hrs.

Evolution and Development of the concept of Wildlife Protection in India: Object & scope of the Act – Definition of wildlife – Sec 2(37) – Authorities and Wild life advisory board: members and their duties – Hunting of Wild Animals – Sanctuaries – National Park and Central Zoo Authority – Trade or Commerce in Wild Animals – Preventions and Detection of Offences – National Zoo Policy, 1998.

UNIT 3 PREVENTION OF CRUELTY TO ANIMALS ACT, 1960 12 Hrs.

Objects and Reasons – Definitions – Animal Welfare Board – Constitution – Term – Powers and Functions – Cruelty to Animals – Experimentation on Animals – Offences – Procedure and Exceptions – Rules and regulations under the Act – The Prevention of Cruelty to Animals Rules, 2017 – Critical Evaluation and Implementation – Recent Amendments

UNIT 4 ETHICS AND LAW IN ANIMAL WELFARE 12 Hrs.

Nature of Animal Ethics – Inter-relation of Animal Ethics and Law – Role of Animal Ethics in Law – Balance between Animal Welfare and Medical Ethics – Recent Amendments

UNIT 5 INTERNATIONAL CONVENTIONS 12 Hrs.

United Nations Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) March- International Whaling Convention (IWC) – Convention on Migratory Species (CMS) – Convention on Biological Diversity (CBD) – Universal Declaration on Animal Welfare (UDAW) – Animal Welfare Standards in International Trade – Treaties and Free Trade Agreement.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - Students were able to understand the nature of protection available to wildlife in general.
CO2 - The detailed concepts in underlying legislations will help the Student to relate with present scenario.
CO3 - Enhances the deeper understanding and balance between animal ethics and law.
CO4 - Will help them to have a perspective of research and comparative study.
CO5 - Provides brief knowledge about International regime of Protection.
CO6 - This Course will equip the Student with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. Animal Laws of India, Raj Panjwani, Ozair Husain, Maneka Gandhi, 6th Edition, 2016, Universal Law Publication (Lexis Nexis).
2. Animal Rights: Current Debates and New Directions (edited by Cass Sunstein and Martha Nussbaum) Oxford University Press, 2006.
3. Animal Law: Welfare, Interest and Rights – David S Favre, 2nd Edition (Aspen Elective), Aspen publishers 2011.
4. P Leelakrishnan "Animal Rights and Compassion for Other Living Beings: Growing Dimensions of Right to Life Concept Under the Constitution" 2014(4) KLT, Journal p.85-88.
5. Indian Forest Laws – A Kishan, 6th Edition 2013, Asia Law House, Hyderabad

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3075	INTERPRETATION OF STATUTES	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To understand Acts and Rules are drafted by legal experts.
- To unlock the locks put by the Legislature by using aids and principles of interpretation.
- To make the student familiar with various rules of interpretation.

UNIT 1 INTRODUCTION 12 Hrs.

Law Making: Legislature, Executive and the Judiciary – Principle of Utility – Law and Public Opinion – Law and Social Control – Relevance of John Rawls and Robert Nozick – individual interest to community interest – Law and Morals – Meaning, objectives and scope of interpretation", "construction" and "statute" – Public opinion and law making.

UNIT 2 NATURE AND KINDS OF INDIAN LAWS 12 Hrs.

Statutory, Non-statutory, Codified, Uncodified, State-made and State-recognized laws – Parts of a Statute – Commencement, operation and repeal and revival of statutes – Purpose of Statutory Interpretation – Sources of Statutory Interpretation – The General Clauses Act, 1897: Nature, Scope and Relevance – Definition clauses in various legislations: Nature and Imperative Role.

UNIT 3 PRINCIPLES & RULES OF STATUTORY INTERPRETATION 12 Hrs.

Literal and Logical Rules of Interpretation – Legalism and Creativity – Legal Language, Legal Riddles and Logic – Golden Rule and Mischief Rule – Rule of Harmonious Construction – Maxims- Strict construction of Penal Laws and Taxation Laws – Judicial Activism, Judicial Process and Judicial Restraint- Internal Aids and External Aids of Interpretation.

UNIT 4 PRINCIPLE OF CONSTITUTIONAL INTERPRETATION 12 Hrs.

Interpretation of Constitution – Principles and Theories – Preamble as a tool – Reading Directive Principles and Fundamental Duties with Fundamental Rights – Interpretation of International Instruments – Presumptions- Presumption against: established jurisdiction – exceeding territorial nexus – ouster of jurisdiction of courts – changes in common law – including what is inconvenient or unreasonable – intending injustice or absurdity – retrospective operation of Law -violation of international law – Presumption on favor of constitutionality of a statute.

UNIT 5 LEGISLATIVE DRAFTING 12 Hrs.

Principles and Process of Legislative Drafting – Simplicity, Preciseness, Consistency, Alignment with Existing law, Brevity – Drafting General Laws – Special Laws – Rules – Orders.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - Understand the general structure of statutes.

CO2 - Apply the various theories of interpretation and techniques relevant to the interpretation of enacted law and case law.

CO3 - Provide Student with a thorough understanding of the various principles and theories.

CO4 - Emphasized to provide Student with the ability to understand the nature of constitutional interpretation and to understand and apply the principles of judicial precedent.

CO5 - Student familiarized with Legal drafting, legal concepts and terminology commonly encountered in statutes and law reports.

CO6 - This Course will equip the Student with the required Professional Skills

TEXT/ REFERENCE BOOKS

1. G.P. Singh, Principles of Statutory Interpretation, Lexis Nexis Butterworths Wadhwa, Nagpur, 12th ed., 2010.
2. G.P. Singh, Principles of Statutory Interpretation (also including General Clauses Act, 1897 with notes), Lexis Nexis Butterworths Wadhwa Nagpur, 13th ed., 2012.
3. Avatar Singh and Harpreet Kaur, Introduction To Interpretation Of Statutes, Lexis Nexis Butterworths Wadhwa Nagpur, 4th ed., 2014.
4. NS Bindra, Interpretation of Statutes, Lexis Nexis Butterworths Wadhwa Nagpur, 11th ed., 2013.
5. M.P Tandon, Interpretation of Statutes, Jain Book Agency, 11th ed., 2013.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3076	INTERNATIONAL MONETARY FUND	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To equip Student with tools and methods of analyzing aspects related to international financial systems.
- To understand Balance of Payments and International financial markets.
- To make students aware of foreign exchange market management and mitigating foreign exchange risk.

UNIT 1 EVOLUTION OF MONETARY SYSTEM 12 Hrs.

Bimetallism (before 1875) – Classical Gold Standard (1873-1914) – inter –war period (1915-1944) – Bretton woods System (1945-1972) – Flexible Exchange Rate arrangements – European Monetary System – Euro and the European Monetary Union – Currency Crisis: The Mexican Peso Crisis – The Asian Currency Crisis – The Argentine peso Crisis – Fixed versus Flexible Exchange rate regimes.

UNIT 2 BALANCE OF PAYMENTS AND INTERNATIONAL LINKAGES 12 Hrs.

Balance of payments and its components – BOP Accounting – BOP trends in major countries coping with current account deficit – Capital Account Convertibility – pros and cons.

UNIT 3 INTERNATIONAL FINANCIAL MARKETS AND INSTRUMENTS 12 Hrs.

International money market – Euro Currency Market, Euro Creditss, Forward Rate Agreements, Euro Notes – International Bond market – Credits Rating and indices of international bond market – Types of instruments – International equity markets: Market structure, trading in international equities, cross listing of equities, GDRs, ADRs, IDRs, Global registered shares, International equity market benchmark, factors affecting in international equity market.

UNIT 4 FOREIGN EXCHANGE MARKETS 12 Hrs.

Functions and structure of forex market – Forex market participants, foreign exchange spot rates, forward, futures, options and swap market; Foreign Exchange rate determinants – International parity relationship, Interest rate parity, Purchasing power parity and International Fisher Effect.

UNIT 5 FOREIGN EXCHANGE MANAGEMENT 12 Hrs.

Management of Transaction exposure, money market hedge, hedging foreign currency payable, cross hedging minor currency exposure, hedging through invoice currencies, Hedging via lead and lag, Exposure netting; Management of economic exposure; measurement of economic exposures, Determinants of economic exposure: Management of translation exposure –translation exposure methods, management of translation exposure, balance sheet hedge and derivatives hedge.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - Student will develop an introductory understanding of a broad range of topics involving transnational business that arise in making, regulating and breaking international business relationships.

CO2 - Student will have understanding over transnational business settings, including transnational licensing agreements and development agreements.

CO3 - This Course will give a brief understanding over Money Market, Currency Aspects and so on.

CO4 - Helps the Student to have a detailed understanding over Foreign Exchange Management.

CO5 - Will enhance Economic Exposure to Student at all levels.
CO6 - This Course will equip the Student with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. Apte, P.G: International Financial Management, Tata McGraw Hill, New Delhi 5th Ed. 2009.
2. Shaprio, Alan. C: Multinational Financial Management, Prentice Hall, New Delhi. 2006,8th ed.
3. Cheol S. Eurn, Bruce G. Resnick, International Finance Management, Mc Graw Hill, 5th ed, 2009.
4. Buckley, Adrian: Multinational Finance, Prentice Hall, New Delhi, 5th ed.
5. Thomas J. P'brien, International Finance – corporate decision in global markets, 2nd ed.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3081	LAW ON EDUCATION	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To apply the implications of the interdependent relationship of law and the ethical imperatives of educational system.
- To learn constitutional provisions and judicial decisions that affect education systems.
- To know recent developments in education policy.

UNIT 1 DEVELOPMENT OF RIGHT TO EDUCATION IN INDIA 12 Hrs.

National Policy on Education, 1986 – Constitutional Principles: DPSP – The Constitution (Eighty-sixth Amendment) Act, 2002, – Right of Children to Free and Compulsory Education Act, 2009, Recent Amendments.

UNIT 2 RECENT DEVELOPMENTS IN WOMEN AND TRIBAL EDUCATION IN INDIA 12 Hrs.

UGC policy and Programmes on Women's Education – Legislations on Women Education – Role of Judiciary in Protection and Promotion of Women's Education – Education Among Rural Girls in India – MHRD and Women's Education– Recognition of Scheduled Tribes – Article 15 (4), 29, 46 of Indian Constitution.

UNIT 3 PRIVATISATION OF EDUCATION 12 Hrs.

Privatization – Causes and Consequences – Shifting Education from State List to Concurrent List, 1976 – Privatization of Professional Education – Cases against Privatization – The Ramamurti Committee (1990) – Accessibility and Accountability in Education – Impact of Privatisation on Globalization - Privatization and Law – Recent Amendments.

UNIT 4 PROFESSIONAL BODIES FOR QUALITY IMPROVEMENT 12 Hrs.

Role of University Grants Commission – Other Professional Bodies -Problem of Co-ordination -Role Performed by Different Commissions and Committees: Law Commission of India – Kothari Commission – Yashpal committee – Hurtog committee – National Knowledge Commission.

UNIT 5 INTERNATIONAL LAW AND RIGHT TO EDUCATION 12 Hrs.

Universal Declaration of Human Rights – International Covenant on Economic, Social and Cultural Rights: Convention against Discrimination in Education, 1960 – International Bill of Rights and Right to Education- Regional Legal Instruments- Role of UNO's Specialized Agencies: The UNESCO convention against discrimination in Education- The convention on the Rights of the Child.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - A brief outlook on Constitutional amendments regarding Education with special reference to women will help Student in further research.

CO2 - Enhances student's idea over regulation and schemes with relevant to Education.

CO3 - Helps Student to have a global perspective of legislations on Education.

CO4 - This Course will open new avenues of research regarding privatization of Education.

CO5 - Various Commissions and corresponding Amendments will give a detailed interpretation of law in depth.

CO6 - This Course will equip the Student with the required Professional Skills.

TEXT/REFERENCE BOOKS

1. Weiner, Myron (1991). The Child and the State in India; Child Labour and Education Policy in Comparative Perspective. Princeton, NJ: Princeton University Press.
2. Beiter, Klaus Dieter (2005). The Protection of the Right to Education by International Law, Martinus Nijhoff Publishers.
3. S. Gupta, Education in Emerging India, 2nd Ed. (2008), Shipra Publications, Delhi, p.1.
4. Catharine MacKinnon, Feminism Unmodified, Harvard University Press, 1982.
5. lavia Agnes, Sudhir Chandra, et.al. (eds.) Women & law in India (Oxford University Press, 2004, New Delhi).

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3082	WOMEN AND CRIMINAL LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVE

- To understand the feeble condition of women and their exploitation.
- To know the legal limitation on their capacity and legal rights and protection provided in the Constitution and in various laws.
- To learn the role of judicial Institutions and investigating authorities in this regard for preventing & control strategies.

UNIT1 WOMEN AND INTERNATIONAL INSTRUNMENTS 12 Hrs.

UDHR- Convention on the Political Rights of Women 1953- CEDAW 1979- Declaration on the Elimination of Violence Against Women 1993- Optional Protocol to the Convention on the Elimination of Discrimination of Women, 1999.

UNIT 2 WOMEN IN PRE-CONSTITUTION AND POST – CONSTITUTION PERIOD 12 Hrs.

Status of Women- Social and Legal Inequality – Social Reform Movement in India – Legislative Response in India- Women in Post-Constitution Period- Gender Equality and Protection Under the Constitution- Constitutional Provisions- Preamble – Art. 14, 15, 23- National Commission for Women Act, 1990.

UNIT 3 CRIMES AGAINST WOMEN 12 Hrs.

Trafficking- Dowry Death- Honor Killings- Acid Attacks- Female Infanticide- Abetment to Suicide of a Married Women- Outraging the Modesty of Women – Stalking- Kidnapping – Abduction- Importation of Girl (Sec. 366-B)- Sexual Assault: Rape- Custodial Rape- Marital Rape- Gang Rape- Adultery- Cruelty by Husband and Relatives of Husband (Sec. 498A).

UNIT 4 WOMEN AND SOCIAL LEGISLATIONS 12 Hrs.

Women and Social Legislation: Dowry Prohibition Law – Sex Determination Test – Law Relating to Prevention of Immoral Trafficking Act- Domestic Violence Act – Commission of Sati (Prevention) Act, 1987- Law Relating to Eve Teasing – Obscenity- Indecent Representation of Women Act- Medical Termination of Pregnancy Act, 1971.

UNIT 5 WOMEN AND OTHER LAWS 12 Hrs.

Uniform Civil Code – Law of Divorce Under Hindu Law- Muslim Law- Christian Law- Law of Maintenance- Sex Inequality in Inheritance Rights – Inheritance Under Hindu Law, Christian Law and Muslim Law – Matrimonial Property Law– Right of Women. Factories Act, 1948 – Provisions Relating to Women- Maternity Benefit Act, 1961 – Equal Remuneration Act 1976- Law Relating to Sexual Harassment at Work Place.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - Helps the Student to have a better understanding of various issues faced by women in our country and the Constitutional guarantees they have.

CO2 - It helps the student to learn about the social security legislations for women and their implementation.

CO3 - Promotes research and case studies in analyzing the current legislations related to women.

CO4 - Helps to have a deeper understanding in provisions for betterment of women in personal laws.

CO5 - Enhances the Student to concentrate in international legislations and its ratification.

CO6 - This Course will equip the student with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. Paras Dewan, Dowry and Protection to Married Women, Allahabad Law Agency, 3rd Edition, 2013.
2. Mamta Rao, Law Relating to Women and Children, Third Edition, Eastern Book Company, 2012.
3. Sathe S.P, Towards Gender Justice, Eastern Book Company, New Delhi, 3rd Edition, 2011.
4. Chattoraj, B.N., Crime against Women: A Search for Peaceful Solution, LNJN-NICFS, New Delhi, 2nd Edition, 2007.
5. Kaushik, P.D. Women Rights, Book well Publication 2007

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3083	INTELLECTUAL PROPERTY LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To introduce the different categories of Intellectual Property Rights.
- To learn minimum standard to identify the items of protection.
- To know the rights conferred to the right holder and remedies available in the case of infringement.

UNIT1 INTRODUCTION 12 Hrs.

Meaning and concept of intellectual Property and the need for protection – The world Intellectual property Organization (WIPO) Convention – Origin and functions of World Trade Organisation (WTO) – Trade Related Intellectual Property Rights (TRIPS) Agreement of WTO and its effects on Intellectual Property law in India; Dispute Settlement Mechanism.

UNIT2 COPYRIGHT ACT 12 Hrs.

The Copyright Act (1957) and recent amendments-works in which copyright subsist-Authorship And Ownership- Different Rights-Registration of copyright-Term of copyright-Administration of copyright law-Performer's rights-Broadcaster's rights-Collective administration of copyrights-Moral rights-Copyright infringements-Remedies-Composition of Copyright Board.

UNIT3 TRADEMARK & DESIGNS ACT 12 Hrs.

The Trade Mark Act (1999), object, definitions, salient features- Distinctiveness, deceptive similarity-Assignment and transmission -Registration: Procedure-Term-Effects-Grounds for refusal- Powers and functions of Registrar- collective marks-certification marks-Trade mark agents – Appellate board – Infringement action, passing off action –Well known marks- The designs Act 2000; definitions, registration of designs, copyright in registered designs, piracy of registered designs, remedies, powers and duties of Controller – Semi-conductor integrated circuit layout-Trade secrets.

UNIT4 LAW OF PATENTS 12 Hrs.

The Patents Act (1970): Object definitions, salient features-Invention: patentable and non- patentable inventions- product and process patents- -Rights of patentees-assignment and transmission-term of patent–Registration-opposition to grant of patent, anticipation- Revocation of patents- Compulsory licences- Exclusive marketing rights-Infringement- exclusive marketing rights- Patent office and power of Controller, patents of addition-Patenting of biotechnology-Nanotechnology.

UNIT 5 FARMERS AND BREEDERS RIGHT & GEOGRAPHICAL INDICATION 12 Hrs.

The Protection of Plant Varieties and Farmers' Rights Act, 2001: object definitions, salient features The Geographical Indications Of Goods (Registration And Protection) Act, 1999- object definitions, salient features.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - The course is designed to introduce fundamental aspects of Intellectual property Rights.

CO2 - The course introduces all aspects of the IPR Acts.

CO3 - The course is intended to explain the basic principles of patents, trademarks, geographical designs, industrial designs, and copyright.

CO4 - The course follows an international perspective and examines the international IP legal regime rather than focusing solely or predominantly on the national framework.

CO5 - This course revolves around the protection of plant varieties and farmers right act.
CO6 - This Course will equip the student with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. V.K. Ahuja, Law Relating to Intellectual Property Law, Lexis Nexis, 2nd ed., 2013.
2. N.S. Gopalakrishnan& T.G. Ajitha, Principles of Intellectual Property, Eastern Book Company, 2nd ed., 2014.
3. B.L. Wadhera, Law Relating to Intellectual Property, Universal Law Publishing, 5th ed., 2014.
4. S. Narayan, Intellectual Property Law in India, Gogia Law Agency, Hyderabad, 3rd ed., 2005.
5. Holyoak & Torreman, Intellectual Property Law, Oxford University Press, New York, 2010.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3084	LAND LAWS INCLUDING TENURE AND TENANCY SYSTEM	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To learn Movement of Land Reforms and abolition of Intermediaries.
- To understand the law for the acquisition of land required for public purposes.
- To know laws relating to land and land revenue in Tamil Nadu and Tamil Nadu Apartment Ownership Act, 1994.

UNIT 1 INTRODUCTION: MOVEMENT OF LAW REFORMS 12 Hrs.

Ownership of Land – Doctrine of Eminent Domain – Doctrine of Escheat – Pre-Independence Position- Land Tenure- Zamindari Settlement – Ryotwari Settlement - Mahalwari System – Intermediaries – Absentee Landlordism – Large Holdings- Post-independence Reforms: Abolition of Zamindaries- Laws Relating to Abolition of Intermediaries.

UNIT 2 LAND CEILING 12 Hrs.

Urban Land Ceiling and Agrarian Land Ceiling- Tamil Nadu Land Reforms Fixation of Ceiling of Land Act 1961 and Amendment Act, 1971.

UNIT 3 LAWS RELATING TO ACQUISITION OF PROPERTY AND GOVERNMENTAL CONTROL AND USE OF LAND 12 Hrs.

Land Acquisition Act of 1894- Amendments to the Act – Tamil Nadu Amendments Act 1980 - Requisition and Acquisition of Immovable Property under Defense of India Act.

UNIT 4 LAWS RELATING TO TENANCY REFORMS 12 Hrs.

Rent Control and Protection Against Eviction- The Tamil Nadu Cultivating Tenants Protection 1955- The Tamil Nadu Cultivating Tenants (Payments of Fair Rent) Act, 1956- The Tamil Nadu Cultivating Tenants Arrears of Rent Relief Act, 1972- The Tamil Nadu Buildings (Lease and Rent Control) Act, 1960.

UNIT 5 ENACTMENT AND CULTIVATING TENANTS 12 Hrs.

The Tamil Nadu Cultivating Tenants Protection Act,1955 – The Tamil Nadu Cultivating Tenants arrears of rent relief Act,1972,1980 – The Tamil Nadu Cultivating Tenants Protection from Eviction Act,1983,1989 – The Tamil Nadu Cultivating Tenants (payment of Fair Rent) Act, 1956 – The Tamil Nadu Agricultural Land Record of Tenancy Right Act,1969– The Tamil Nadu Occupants of Kudiyiruppu and Conferment of Ownership Act,1971.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - This course will help the student to have an overview about Constitutional provisions relating to the concept of land.

CO2 - It provides an outlook over tedious legislation prevailed regarding land and the reforms undertaken subsequently.

CO3 - Will help the student in understanding the procedures of law relating to tenancy, ceiling and other related concepts.

CO4 - Various reforms in this arena will enhance the research capacity of Student.

CO5 - This course will enrich the student in approaching this legislation in a practical way.

CO6 - This Course will equip the student with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Prof. A. Chandrasekaran, Land Laws of Tamil Nadu, 2nd Edn 2002, reprint 2010.
2. Kanwal Singh, Land Laws (Including Land Acquisition and Rent Laws), 1st Ed., 2014.
3. N.K. Acharya, Commentary on the Right To Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, Asia Law House, 2014.
4. Constitution of India- J.N.Pandey.
5. Dr. P P Sexena, Transfer of Property Act, 2nd Ed. 2012

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3085	FINANCIAL AND SYSTEMATIC FRAUD	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES:

- To understand economic crime.
- To know law applicable to the banking and financial system.
- To learn the factors in fraudulent operations and risk management.

UNIT 1 INTRODUCTION 12 Hrs.

Economic Crime: Meaning and Nature-Trends in Economic Crime-Fraud-Types-Difference between Economic Crimes and Conventional Property Offences-Impact of Economic Crimes on Society.

UNIT 2 BANKING FUNCTIONS AND CRIMES RELATED THERETO 12 Hrs.

Introduction to Banking-Indian Financial System- Deposit Accounts-Loans and Advances (including documentation)-Security for loans and Advances-Miscellaneous Services provided by Banks – Electronic Banking-Frauds in Banking Sector-Credits Cards and Crimes related thereto.

UNIT 3 INSURANCE AND CAPITAL MARKET FRAUD 12 Hrs.

Introduction to General Insurance- Life Insurance- Insurance Product- Insurance Frauds- Types of Frauds in Property Insurance/Motor/Health insurance-Capital Markets: Primary Markets-Secondary Markets-Derivatives Markets--Role of Depositories and Role of Clearing Corporation.

UNIT 4 RISK MANAGEMENT 12 Hrs.

Risk in banking business-Types of risk- Liquidity Risk- Interest Rate Risk-Market Risk- Credits or Default Risk- Operational Risk-Role of RBI in Risk Management in Banks-Insurance and risk management-Grievance Redressal Mechanism in General Insurance-Mechanism to identify, Avoid, Prevent Frauds-Vigilance.

UNIT 5 LEGISLATIVE & REGULATORY FRAMEWORK 12 Hrs.

Banking Regulations (including Codes & Ethic)-Anti Money Laundering Act–- Insurance Act 1938, IRDA Act & Various Regulations issued by Regulator- Information Technology Act – 2000- Legal and Regulatory Framework of Securities Markets.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - This course will help the student to have an overview about Constitutional provisions relating to the concept of land.

CO2 - It provides an outlook over tedious legislation prevailed regarding land and the reforms undertaken subsequently.

CO3 - Will help the student in understanding the procedures of law relating to tenancy, ceiling and other related concepts.

CO4 - Various reforms in this arena will enhance the research capacity of Student.

CO5 - This course will enrich the student in approaching this legislation in a practical way.

CO6 - This Course will equip the student with the required Professional Skills.

TEXT/REFERENCE BOOKS

1. Oughton, Frederick, 1971, Fraud and White collar crime, Eleck Bock Ltd..
2. Lal Bhure, 2003, Money Laundering: An insight into the dark world of Financial Frauds, Siddharth Publications.
3. Bologna, Jack, 1984, Corporate Fraud, Butterworth Publishers.
4. Pitchandi Nand Sivamurthy A, 1985, Insurance Frauds, The Indian Society of Criminology, Department of Psychology, Madras.
5. Ghosh Murrain, 1979, Black money – The case for India, Subarna Rekha, Calcutta.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3086	COMPETITION LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To introduce and develop the main principles of competition law.
- To provide comprehensive understanding of the legal rules, regulatory mechanisms and enforcement methods in the various fields of market regulation.
- To learn the factors which may be taken into consideration by the CCI when dealing with allegations of violation of the Act.

UNIT 1 INTRODUCTION 12 Hrs.

Objective and Nature of Competition Laws – Origin of Competition Laws- Anti Trust Legislation in USA – Sherman Anti-Trust Act, 1890 – Federal Trade Commission Act, 1914 – The Claytons Act, 1914 – UK Competition Act, 1998 – The Enterprises Act, 2002 – Treaty on the Functions of the European Union (TFEU) – MRTP Act, 1969 – Ragavan Committee Report, 2000 – Transformation of MRTP Act to Competition Act, 2002 – Distinction between MRTP Act and Competition Act– object and scope of Competition Act, 2002.

UNIT 2 ANTI COMPETITIVE AGREEMENT 12 Hrs.

Definition – Tie in Arrangement – Exclusive supply Agreement – Exclusive distribution Agreement – Refusal to deal- Resale price maintenance – Cartel – Bid-Rigging – exceptions – protection of IPR.

UNIT 3 ABUSE OF DOMINANT POSITION 12 Hrs.

Meaning of Dominant position – Unfair or discriminatory trade practices – provisions under MRTP and Consumer Protection Act – Limiting protection or technical or scientific development – Denial of Access to market – Imposition of supplementary obligations – Protection of other markets – predatory price – Unfair prices.

UNIT 4 REGULATION OF COMBINATIONS 12 Hrs.

Acquisition – Merger – Amalgamations – Ban on Combinations – Non-Competition clauses in Merger and Acquisition –Restrictive Trade Practices – Unfair trade practices.

UNIT 5 COMPETITION COMMISSION IN INDIA 12 Hrs.

Composition – Duties Power and functions the Commission – Contraventions of the orders of the Commission –Penalties – Competition Appellate Tribunal – Competition Advocacy – Competition Commission Report- Miscellaneous.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the student will be able to

CO1 - This Course will enhance the student about the importance of competition law in India.
CO2 - It makes the student to have a better understanding about the Anti-Competitive Agreement.
CO3 - This Course will also create awareness among the student and develop their abilities to deal with the issues on the expanding horizons of corporate law.
CO4 - This would also enable the student to take up professional practice in the field of competition law and policy.
CO5 - It helps the student to understand the role of the Competition Commission of India.
CO6 - To engage in various advocacy programs of Competition Commission with a broader outlook and apply it practically.

TEXT / REFERENCE BOOKS

1. Avtar Singh, Competition Law, 2012, Eastern Book Company.
2. T. Ramappa, Competition Law in India- Policy, Issues and Developments, 2013
3. Tripathi, Competition Law.
4. Universal's Guide to Competition Law in India, 2003, Universal Publication.
5. Avtar Singh, Law of Monopolies and Unfair Trade Practices, 1993, Eastern Book Company.
6. Agarwal, V.K., Competition Act, Bharat Law House, New Delhi, 1st Edition, 2011.
7. Richard whish & David Bailey, Competition law, Oxford University Press, Ninth Edition 2018.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3091	INVESTMENT LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES:

- To learn legal framework of various investment laws applicable in India.
- To understand the basic concepts of raising corporate finance and the laws related to the same.
- It also provides the working knowledge of the operation of the legal framework of stock exchange and the legal sanctions behind various market regulatory authorities.
- To expose the students specifically to the establishment of SEBI, its constitution, roles, powers, functions etc.

UNIT 1 INTRODUCTION 12 Hrs.

Meaning of Investment and Market -Nature and Risk Associated with Investment -Evolution of Investment and Bargaining Norms – Principles of International Investment Law -International Treaties – Types of Investment Contracts- Applicable Law – Stabilization Clauses -Renegotiation and Adaptation.

UNIT 2 SHARES 12 Hrs.

Definition and Nature – Shares and Shareholders- Stock and Shares-Certificate of Shares- Call on Shares- Lien on Shares -Minimum Subscription – Share Capital – Issue and Allotment of Shares – Transfer and Transmission of Shares – Debentures, Charges and Deposits- Inter-Corporate Loans and Investments.

UNIT 3 SECURITIES CONTRACTS 12 Hrs.

Basic Features of the Securities Contracts – Recognition of Stock Exchange – Derivatives – Options and Future- Listing of Securities- Penalties and Procedure for Adjudication.

UNIT 4 SECURITIES AND EXCHANGE BOARD (SEBI) 12 Hrs.

SEBI Constitution – Powers and Functions of SEBI – Securities Appellate Tribunal – SEBI (Disclosure & Investor Protection) Guidelines.

UNIT 5 DEPOSITORIES ACT 12 Hrs.

Salient Features – Agreement between Depository and Participant- Registration of Transfer of Securities with Depository-Stamp Duty on Transfer – Non-Banking Financial Institutions.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the Student will be able to

CO1 - This course helps the Student to get knowledge on investment as economic activity and deal with various modes of making investment in India.

CO2 - To provide working knowledge on the various types of shares available in stock markets in India.

CO3 - Acquaints Student about the value of the securities and procedures related to the securities contract.

CO4 - It empathize the Student about the role of the securities boards with an overview of legal framework relating to these concepts.

CO5 - It gives the clear picture about the role of the Depositories Act and the different laws relating to modes of investment.

CO6 - This Course will equip the Student with the required Professional Skills

TEXT/REFERENCE BOOKS

1. Singh, Avtar, Company Law, Eastern Book Company, Lucknow, 14th Edition, 2004.
2. Myneni, S.R., Law of Investment and Securities, Asia Law House, Hyderabad, 2nd Edition, 2006.
3. Gupta, S.N., the Banking Law in Theory and Practice, (1999) Universal, New Delhi.
4. Avdhani, V.A., Investment and Securities Market in India, Himalaya Publishing House, New Delhi, 9th Edition, 2011.
5. Taxman's, SEBI Manual, Taxman Publications, New Delhi, 15th Edition, 2010.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3092	HEALTH LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To know the concept of health in National and International perspective.
- To identify legal issues in health care system.
- To learn the relation between health law and medical ethics.

UNIT 1 CONCEPT OF HEALTH: INTERNATIONAL PERSPECTIVE 12 Hrs.

Right to Health- Definition of Health, Lifestyles and health care, Environment and health- The relation between law and medicine -Public Health as a Index of Development- Health Promotion-WHO: Concept of Health-Universal Declaration of Human Rights, 1948-UN Declaration on the Rights of Mentally Retarded Persons, 1971-Declaration on Rights of Disabled Persons, 1975.

UNIT 2 CONSTITUTIONAL AND LEGAL PROVISIONS RELATED TO HEALTH 12 Hrs.

Fundamental rights- directive principle of state policy-other constitutional obligations-Indian penal code, 1860-The code of criminal procedure,1973-consumer law applicable to health services-environment protection laws-National Health Policy- Health Insurance in India.

UNIT 3 HEALTH LAWS AND TECHNOLOGICAL CHALLENGES 12 Hrs.

Medical Termination of Pregnancy Act, 1971: Reproductive Rights- Pre-Conception and Pre-Natal Diagnostic Techniques (Prohibition of Sex Selection) Act, 1994: Issues and Challenges -The Transplantation of Human Organs and Tissues Act, 1994: Framework for regulating Technological advancement (Surrogacy)- Recent Developments.

UNIT 4 LIABILITY 12 Hrs.

Quality in Health Care-Medical insanity – Types, medical and legal insanity, the watershed of medical and legal insanity –Mcnaughten's case – legal protection of mentally ill persons with special reference to mental health act- Termination of pregnancy – legal issues-Tortious Liability- – Breach of Contract.

UNIT 5 HEALTH LAW AND MEDICAL ETHICS 12 Hrs.

Bioethics- Reproductive and Genetic Technologies- ART- Principles of Medical Ethics- Cloning- Stem-Cell Research and Genetic Information- Autonomy- Board of Medical Ethics by Medical Council of India- Ethical Guidance for Research- Deontological Utilitarian Theories. Medical ethics, Indian Medical Council Act, 1956-Clinical Trial- Informed Consent.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the Student will be able to

CO1 - This course is to impart the student's knowledge of the relation between law and medicine.

CO2 - Centre on the concept and legal provisions related to health in national and international perspective.

CO3 - Examine whether the law successfully helps or hinders the goal of promoting and sustaining health.

CO4 - Special emphasis on legal and moral issues surrounding administration of treatment and performance of medical procedures in the backdrop of advancement in the sphere of medical technology.

CO5 - Cover the major mechanisms for insuring quality in health care and the ethical dilemmas that may result from medical treatment.

CO6 - This Course will equip the Student with the required Professional Skills.

TEXT/REFERENCE BOOKS

1. M.C. Gupta,"Health Law: A Guide for Professionals and Activist"s: 1st edition, (2002).
2. Micheal Davies, "Text Book on Medical Law", Vol. I 1st edition (2004).
3. Granville Austin," Indian Constitution, The Cornerstone of a Nation", Oxford University Press, 3rd Edition, New Delhi, 2007.
4. Steiner, John E. Jr, Wolters Kluer,"Health Law and Compliance", Aspen Pub., 6th Edn,2017.
5. Anne- Maree Farrell, Hohn Devereux, Isabel Karpin, Penelope Weller "Health Law: Frameworks and Contexts",Cambridge University Press, Vol. II, (2015).

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3093	FARMERS AND BREEDERS RIGHT	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVE

- To learn The Protection of Plant Varieties and Farmers' Rights Act.
- To introduce the fundamental concepts and rights that is applicable to farmers and breeders.
- To know the provisions of legislations for their effective implementation.

UNIT 1 INTRODUCTION 12 Hrs.

Introduction to Plant Varieties – Law& Science – Evolution of Plant Patents & Plant Varieties Protection – Justification for IP Protection –International Treaties and conventions--UPOV convention-TRIPs-ITPGRFA- CBD-Conflict Between TRIPS Agreement and Other International Treaties-PPV&FR Act, 2001.

UNIT 2 ESSENTIAL REQUIREMENTS & VARIETIES 12 Hrs.

Definitions –Breeder-farmer- variety- Kinds of Varieties: "Extant Variety"- "Farmers' Variety"-"Essentially Derived Variety"- Essential Requirements: Novelty, distinctiveness, uniformity & stability (NDUS) – denomination- propagating material- Plant varieties cannot be protected under the act-duration of protection.

UNIT 3 EXCLUSIVE RIGHTS TO FARMERS AND BREEDERS 12 Hrs.

Farmers Right- Rights to seeds- to register varieties- to reward and recognition as conserver-to information about expected performance and compensation for under-performance- Right of Priority other rights: Right to benefit sharing- compensation for undisclosed use of traditional varieties- free services-protection from innocent infringement of breeders right- Breeders' Rights v. Farmers' Rights – Researcher's Rights- Rights of Communities.

UNIT 4 REGISTRATION, LIMITATIONS & INFRINGEMENT 12 Hrs.

Effect of registration and Registration procedure -Surrender and revocation of Certificate- Compulsory License - Infringement & Remedies – Plant Varieties Protection Appellate Tribunal- National Gene fund -Sui Generis System and Flexibility- Limits of Effective Sui Generis System.

UNIT 5 CONTEMPORARY ISSUES IN PPV & FR ACT 12 Hrs.

Impact of PPVFR Act on Investment in Plant Breeding- Traditional knowledge and benefit Sharing-Bio piracy – Genetically modified crops and farmers Interest- Harmonization of the Act with Domestic Socio-Eco-Political Predilections and International Commitments.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the Student will be able to

CO1 - This course familiarizes Student with PVPR Act, 2001 and international treaties and conventions regarding protection of plant varieties.

CO2 - Understanding the exclusive rights available to farmers and breeders.

CO3 - Emphasized on Infringement and defenses to infringement and other limitations.

CO4 - Student ultimately will understand the registration procedure and other contemporary issues in PVPR law.

CO5 - Centre around the sui generis system for protection of plant varieties developed to integrate the rights of breeders, farmers and village communities, and taking care of the concerns for equitable sharing of benefits.

CO6 - This Course will equip the Student with the required Professional Skills.

TEXT/REFERENCE BOOKS

1. W.R.Cornish and D. Llewelyn, “Intellectual Property: Patents, Copyrights, Trade Marks and Allied Rights”, Sweet &Maxwell.
2. Elizabeth Verkey, “Law of Plant Varieties Protection”, Eastern Book Company, 2007.
3. Lionel Bently and Brad Sherman, “Intellectual Property Law”, Oxford University Press.
4. B.L. Wadehra, “Law Relating to Intellectual Property”, Universal Law Publishing Co.
5. V.K. Ahuja, “Law Relating to Intellectual Property Rights”, Lexis Nexis.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3094	MEDIA AND LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES:

- To make the student to understand the facets of Media Law.
- To know freedom of the press, privacy, right to information
- To learn different dimensions of media, its impact and the legislations regulatory commission of new media.

UNIT 1 CONCEPT OF MEDIA AND LAW 12 Hrs.

Concept of Media – Evolution of Media – Forms of Media – History of Media Legislation: Britain – U.S – Indian Context.

UNIT 2 CONSTITUTIONAL FRAMEWORK 12 Hrs.

Freedom of Expression in Indian Constitution Art 19(1) and (2) – Interpretation of Media- freedom – Issues of Privacy – Right to Information.

UNIT 3 LEGAL FRAMEWORK 12 Hrs.

Parliamentary Proceedings (Protection of Publication) Act 1956 – Sedition – Criminal Procedure Code 1973 –Official Secrets Act 1923 – Working Journalists Act, 1955 – Advertisement Act of 1954 – Right to Information Act. Specific Legal Issues Relevant to the Media: Media and Censorship- Defamation/Libel – Copyright issues –Obscenity – Contempt of Court – Piracy – Cyber laws. Broadcasting Sector: Prashar Bharti Act 1990 – Broadcasting Acts – Cinematography Act 1952 – Cable T.V.Networks (regulation) Act of 1995 – Press Council of India Act- Recent Amendments.

UNIT 4 REGULATION OF INTERNET 12 Hrs.

Evolution of Internet as New Media – Regulating the Internet – IT Act of 2000 and Media Convergence –Regulatory commissions of new media for Facebook, Twitter, Instagram, Blog and other social networking sites.

UNIT 5 SOCIAL FRAMEWORK 12 Hrs.

Media Writing – Media and Ethics – Paid Journalism – Self-Regulation Vs Legal regulation -Media & Human Rights: Case Study – Recent Amendments.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the Student will be able to

CO1 - Gives a clear picture about Media Jurisprudence in and across the world.
CO2 - Helps the Student to explore the various facets of media law in the light of legislations.
CO3 - Enriches the Student with the knowledge about role of media in legal, social and political aspects.
CO4 - Offers a scope for research about regulatory mechanism regarding media laws and its changing dimensions.
CO5 - Enhances the ability of critical analysis about both positive and negative impacts of media and gives a wider picture to the Student.
CO6 - This Course will equip the Student with the required Professional Skills.

TEXT/REFERENCE BOOKS

1. D.D Basu. 2002. Law of the Press, New Delhi Prentice Hall.
2. K.S. Venkateshwaran. 1993. Mass Media Laws and Regulations in India, Singapore AMIC.
3. Media Ethics and Laws – By Jan R Hakemulder, Fay A.C. de Jonge, PP Singh.
4. Bonime, Andrew, and Ken C Pohlmann. Writing for New Media. New York: John Wiley, 1998.
5. Wimmer, Roger D & Joseph R. Dominic (2003): Mass media Research: An introduction (7th Edition), Belmont, CA: Wadsworth.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3095	TRANSPORTATION LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To understand the significance of transport in human life.
- To learn the present status of Indian laws on regulating the transport sector in India.
- To know the powers of board of claims tribunal.

UNIT 1 INTRODUCTION 12 Hrs.

Transportation – Transportation in India – Transport and non -Transport vehicles – Public and private service vehicles – Carriage – Insurance requirements for motor vehicles- Role of the central government – Role of the state government – Recent Developments.

UNIT 2 THE CARRIAGE BY AIR ACT, 1972 12 Hrs.

Montreal Convention: Application and Exemptions – Domestic air laws in India- Scope and Object of the Act - Definitions – Combined Carriage – Liability of the Carrier – Compensation for damages – Aviation safety, Security and liability laws – Recent Amendments.

UNIT 3 LEGAL PROVISIONS IN INDIA 12 Hrs.

Constitutional provision for Transportation – Road Transport Corporations Act 1950 – National Highways Act 1956– Motor Vehicles Act 1988 – Multimodal transportation of goods Act 1993 – Carriage by Road Act 2007 – Merchant shipping Laws – The Customs Act,1962 – Provisions relating to ships carrying imported/exported goods – power to search vessel – penalty for short landing of goods – Criminal Prosecution- Passengers Baggage regulation – National Highways Tribunal Rules(2003) – Recent Amendments.

UNIT 4 RAILWAYS ACT, 1989 12 Hrs.

Scope and Object of the Act – Definitions – Carriage of Passengers – Carriage of Goods – Responsibilities of Railway Administrations as carriers – Accidents – Liability of Railway Administration for death and injury to passengers due to Accidents – Penalties and offences.

UNIT 5 TRIBUNALS 12 Hrs.

Application for compensation- Board of claims tribunal – State transport appellate tribunal – Railways Grievance Redressal Tribunal – Hierarchy of courts – Procedure and powers of claims tribunals – Judgment and award of compensation.- Settlement of claims outside of claims tribunal – Enforcement of award of the claims tribunal – Appeals – Bar on jurisdiction of Civil Courts- Power of State Government to make rules.

Max.60 Hrs.

COURSE OUTCOMES

On the completion of the course the Student will be able to

CO1 - Helps the Student in knowing the significance of Transport sector laws and regulations in our Nation.

CO2 - Will open the wide avenue of connecting various legislations of transport sector.

CO3 - The Statute of Railways in this course briefs the Student about the extent of the Act, Its applicability and lacunae in implementation.

CO4 - The Tribunals and its applicability will provide the sectors of research to the Student.

CO5 - Discusses and also impart knowledge about specific International Convention related to this Act.

CO6 - This Course will equip the Student with the required Professional Skills.

TEXT/REFERENCE BOOKS

1. Gargi Rajvanshi- Transportation Law (2015).
2. Avtar Singh – Law of Carriage (Air, Land & Sea) 2015
3. G.R.Desai – Life insurance in India.
4. P.P. Bhatnagar – Transport in modern India.
5. M.D. Mathur Trail and transport in India

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3096	PENOLOGY AND VICTIMOLOGY	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To understand basic concepts in penology Victimology.
- To encourage critical thinking on crime victims' place in the justice system.
- To understand historical trends in punishment, in and outside the community context and to explore alternative approaches to victimization and punishment.

UNIT 1 PENOLOGY& THEORIES OF PUNISHMENT 12 Hrs.

Dimensions of Crime in India -Definition of penology-Theories of punishment-classical Hindu and Islamic approaches to punishment-Capital punishment-Law reforms proposals- Criminal Justice System.

UNIT 2 APPROACHES TO SENTENCING 12 Hrs.

Alternatives to imprisonment-probation-corrective labour-fine: collectives fines-reparation by the offender/ by the court- Parole: Nature- Authority for Granting Parole -The Probation of Offenders Act, 1958.

UNIT 3 SENTENCING AND IMPRISONMENT 12 Hrs.

Sentencing: Types of sentences: Indian penal code and special laws-white collar crimes-pre-sentence hearing: summary punishment-habitual offender-plea bargaining. Imprisonment: The prison system-Rights of prisoners –State of jails in India today-classification of prisoners-open prisoners- judicial surveillance, basis, development, reforms- Group Counseling and Re-Socialization Programme.

UNIT 4 THE POLICE SYSTEM 12 Hrs.

The Police System- Structural Organization of Police- Mode of Recruitment and Training- Powers and Duties of Police- Cr.P.C. and Other Laws- Constitutional Imperatives- Relationship Between Police and Prosecution- Liability of Police for Custodial Violence- Police and Public Relations-Police force in India-the role of police- functions of police.

UNIT 5 VICTIMOLOGY 12 Hrs.

Victims of crime- compensation to victims- under Crpc-under public law remedy-need for compensation- compensation and rehabitation-compensation as a mode of punishment- constitutional perspective of compensation-Role of National Human Rights Commission.

Max.60 Hrs.

COURSE OUTCOMES

On completion of the course the Student will be able to

CO1 - This course makes Student to familiarize with basic terms in Victimology and penology and describes historical developments in penology, with regards to the reasons for punishment.

CO2 - Encourage critical thinking on crime victims place in the justice system.

CO3 - Examines crime victims and patterns of punishment as complementary aspects of the criminal justice system, and explores their contributions to social perceptions of crime and justice.

CO4 - Emphasize an idea of police system& prison system in India.

CO5 - Revolve around Victimization and punishment as complimentary aspects of the criminal process, and their reciprocal effect on social perceptions.

CO6 - This Course will equip the Student with the required Professional Skills

TEXT/REFERENCE BOOKS

1. Ahmed Siddique, Criminology: Problems and Perspective, Eastern Book Company, Lucknow, 2008.
2. N.Y. Paranjpe, Criminology and Penology,, Central Law Publications, Allahabad, 2008.
3. ParkashTalwar, Victimology, Isha Books, Delhi, 2006.
4. SumainRai, Law Relating Plea Bargaining, Orient Publishing Company, 2007.
5. Dr. S.S.Srivastava, Criminology, Penology &Victimology, 4th ed, 2012,Repr.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3097	LEGAL AND CONSTITUTIONAL HISTORY	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- The course is a foundation course for constitutional law paper.
- It traces the development of the legal system and judiciary from the ancient period through the advent of Britishers up to the framing of a constitution of the Independent India.
- The detailed discussion of legal and judicial system in India during different regime and the changing structure, are given in detail, an understanding of which is of vital importance to a law student.

UNIT 1 ANCIENT PERIOD 12 Hrs.

Ancient Sources of Law: Vedic Texts, Brahmanas, Sutras (Kalpa and Dharma), Dharma Shastra, Arthashastra – Custom as source of law – Thinkers - Manu, Brihaspati, Yajnavalkya, Narada, Katyayan; Judicial System and Types of court: Pratishita, Apratishta, Mudrita, Sasita, Guilds, Panchayats, Kantakasodhana, Dharmasthiyaa – Procedures: Appointment of judges; Crimes and Punishments- Investigation, Trial, Witness, Pleaders, Role of judges, Secret agents, wergild and Punishment – Classification of disputes- Drawbacks of judicial administration in Hindu Sastras.

UNIT 2 LEGAL SYSTEM IN SOUTH INDIA 12 Hrs.

Legal system in Sangam text – Legal code by Thirukkural – Legal system during Pallavas, cholas, Pandyas Legal system during Nayaks – Courts during Nayak period - Village Court -Special Court, and Temples Court.

UNIT 3 JUDICIAL SYSTEM IN MEDIEVAL INDIA 12 Hrs.

Sources of Islamic Law: Sharia and Hadis – Salient features of Islamic Criminal Law – Judicial organization: King, Chief Qazi, Judicial Officers, Investigative Process and Punishments; Court System in Mughal empire; Classification of Courts during Mughal rule, Court at Capital, Provincial court, District Courts, Parganah's Court, Village Courts; Crime and punishment in Mughal administration – Law with regard to non-Muslims–Evolution of Judicial Setup – Changes introduced by Akbar – Drawbacks in Muslim administration of Justice.

UNIT 4 ADVENT OF BRITISH- LEGAL AND CONSTITUTIONALCHANGES 12 Hrs.

Administration of Justice and developments of courts and Judicial institutions in the Presidency Towns of Madras, Bombay and Calcutta from 1600-1726- Mayor's Court at Madras; (Cases-Pagoda oath case, Mayor Naish re-election case, Mayor and Secretary betting case- Bombay; Arab Merchant's case and Hindu woman's case); Charters of the East India Company: 1600, 1661, 1726 and 1753 –Courts: Mayor's Court of 1726 and Supreme Court of 1774 (Cases-The trial of Nanda Kumar -1775,Case of Kamaluddin 1775, The Patna case 1777-1779, The Cossijuraj case) -The Settlement Act of 1781; Warren Hastings plans 1772, 1774 and 1780 – Judicial Measure of Cornwallis- 1787, 1790 &1793; Working of the Adalat system- Pitts India Act of 1784- Charter Act of 1793.

UNIT 5 LEGISLATIVE CHANGES IN THE 19TH CENTURY 12 Hrs.

Development of Law in Presidency Towns –: Charter of 1833 1813,1833, 1853, Government of India Act of 1858; Indian Councils Act-1861 & 1892. Privy Council: Appeals and working of Privy Council its Jurisdiction- Abolition of the Jurisdiction of Privy Council, Appraisal of Privy Council; Establishment of High Courts 1861 as the highest court of appeals. Pre constitutional history- Minto Morley Reforms 1909– Montague Chelmsford Reforms 1919 – Introduction of Dyarchy in provinces -Simon commission 1927– Nehru Report 1928. The Government of India Act, 1935 – Cripps mission 1942– Cabinet Propsal 1946 – Mountbatten Plan- Interim Government. Partition of India - Indian Independence Act 1947-

Formation of the Constituent Assembly -The working of Constituent Assembly of India – Adoption of the British model of parliamentary government – Adoption of the Indian Constitution.

Max.60 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Inculcate students both on overview of history and laws prevailing in both ancient and modern times.
CO2 - Understands the importance of changes in Indian judicial administration system.
CO3 - Enhance wide knowledge on constitutional history and judicial administration in ancient times.
CO4 - Study on historical legislations and changes in modern legislations.
CO5 - Help the students to have clarity about history on justice system towards.
CO6 - Equip the students with the required Professional skills.

TEXT / REFERENCE BOOKS

1. Jain, M. P., Patnaik, G. B., Das, Y., Das, R., & Tiwary, A. K. (2014). Outlines of Indian legal and constitutional history. LexisNexis.
2. Jain, M. P. (2017). Outlines of Indian legal history. NM Tripathi Private Ltd. agency
3. Paranjape, N. V. (2006). Indian Legal and Constitutional History. Central Law Agency.
4. Kulshreshtha, V.D., Landmarks in Indian Legal and Constitutional history, Eastern Book Company.
5. Mittal, J. K. (1982). Indian Legal Et Constitutional History. Allahabad Law Agency.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3098	ELECTION LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To develop a critical thinking about the evolution and development election laws in India.
- To educate the students about electoral process and related matters through consistent reading and academic discussions so that they achieve electoral laws literacy.
- To help them understand basic concepts and theories related to elections and democracy from an interdisciplinary perspective by bringing in knowledge from constitutional law, administrative law, political science, history etc.

UNIT 1 ELECTORAL SYSTEM 12 Hrs.

Constitutional and Statutory Framework for Elections in India – How it evolved; Parliamentary Democracy – Multi-Party System, Two Party System, One Party - Dominant System; Meaning, Definition and Types of Election – Difference between Election and Nomination – Free, Fair and Regular Elections; Voting System – First Past The Post (FPTP) System and Proportional Representation; Universal Suffrage – Enfranchisement and Disenfranchisement; Nature of Right to Vote – Whether Fundamental, Constitutional or Statutory – Compulsory Voting – NOTA – Right to Reject – Right to Recall – EVM's and Integrity of the Electoral Process – Secrecy of Vote

Election Commission of India (ECI) and State Election Commissions (SEC's) – Its Composition, Powers and Nature of Powers, Functions and Duties – Distinction between ECI and State Election Commission (SEC) Chief Election Commissioner (CEC) and Other Election Commissioners (OEC) and Regional Election Commissioners (REC) – Independence of EC.

UNIT 2 ELECTION TO CONSTITUTIONAL BODIES 12 Hrs.

Overview of Election to Parliament and State Legislatures – Role of Governor and President Electoral College and Election of President/Vice-President Reservation in Elections Delimitation of Constituencies and Gerrymandering

Anti-Defection Law – Right to Freedom of Speech of Elected Representatives – Election of Speakers and Chairperson to Parliament and State Legislatures and Role of Speakers in Anti-Defection Law.

UNIT 3 ELECTION PROCESS 12 Hrs.

Election Notification Model Code of Conduct of Elections – Enforcement and Violations – Do's and Don'ts in Election Campaign – Malpractices by Candidates Qualification and Disqualification of Candidates to Election – Office of Profit - Nomination – Requirement of valid nomination – nomination paper, number of proposers, security deposit; Scrutiny and Grounds for Rejection – Consequences of improper rejection and improper acceptance of nomination papers; Withdrawal of Candidates; Political Parties – Meaning, Definition, Registration and Recognition; Whether Political Party is a State; Allotment of Election Symbols.

UNIT 4 ELECTION DISPUTES AND ISSUES 12 Hrs.

Distinction between Corrupt Practices and Electoral Offences – RP Act and IPC ; Types: Bribery – Undue Influence – Hate Speech – Appeal on the grounds of religion, race, caste, community or language etc. – False Statement in relation to the personal character or conduct of any candidate – False Affidavit; Election Freebies and Regulation of Party Manifestos.

UNIT 5 ELECTION DISPUTE RESOLUTION MECHANISM AND REFORMS 12 Hrs.

Election Petition – Meaning; Article 329(b) and Jurisdictional Bar – Abolishment of Election Tribunals and Role of High Court; Forum, Presentation, Grounds and Relief that may be claimed by the Petitioner; Time for Filing and Limitation; Contents, Material Facts, Particulars and Parties to an

Election Petition; Recriminatory Petition; Withdrawal, Abatement and Dismissals of an Election Petition; Appeal Procedures; Electoral Reforms – Pubic Financing and Auditing of Party Funds – Decriminalization of Politics – Right to Information vis-à-vis Election – Voters' Right to Know the; Antecedents of the Candidates – Declaration of Candidates Assets; Report of Government Committees and Law Commission – Simultaneous Elections – One Nation, One Election.

Max.60 Hs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the existing legal and regulatory framework governing elections to constitutional bodies in India and its scope and limitations.

CO2 - Examine and understand concepts such as kinds of elections, types of governing structures like representative democracy, etc.

CO3 - Understand the importance of free and fair election in democracy.

CO4 - Gain a basic familiarization about the overall electoral process including the voting process and procedures in India.

CO5 - Understand the types of voters, registration process and to realize the value of a vote.

CO6 - Equip the students with the required Professional Skills

TEXT / REFERENCE BOOKS

1. V.S. Rama Devi & S.K. Mendiratta, How India Votes – Election Laws, Practice and Procedure, Lexis Nexis, New Delhi, 2017.
2. Doabia & Doabia, Law of Elections and Election Petition, Lexis Nexis, New Delhi, 2016.
3. Kiran Gupta & P.C. Jain, Chawla's Election – Law & Practice, Bahri Brothers, New Delhi, 2014.
4. S.K. Mendiratta, All You Want to Know About Indian Elections, Lexis Nexis, New Delhi, 2009.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3099	SPORTS LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- To understand the implication of Law, Public Policy and Regulation to Professional Sports/organized Sports
- To examine the role of Law, Sports Governing Bodies and other Legal Institutions on Contemporary and Emerging Sports Issues
- To understand how the Sports Regulation seeks to balance Public and Private Interest
- To understand the theoretical framework of autonomy, consent, fair play, and gender classification and its interaction with Sports**.**

UNIT 1 SPORTS LAW AND SPORTS GOVERNANCE 12 Hrs.

Introduction to Sports Law; What is 'sport', what is not and why does it matter?; History of Sports- Origin, and Development of Individual Sports; Sports law or Sports and Law: Debate; Modern Sports: E-Sports and Gaming; Sports Governance; Sports autonomy, its value, and its limits; Rise of International Autonomous Sports Law bodies and Sovereign State; Global Governance of Sports; Organizational Structure of Sports in India - Roll of the State in Governance of Sports in India - National Sports Federations: Autonomy, Legal Status- Judicial Review- Lodha Committee Report.

UNIT 2 SPORTS CONTRACTS 12 Hrs.

Nature of Sports Contracts; Kind Sports Contract; Player Contracts, Coaching Contract, Individual Sport, Restraint of Trade, Morality Clauses in Contracts.

UNIT 3 IP AND SPORTS COMMERCIALIZATION 12 Hrs.

Intellectual property Rights in Sports- Innovation; Trademark and Domain Names; Copyright, Fair Dealing, and Fair Use; Ambush Marketing; Commercialization of Sports- Sport as an Industry- Sponsorship and Media Right- Legal characteristics of a sponsorship contract- Sports Persons- Endorsement, Advertisement, Personality Rights- Sports Broadcasting; Competition Law and Sports.

UNIT 4 LIABILITY: CIVIL AND CRIMINAL 12 Hrs.

Liability for Player-to-Player Conduct; Liability of Officials; Assumption of the Risk; Liability to Fans; Criminal Liability.

UNIT 5 SPORTS INTEGRITY AND DISPUTE RESOLUTION

Spirit of Sports and rule of Sports- Doping in Sports- Betting in Sports- Law Relating to gambling in India -Sports Fraud- Match-fixing; Dispute Resolution; Court of Arbitration in Sports (CAS); Dispute resolution on field; Internal disciplinary procedure; ADR in Sports.

Max.60 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Study the fundamental notions of sports.
CO2 - Acquire the knowledge of fundamental problems in sports.
CO3 - Give a detailed outlook on the aspect of the sports and constitutional perspectives.
CO4 - Give a better understanding on contracts by players, coaches, teams etc.
CO5 - Help the students to have clarity about criminal and civil liabilities.
CO6 - Equip the students with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Law and Sports in India- development, issues, and challenges by Vidushpat Singhania and Mukul Mudgal, 2015
2. Sports Law Anujaya Krishna, Universal law publication, 2014
3. Sports Law: A Managerial Approach 3rd Edition by Linda Sharp (Author), Anita
4. Moorman (Author), Cathryn Claussen (Author)

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3001	LAW AND POVERTY	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- The objective of this course is to provide an understanding of basic concepts of poverty
- The objective of this course is to provide an understanding of basic concepts of development
- The objective of this course is to provide an understanding interconnection with law, poverty and development.

UNIT 1 UNDERSTANDING LAW, POVERTY AND DEVELOPMENT 12 Hrs.

Module I Understanding Law, Poverty and Development (International Conventions and UN Plan need to be taught with relevant topics) Module I Understanding Law, Poverty and Development (International Conventions and UN Plan need to be taught with relevant topics) aw- Meaning and Relationship between law poverty and development. Poverty- Concept of poverty and Poor Types, Issues, Dimensions, Poverty Line and BPL, Government Schemes to Control Poverty and Support Development, Niti Ayog and It's Recommendation, International Dimensions of Poverty Development- meaning, Features, indicators, development index. Economic Plan on Poverty, Hunger, and Malnutrition. Law- Meaning and Relationship between law poverty and development. Poverty- Concept of poverty and Poor types, Issues, Dimensions, Poverty Line and BPL, Government Schemes to Control Poverty and Support Development, Niti Ayog and its recommendations, International Dimensions of Poverty. Development- Meaning- Features, Indicators, Development index. Economic Plan on Poverty, Hunger and Malnutrition.

UNIT 2 CONSTITUTIONAL GUARANTEES FOR THE POOR 12 Hrs.

Right to Equality, Constitutional, Judicial and Legislative efforts towards: Right to Food; Right to Work; Right to Housing; Denial of Right to Livelihood, Abolition of Untouchability, Poverty and Judicial Review Equal Pay for equal work, Right to Education, Right to Dignity.

UNIT 3 CRIMINAL JUSTICE SYSTEM AND THE POOR 17Hrs.

Treatment of Police towards Poor, Problems of Poor Under trials, Right to Free Legal Aid and Lok Adalat. Justice, Poverty, and Pandemic Treatment of Police towards Poor, Problems of Poor Under trials, Right to Free Legal Aid and Lok Adalat. Justice, Poverty, and Pandemic Treatment of Police towards Poor, Problems of Poor Under trials, Right to Free Legal Aid and Lok Adalat. Justice, Poverty, and Pandemic Treatment of Police towards Poor, Problems of Poor Under trials, Right to Free Legal Aid and Lok Adalat. Justice, Poverty, and Pandemic Treatment of Police towards Poor, Problem of Poor Under Trails, Right to free Legal Aid Services and Lok Adalat Justice.

UNIT 4 POVERTY AND PANDEMIC 12 Hrs.

Plight of poor and migrant workers in pandemic, measures taken by Central and State Governments for the Poor.

UNIT 5 CONCEPTUALIZING AND DEFINING IMPOVERISHMENT 12 Hrs.

Position of Women in Indian Legal System, Women Workers - organized and unorganized sectors, Migrant Worker Crisis: Rights and Government Polices Children – Issues and Legal Protections, Rights of The Disabled in India Position of Women in Indian Legal System, Women Workers- Organised and unorganised sectors: Migrant Worker Crisis, Rights and Government Policies. Children- Issues and Legal Protection, Rights of the Disabled in India.

Max.60 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Inculcate students both on overview of applicable laws relating to poverty sector in India.
CO2 - Undertakes a critical legal analysis of specific areas of development of poverty sector.
CO3 - Enhance wide knowledge on constitutional rights of poverty sectors.
CO4 - Study on legislation on impoverishment.
CO5 - Help the students to have clarity about laws on justice system towards poor.
CO6 - Equip the students with the required Professional skills.

TEXT / REFERENCE BOOKS

1. Sorabjee Soli J.- Law and Justice: An Anthology
2. Agnes Flavia- Law and Gender Inequality
3. Atal Yogesh- Poverty Question: Search for Solution
4. Amarendra- Poverty, Rural Development and Public Finance
5. Upendra Baxi- Law, Poverty and Development

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3002	ENERGY LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- Mapping of various laws and policies relating to energy sector.
- Case studies on energy sector covering government policies, judicial decisions and topics such as environment, business, national and international trade etc.

UNIT 1 INTRODUCTION TO ENERGY SECTOR SCENARIO AND LAW 12 Hrs.

National and international scenario and institutions in energy sector; legal basis for energy regulation in India; access issues on energy and electrification.

UNIT 2 OIL, GAS AND PETROLEUM LAW 12 Hrs.

Legal basis for OG & amp; P sector regulation (Pre- New Exploration Licensing Policy (NELP) phase); NELP and Production Sharing Contracts; Open Acreage License Policy; laws governing pricing mechanism (including competition laws); proposed reforms; Hydrocarbon Exploration Licensing Policy and Revenue Sharing Contracts; policies and guidelines related to unconventional gases (CBM and shale gas); proposed reforms (post Rangarajan Committee Report on Petroleum Pricing.)

UNIT 3 LAW RELATING TO COAL SECTOR 12 Hrs.

Coal sector in India; broad outlines of the laws applicable; Legislative powers pertaining to coal sector and Regulation of mines and mineral development; Nationalization of coal sector and post liberalisation reforms; Coal sector and environmental Issues; MMDR Act (and its amendments); Compensatory Afforestation Fund Management and Planning Authority and Forest Rights issues.

UNIT 4 RENEWABLE ENERGY LAW 12 Hrs.

National and State level Renewable Energy policies and programmes; general legal issues in Renewable Energy sector; Climate change and Renewable Energy promotion; Draft National Renewable Energy Act 2015; Pricing of Renewable Energy by State Electricity Regulatory Commissions.

UNIT 5 NUCLEAR ENERGY AND LAW 12 Hrs.

Nuclear energy programme and plans; institutions involved in promotion and regulation of nuclear energy; issues and challenges of nuclear energy; environmental concerns; international regulation of nuclear energy. Framework of nuclear energy promotion, regulation and safety in India and National and international legal regime for civil nuclear liability.

Max.60 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Inculcate students both on overview of applicable laws relating to energy sector in India.
CO2 - Undertakes a critical legal analysis of specific areas of energy sector.
CO3 - Enhance wide knowledge on nuclear energy laws.
CO4 - Study on legislation of different kinds of resources available.
CO5 - Help the students to have clarity about laws on coal sectors.
CO6 - Equip the students with the required Professional skills.

TEXT / REFERENCE BOOKS

1. Energy Laws [Regulation In Electricity Sector And Protection Of Consumer Rights : A Critical Analysis] | Dr. Manish Yadav | Electricity Laws | Kamal Publishers | Latest Edition 2020
2. Energy Law in India, 4th Edition, Mohammad Naseem, Saman Naseem

3. ENERGY LAW AND POLICY by Usha Tandon, published by OXFORD UNIVERSITY PRESS authored by Usha Tandon, published year 2018.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100		**Exam Duration: 3 Hrs.**
PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3003	REAL ESTATE AND INFRASTRUCTURE DEVELOPMENT LAWS	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- The course on Real Estate and Infrastructure Development Laws aims to give the students an overall understanding of laws on Real Estate and Infrastructure Development in India.
- This course further enhances the knowledge of students about the tortuous liabilities and compensation laws. It further enables the students to understand how real estate law impacts real property ownership, conveyance, and development.
- The course familiarizes students with real property ownership interests, restrictions on such interests, methods of transferring such interests, private and public land-use controls, and legal transactions involving real estate, such as gifts, sales, and leases etc.

UNIT 1 REAL ESTATE SECTOR IN INDIA 12 Hrs.

Real Estate Industry in India, Leasing & Land Ownership structure in India, Trends in Public Private Partnership (PPP) in India, Building Construction Laws, Legal Protection of Consumers.

UNIT 2 INFRASTRUCTURE SECTOR IN INDIA 12 Hrs.

Definition of infrastructure; Multiplier effects of infrastructure development on economic development of the nation, Sources of financing infrastructure projects: Traditional and private investments; Various financial instruments, Limitations of traditional procurement system of infrastructure, Legal frameworks and Incentives for private sector participation in infrastructure development, Railways, Highways & Roads, Ports / Airports / Telecom, Power & Renewable Energy, Special Economic Zones, Digital India Land Records Modernization Programme (DILRMP).

UNIT 3 REAL ESTATE (REGULATION & DEVELOPMENT) ACT, 2016 12 Hrs.

Definitions: (Apartment, Building, Carpet Area, Common Area, Competition Certificate, Occupancy Certificate, Planning Area, Promoter, Real Estate Agent, Real Estate Project, Sanctioned Plan), Registration of Real Estate Project and Registration & Functions of Real Estate Agents; Duties of Promoter, Rights and Duties of Allottees, The Real Estate Regulatory Authority & The Real Estate Appellate Tribunal, Offences, Penalties and Adjudication under the Act. Sale & Purchase Agreement Clauses, Report on Construction Documentation, Construction Pre-Contract Enquiries, Construction Due Diligence for Property Purchase.

UNIT 4 RIGHT TO FAIR COMPENSATION AND TRANSPARENCY IN LAND ACQUISITION, REHABILITATION AND RESETTLEMENT ACT, 2013 12 Hrs.

Objects and Application of the Act, Definitions (Affected family, Agricultural Land, Cost of Acquisition, Land, Landless & Land Owner, Person interested, Requiring Body, Resettlement Area.), Determination of Social Impact and Public Purpose & Appraisal of Social Impact Assessment Report, Notification and Acquisition, Rehabilitation and Resettlement Award & Procedure and Manner of Rehabilitation.

UNIT 5 RIGHT TO FAIR COMPENSATION AND TRANSPARENCY IN LAND ACQUISITION, REHABILITATION AND RESETTLEMENT ACT, 2013 – II 12 Hrs.

National Monitoring Committee for Rehabilitation and Resettlement, Land Acquisition, Rehabilitation and Resettlement Authority, Apportionment of Compensation & Payment, Offenses and Penalties, Compensation for Land Owners. The Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996. Aims and Objectives / Definitions, Registration of Establishments, Registration of workers as Beneficiaries, Welfare Board under the Act.

Max.60 Hrs.

COURSE OUTCOMES

On successful completion of this Course, students should be able to

CO1 - Identify the Laws and Rules related to real estate and infrastructure development in India;
CO2 - Review the relationship between land acquisition and real estate-infrastructure development;
CO3 - Relate to the welfare needs of the labourers in the sectors;
CO4 - Analyse the socio-economic and political turmoil related to infrastructure development;
CO5 - Formulate one's own response to the needs of all stakeholders in real estate and infrastructure development; and
CO6 - Equip the students with the required Professional skills.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3004	EMIGRATION LAWS	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- The main objective of the course is to enable the students to understand the immigration law and policy in India.
- To help the students understand the various facets of immigration control measure through visa policy.
- The course also helps the students to analyze the laws meant to safeguard the sanctity of the country under the gambit of immigration law.

UNIT 1 CITIZENSHIP 12 Hrs.

Meaning and definition of Citizenship - Fundamental Right to movement - Constitutional Provisions regarding Citizenship - The Citizenship Act, 1955 - The Citizenship Rules, 2009. Judgments : R.Louis De Raedt & Ors. Vs. UOI, AIR 1991 SC 1886 - Maneka Gandhi v UOI, AIR 1978 SC 597.

UNIT 2 EMIGRATION 12 Hrs.

Meaning of Immigration - History of Immigration Law - The Passport (Entry Into India) Act,1920 - The Passport (Entry Into India) Rules,1920 -The Emigration Act 1983 – Evolution of the Act - Regulatory framework – Authorities – Offences. Judgments: Sarbananda Sonowal vs. UOI, 2005 (5) SCC665 - Akmal Ahmed vs. State of Delhi, 1999 (3) SCC 337.

UNIT 3 FOREIGNERS AND CITIZENSHIP 12 Hrs.

The Registration of Foreigners Act, 1939 - The Registration of Foreigners Rules, 1992 - The Foreigners Act, 1946. Judgments: State of Arunachal Pradesh v. Khudiram Chakma, AIR 1994 SC 1461 - Mohd. Raza Dabstani V. State of Bombay and Ors., AIR 1966 SC 1436.

UNIT 4 PASSPORTS AND IMMIGRATION 12 Hrs.

The Passports Act, 1967- The Immigration (Carriers Liability) Act, 2000. Judgments: Satwant Singh Sawhney v. D. Ramarathnam, Assistant Passport Officer, AIR 1967 SC 1836 - Anwar V. State of J & K, AIR 1971 SC 337.

UNIT 5 LATEST LEGISLATIONS 12 Hrs.

Immigrants Act,1950, Passport (Amendment) Act 2000 - Passport Act 2000 - Immoral Traffic Act 1956.

Max.60 Hrs.

COURSE OUTCOMES

On the completion of the course the students will be able to

CO1 - Introduces students to the basic laws dealing with citizenship.

CO2 - A complete overview on history of immigration laws in India will enable the students to understand the necessity of immigration laws.

CO3 - The concept will educate the students about foreigners entering and having contractual obligations with the country

CO4 - The very basics of passports policies and regulations are covered in this unit

CO5 - The course will enable the students to keep up with the latest updates in the field of emigration.

CO6 - This Course will equip the students with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. Aravind Sivaramakrishnan, Public Policy and citizenship: battling managerialism in India,Sage publications, 2012
2. Romila Thapar, On Citizenship, Aleph book company, 2021
3. V.N. Shukla, Constitution Of India, Eastern Book Company, 2001
4. M.P. Jain, Indian Constitutional Law, Lexis Nexis, 2018
5. D. D. Basu,Shorter Constitution Of India, S C Sarkar, 2008

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3005	LAW OF LOCAL SELF GOVERNMENT	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- The course deals about the evolution of local self- government in India with special reference to Tamil Nadu.
- To enable the students in understanding the various functions involved in the concept of local self- government.
- It also helps the students in analysing the need for need for local self- government as an alternative for modern governance.

UNIT 1 LOCAL SELF GOVERNMENT 12 Hrs.

Concept of Local Self Government, History background of village administration in India - Theories of Local Self Government, Views of Mahatma Gandhi and Vinobha Bhave on Gram Swaraj and Panchayati Raj - Local Self Government as an alternative to the modern governance.

UNIT 2 DEVELOPMENT OF LOCAL SELF GOVERNMENT INSTITUTIONS IN INDEPENDENT INDIA 12Hrs.

Major Efforts to develop viable Local Self Government in Independent India - Recommendations of Balwant Rai Mehta Committee (1957) - Ashok Mehta Committee (1977-1978) - Recommendations of GVK Rao Committee (1985) - Prem Khandu Thungan Committee Report (1988) - Law Commission Report on Gram Nyayalaya (1986) and Second Administrative Reforms Commission (2005) - Bhuria Committee Report for Panchayat Extension to Scheduled Area Act, 1986 (PESA).

UNIT 3 CHANGING PATTERN AND CONSTITUTIONAL STATUS TO PANCHAYATI RAJ 12 Hrs.

Self-Governance and the Panchayati Raj - DPSP in the Constitution - 73rd Amendment and 11th Schedule - 74th Amendment and the 12th Schedule - Powers and Functions of Local Self Government in India - Changing pattern of Panchayati Raj.

UNIT 4 EVOLUTION OF LOCAL SELF GOVERNMENT IN INDIA 12 Hrs.

Lord Ripen's Resolution - Royal Commission - Community development programme - National Extension Service - The Balvantrai Mehta committee report - The Vasantrao Naik committee report.

UNIT 5 LOCAL SELF GOVERNMENT IN TAMIL NADU 12 Hrs.

Meaning , Scope, Importance of rural self -government - Community Development Programme - Organisation – functions of Rural Local self -Governments - Finance of Rural Local self- Government - Various Control over Rural local Self Government – Urban local Government - District Panchayat - Village Panchayat – Zilla Panchayath - Taluk Panchayath - Tamil Nadu Panchayat Raj - Sustainable Rural Development - Empowerment of Local Government.

Max.60 Hrs.

COURSE OUTCOMES

On the completion of the course the students will be able to

CO1 - Deals with basic concept and evolution of local self- government.
CO2 - Exclusively deals with efforts of the Government in developing local self -government in the country.
CO3 - Will help the students to understand the constitutional provisions of self -governance.
CO4 - Various community developments involved in local self -government.
CO5 - local self -government with special reference to Tamil Nadu local self -government.
CO6 - This Course will equip the students with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. S.R. Maheswari : Local Government in India (Lakshmi Narayan Agarwal) Edition: 2020,
2. L.B. Srivastava : Local Government in India (Surjeet Book Depot)
3. Lakshminath, A, Basic Structure and Constitutional Amendments: Limitations and Justiciability, Deep and Deep Publications, New Delhi.
4. C. Gnanapragasam : Local Government in Tamilnadu (Madurai Kamaraj University)
5. S.R. Maheswari : Local Government in India, Lakshmi Narain Agarwal, Agra.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3006	LAW AND SOCIETY	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- The course aims to introduce the legal to students of social sciences.
- It also helps the students to understand the need for social scientists to engage with the law is because law is closely connected to culture(s) and morality, at times reinforcing them on others breaking away from them.
- The aim through this course is that there will be an attempt to create a law and society discourse in India by tracing sociological/anthropological writings on the legal sometimes in (unknown) conversations with socially relevant legal scholarship.

UNIT 1 SOCIOLOGICAL PERSPECTIVES OF LAW

Sociology of Law - Sociological Theory of Law - Law as a Product of Tradition and Culture - Law as a Social Institution Law as a means of Social Control - Law as an Instrument of Social Change - Significance of Law in Continuance of Human Society.

UNIT 2 LAW AND SOCIAL CHANGE IN INDIA

Constitutional Objectives - Preamble and Directive Principles of State Politics - Role of Law towards Social Change in India-Role of Law Important Social Legislations in Personal Laws, Penal Laws, Labour Welfare Laws.

UNIT 3 LAW AND CASTE SYSTEM

Caste System among various Ethnic Groups - Emergence of the Concept of Social Justice - Constitutional Provisions towards Securing Social Justice to Backward Class - Trends of Change in the Indian Caste System.

UNIT 4 PROBLEMS OF THE WEAKER SECTIONS

Social Position of Women in India - Constitutional and Other Legislative Measures to Improve the Status of Women - Crime Against Women - Offences Relating to Dowry, Domestic Violence, Sexual Harassment, Eve Teasing, Prostitution, Trafficking.Children as Socially Deprived - Legislative Measures to Protect the Children with reference to Exploitation, Education, Child Labour - The National Commission for Protection of Child Rights.

UNIT 5 LAW AND WOMEN EMPOWERMENT

Policies and Programmes for the Empowerment of Women - Legislative Measures - Access to Political Power - Health - Education - Agriculture - Labour and Employment - Self Help Groups - National Commission for Women

Max.60 Hrs.

COURSE OUTCOMES

On the completion of the course the students will be able to

CO1 - Providing theoretical insights to the sociological and philosophical approaches to the study of law and society.

CO2 - Providing exposure to knowledge on work where sociologists/anthropologists and legal scholars have worked on the interface of law and society.

CO3 - Making students know that any law or a judgment has a history/politics behind it- involvement of civil society groups and social movements.

CO4 - Exposing students to sites of justice dispensation—role of courts and quasi-courts.

CO5 - Introducing students to the methods of reading legal statutes, judgments, law commission reports.

CO6 - This Course will equip the students with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. Martgalanter - Law and Society in Modern India
2. Oliver Mendelsohn - Law and Social Transformation in India
3. Abhinav chandra chud - An Independance Colonial Judiciary
4. Tahir Mahmood - Religion, Law and Society
5. Ghouse Mohammed - Secularism Society and Law in India.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3007	AIR AND SPACE LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- This course is intended to provide an idea about the need for protection of outer-space as well as law relating to regulation of various activities in outer-space.
- This course also provides an insight about international laws regulating air traffic management, civil aviation and laws to prevent and control to environmental pollution by space objects and aircrafts.

UNIT 1 INTRODUCTION TO AIR LAW 12 Hrs.

Definition of Air law - Nature, scope and source - Development of air laws (Paris Convention 1910, Paris Convention 1919, Madrid Convention 1926, Havana Convention 1928, Warsaw Convention and Chicago Convention 1944) - Freedom of the air and sovereignty in the air.

UNIT 2 AIR TRAFFIC MANAGEMENT 12 Hrs.

Legal regime - State obligation to provide air navigation services - ICAO - Membership and organs of ICAO -Legislative, administrative and judicial functions - Economic and technical regulations.

UNIT 3 SAFETY AND SECURITY IN CIVIL AVIATION 12 Hrs.

Liability in international civil aviation - Manufacturers, operators, operators' agents and maintenance contractors - Third party liability for surface damage - Rights and Privileges of air passengers – Rules relating to Air Cargo - Aviation related Environmental Problems - Aviation Insurance - Aviation terrorism. International norms: conventions, protocols and regulations - Regulations in India - Air safety provisions - Settlement of Aviation Related Disputes.

UNIT 4 SPACE LAW AND INTERNATIONAL TREATIES 12 Hrs.

Definition, nature, scope and development – Sources - International and Intergovernmental Organizations - Non-governmental Organizations and Space Activities - UN and Outer Space The Law of Outer Space - principle of res communis– UN General Assembly resolution 1962 (XVII) adopted in 1963 – The treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies1967- Convention on International Liability for Damage Caused by Space Objects, 1972-Convention on the Registration of Objects Launched into Outer Space 1974 -Principles Relevant to the Use of Nuclear Power Sources in Outer Space1993-The Agreement on the Return of Objects Launched into Outer Space 1968 - Agreement Governing the Activities of States and other Celestial Bodies 1979 - Declaration of Guiding Principles on the Use of Satellite Broadcasting (UNESCO) 1972 - Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting 1983 - Principles on Remote Sensing 1986 - Geostationary orbit - Bogota Declaration 1976.

UNIT 5 USE OF SPACE TECHNOLOGY 12 Hrs.

Peaceful and non-peaceful - Remote sensing - Environmental protection - Commercialization of Space Activities – Settlement of Space Disputes.

Max.60 Hrs.

COURSE OUTCOMES

On the completion of the course the students will be able to

CO1 - Basic introduction to Air law and the conventions involved.

CO2 - Students will learn about the legislative and technical aspects involved in the legal regime.

CO3 - The course will enlighten the students about the rights and privileges of air passengers and air cargo norms

CO4 - The course covers the laws of outer space and the celestial bodies.
CO5 - The course will deal about the peaceful settlement of the air and outer space laws in accordance to our environment.
CO6 - This Course will equip the students with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. Frans G. von der Dunk, Harvey and Susan Perlman Alumni, Handbook of Space Law, Edward Elgar,2015.
2. Ludwig Weber, International Civil Aviation Organization, Wolters Kluwer,2017
3. Rao, Venkata, Gopalakrishnan, V., Abhijeet, Kumar (Eds.), Recent Developments in Space Law: Opportunities & Challenges, Springer,2017.
4. Hofmann Mahulena and Tanja Masson-Zwaan, Introduction to Space Law, Fourth Edition - Wolters Kluwer,2019
5. Brian F. Havel and Gabriel S. Sanchez, The Principles and Practice of International Aviation Law,2014

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3008	MEDICINE AND LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- The principal objective of the course is to provide a detailed overview of various medical laws to the students. It also intends to provide the students with the idea of right to health as a basic human right and its importance in the society.
- The course is also aims to identify and discuss various ethical issues involved in the area of medical law and to sensitize the students about the need for regulating medical profession and practices.
- It also helps the students to understand their socio-legal issues related to access to medicine is also an important concern of the society being analysed in this respect.

UNIT 1 CONTROL OVER MEDICAL PROFESSION 12 Hrs.

Control of medical profession through law - ethical code for medical professionals- Role of MCI Rules on professional conduct - liability of doctors under common law - criminal liability - consumer protection and medical profession- Regulating medical education.

UNIT 2 ETHICAL CONCERNS INVOLVED IN MEDICAL PRACTICE 12 Hrs.

Laws bearing on medical practice-ensuring quality service-need for a comprehensive health policy and law- Ethical and legal issues relating to Abortion- ART, Surrogacy, PNDT Act - Euthanasia- control of epidemics and quarantine rule- relevant legal regulations on organ transplantation.

UNIT 3 CONTROL OF DRUGS 12 Hrs.

Control of drugs - manufacture – distribution- Drugs and Cosmetics Act- Definition of Drugs- Import, Manufacture of Drugs and relevant rules- prohibition on magical remedies- IPC Provisions.

UNIT 4 HUMAN EXPERIMENTATION AND MEDICAL SCIENCES 12 Hrs.

Human experimentation legal and ethical control - national and international regulations- Nuremberg Code, Helsinki Declaration, other relevant international guidelines- ICMR Guidelines and Rules on Clinical Trials.

UNIT 5 ACESS TO HEALTH CARE AND CONSTITUTIONAL FRAMEWORK 12 Hrs.

Access to medical care and health services –public health emergencies - cost of health care -measures to make the facilities accessible - aspects of social justice in this regard- patent regime and its impact on health sector-compulsory licensing- access to medical records by patients.

Max.60 Hrs.

COURSE OUTCOMES

On the completion of the course the students will be able to

CO1 - Students will learn about the regulating medical ethics.
CO2 - The course will deal about the modern medical health policy.
CO3 - Students will learn about the laws governing manufacture and distribution of drugs.
CO4 - The course will deal about various experiments and laws governing clinical trials
CO5 - Students will learn about public health emergencies and aspects of social justice in this regards.
CO6 - This Course will equip the students with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. S.K.Varma(Ed.),LegalFrameworkforHealthCareinIndia,LexisNexis(2002)
2. George P. Smith, Human Rights and Biomedicine, Springer (2000).
3. William Roach, Medical Records and the Law, AHIMA(1985)
4. Richardson, Doctor Lawyer and the Courts, Anderson Co.(1965).
5. Shaun D.Pattison, Law and Medical Ethics, Sweet & Maxwell (5thedn,2017).

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

SALB3009	DRUGS AND COSMETICS LAW	L	T	P	Credits	Total Marks
		3	1	0	3	100

COURSE OBJECTIVES

- Develop an understanding of the legal aspects of the structure and history underlying various legislations governing drugs and cosmetics.
- To equip the students with various laws and rules governing the Drugs and Cosmetics industry in India.
- To equip the students so that they can analyze the laws relating to Narcotic Drugs and Psychotropic substance.

UNIT 1 INTRODUCTION 12 Hrs.

Historical background - Definitions – drugs - Misbranded drugs, Adulterated drugs - Spurious drugs – Cosmetics - Misbranded cosmetics and Spurious cosmetics - National Drug Policy - National Pharmaceuticals Policy 2002. Drug Control: Functions undertaken by Central and State government.

UNIT 2 DRUGS AND COSMETIC ACT, 1940 AND DRUGS AND COSMETIC RULES, 1945 12 Hrs.

Authorities - The Drugs Technical Advisory Board - The Central Drugs Laboratory and The Drugs Consultative Committee - Import and Registration of drugs - Import and Registration of Cosmetics - Controlling authorities - Guidelines for consumers of drugs and cosmetics - Clinical Trials Registry.

UNIT 3 PHARMACY PRACTICE REGULATIONS, 2015 12 Hrs.

Code of pharmacy ethics - Duties and Responsibilities of a pharmacist - Unethical acts and misconduct, penalty and disciplinary action - National Pharmaceutical pricing Authority - Procedure for price fixation - Drugs (Prices Control) Order,2013 - Power conferred on the government.

UNIT 4 THE DRUGS AND MAGIC REMEDIES (OBJECTIONABLE ADVERTISEMENTS) ACT, 1954 12 Hrs.

The Drugs and Magic Remedies (Objectionable Advertisements) Rules, 1955 - Prohibition of misleading advertisement of certain drugs (section 3- 6) - Powers of Central and State Government.

UNIT 5 NARCOTIC DRUGS AND PSYCHOTROPIC SUBSTANCES ACT,1985 12 Hrs.

Definitions - Narcotic Control Bureau – Authorities - Offences and penalties - health Issues - Negative Impact on society and family.

Max.60 Hrs.

COURSE OUTCOMES

On the completion of the course the students will be able to

CO1 - The course will deal about historical background of pharmaceuticals policy in the country.
CO2 - The course will help the students to learn about the import and registration of cosmetics.
CO3 - The course will educate the students about pharmacy ethics and duties and responsibilities involved.
CO4 - The course will deal about the powers of the Central and State Government in regard to drugs and cosmetics.
CO5 - The course will help the students to know the offences and penalties under the Narcotics Control Bureau.
CO6 - This Course will equip the students with the required Professional Skills.

TEXT/ REFERENCE BOOKS

1. Drugs and Cosmetics Act,1940 and Rules 1945 , Ranjan Magazine,1st Edition 2012, CBS Publication.
2. Handbook on Cosmetics, S.K.Sinha,2010, Asia Pacific Business Press Inc.
3. Manual of Drugs And Cosmetic Laws, Metropolitan Book Co.
4. Law relating to Drugs & Cosmetics, Vijay Malik, 25th Edition 2016, Eastern Book Company.
5. Commentary on Drugs and Cosmetics Act,1940, Justice P.S.Narayana,1st Edition 2010,Asia Law

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PART A:	6 Questions to be answered out of 8 questions and each question carries 5 Marks	**30 Marks**
PART B:	4 Questions to be answered out of 8 questions (**Internal Choice)** and eachquestion carries 10 Marks	**40 Marks**
PART C:	2 Questions to be answered out of 4 questions and each carries 15 marks	**30 Marks**

OPEN ELECTIVE COURSES

SAEB4001	SATELLITE COMMUNICATION AND SATELLITE TECHNOLOGY	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- The course gives an exposure to the satellite navigation and control.
- To introduce students in engineering and the sciences to the methods of satellite radio navigation.
- The key physical principles will be described in terms of their application to make a complete navigation system work.

UNIT 1 NAVIGATION CONCEPTS 9 Hrs.

Fundamentals of spacecraft navigation systems and Position Fixing – Geometric concepts of Navigation – Elements - Earth in inertial space - Earth's Rotation - Revolution of Earth – Different Coordinate Systems – Coordinates Transformation - Euler angle formulations - Direction cosine formulation - Quaternion formulation.

UNIT 2 CONTROL ACTUATORS 9 Hrs.

Thrusters, Momentum Wheel, Control Moment Gyros, Reaction wheel, Magnetic Torquers, Reaction Jets, Ion Propulsion, Electric propulsion, solar sails.

UNIT 3 INERTIAL NAVIGATION SYSTEMS 9 Hrs.

Accelerometers – Pendulous type – Force Balance type – MEMs Accelerometers - Basic Principles of Inertial Navigation – Types - Platform and Strap down - Mechanization INS system – Rate Corrections - Block diagram – Acceleration errors – -Coriolis effect - Schuler Tuning – Cross coupling - Gimbal lock– Alignment.

UNIT 4 GPS & HYBRID NAVIGATION SYSTEMS 9 Hrs.

GPS overview – Concept – GPS Signal – Signal Structure- GPS data – Signal Processing – GPS Clock – GPS for position and velocity determination – DGPS Concepts - LAAS & WAAS Technology - Hybrid Navigation - Introduction to Kalman filtering – Case Studies -Integration of GPS and INS using Kalman Filter.

UNIT 5 ATTITUDE STABILIZATION SCHEMES & ORBIT MANEUVERS 9 Hrs.

Spin, Dual spin, Gravity gradient, Zero momentum system, Momentum Biased system, Reaction control system, Single and Multiple Impulse orbit Adjustment, Station Keeping and fuel Budgeting.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Utilize classical control theory, including analysis and design
CO2 - Apply concepts of aircraft autopilot design emphasizing the relevance of the topics discussed in the class.
CO3 - Make use of modern control theory in various applications.
CO4 - Apply radar theory
CO5 - Apply navigation principles and guidance laws
CO6 - Apply the schemes of orbital maneuver and stability of satellite.

TEXT / REFERENCE BOOKS

1. Albert D. Helfrick, “Modern Aviation Electronics”, Second Ed., Prentice Hall Career & Technology, 1994.
2. James R Wertz, “Spacecraft Attitude Determination and control”, Reidel Publications, 1978.
3. Kaplan, M. H., “Modern Spacecraft Dynamics and Control”, Wiley India Pvt Ltd, 2011.
4. Marcel J. Sidi, “Spacecraft Dynamics and Control: A Practical Engineering Approach”, Cambridge University Press, 2000.
5. Maxwell Noton, “Spacecraft navigation and guidance”, Springer (London, New York), 1998.
6. Slater, J. M. Donnel, C.F.O and others, “Inertial Navigation Analysis and Design”, McGraw-Hill Book Company, New York, 1964.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SAEB4002	Drone Design and Technology	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To make the students to understand the basic concepts of UAV drone systems.
- To introduce the stability and control of an aircraft.

UNIT 1 INTRODUCTION TO DRONES 9 Hrs.

Introduction to Unmanned Aircraft Systems, History of UAV drones, classification of drones, System Composition,applications.

UNIT 2 DESIGN OF UAV DRONE SYSTEMS 9 Hrs.

AV Design Principles: Introduction, Computational and Experimental Design of a Fixed-Wing UAV, Payload Design of Small UAVs, Small UAV Design Development and Sizing, Systematic Design Methodology and Construction of Micro Aerial Quadrotor Vehicles.

UNIT 3 AVIONICS HARDWARE OF DRONES 9 Hrs.

Autopilot, AGL-pressure sensors servos-accelerometer –gyros-actuators- power supply-processor, integration, installation, configuration.

UNIT 4 UAV MODELING, SIMULATION, ESTIMATION AND IDENTIFICATION 9 Hrs.

UAV Modeling, Simulation, Estimation and Identification: Introduction, Flight Dynamics Modeling of Coaxial Rotorcraft UAVs, Modeling of a Micro UAV with Slung Payload, Command and Control of Autonomous Unmanned Vehicles.

UNIT 5 UAV INTEGRATION INTO THE NATIONAL AIRSPACE 9 Hrs.

UAV Integration into the National Airspace: Introduction, Aviation Regulation, Human Factors of Unmanned Aircraft System Integration in the National Airspace System, Methodologies for Regulatory Compliance and Harmonization, Certification of Small UAS.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Get the knowledge about Unmanned Aircraft Systems.
CO2 - Ability to design UAV drone system.
CO3 - Understand working of different types of engines and its area of applications.
CO4 - Understand static and dynamic stability dynamic instability and control concepts.
CO5 - Predict the loads taken by aircraft and type of construction and also construction materials in them.
CO6 - Perform the Testing on waypoint navigation, ground control systems.

TEXT / REFERENCE BOOKS

1. Reg Austin “Unmanned Aircraft Systems UAV design, development and deployment”, Wiley, 2010.
2. Robert C. Nelson, Flight Stability and Automatic Control, McGraw-Hill, Inc, 1998.
3. Kimon P. Valavanis, “Advances in Unmanned Aerial Vehicles: State of the Art and the Road to Autonomy”, Springer, 2007
4. Paul G Fahlstrom, Thomas J Gleason, “Introduction to UAV Systems”, UAV Systems, Inc, 1998
5. Dr. Armand J. Chaput, “Design of Unmanned Air Vehicle Systems”, Lockheed Martin Aeronautics.
6. Kimon P. Valavanis • George J. Vachtsevanos, “Handbook of Unmanned Aerial Vehicles”, Springer, 2015.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice,each carrying 16marks	**80 MARKS**

SAEB4003	SPACE VEHICLE DESIGN AND SIMULATION	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To interpret the missile space stations, space vs earth environment.
- To explain the life support systems, mission logistics and planning.
- To deploy the skills effectively in the understanding of launch vehicle configuration design.

UNIT1 FUNDAMENTAL ASPECTS 9 Hrs.

Energy and Efficiencies of power plants for launch vehicles – Typical Performance Values – Mission design – Structural design aspects during launch - role of launch environment on launch vehicle integrity.

UNIT 2 SELECTION OF ROCKET PROPULSION SYSTEMS 9 Hrs.

Ascent flight mechanics – Launch vehicle selection process – Criteria for Selection for different missions – selection of subsystems – types of staging – Interfaces – selection and criteria for stages and their role in launch vehicle configuration design.

UNIT 3 ENGINE SYSTEMS, CONTROLS, AND INTEGRATION 9 Hrs.

Propellant Budget – Performance of Complete or Multiple Rocket Propulsion Systems – Engine Design – Engine Controls – Engine System Calibration – System Integration and Engine Optimization.

UNIT 4 THRUST VECTOR CONTROL 9 Hrs.

TVC Mechanisms with a Single Nozzle – TVC with Multiple Thrust Chambers or Nozzles – Testing – Integration with Vehicle – SITVC method – other jet control methods - exhaust plume problems in space environment.

UNIT 5 NOSE CONE CONFIGURATION 9 Hrs.

Aerodynamic aspects on the selection of nose shape of a launch vehicle - design factors in the finalization of nose configuration with respect to payload - nose cone thermal protection system - separation of fairings - payload injection mechanism.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Know exotic space propulsion concepts, such as nuclear, solar sail, and antimatter.
CO2 - Gain knowledge in selecting the appropriate rocket propulsion systems.
CO3 - interpret the air-breathing propulsion suitable for initial stages and fly-back boosters.
CO4 - Have an aerodynamics aspect, including boost-phase lift and drag, hypersonic, and re-entry.
CO5 - Conversion training for aircraft engineers moving into launch vehicle, spacecraft, and hypersonic vehicle design.
CO6 - Interpret nose cone configuration of launch vehicle.

TEXT / REFERENCE BOOKS

1. Michael D. Griffin, James R. French, “Space Vehicle Design”, AIAA, 2nd Ed., 2004.
2. Karl Dawson Wood, “Aerospace Vehicle Design: Spacecraft Design”, Johnson Publishing Company, 1964.
3. Bong Wie, “Space Vehicle Dynamics and Control”, AIAA, 1998.
4. Anton H. de Ruiter, Christopher Damaren, James R. Forbes, “Spacecraft Dynamics and Control: An Introduction”, John Wiley & Sons, 2012.
5. Marcel J. Sidi, “Spacecraft Dynamics and Control: A Practical Engineering Approach”, Cambridge University Press, 2000.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SALB3071	INFORMATION TECHNOLOGY LAW	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To understand Cyber space and The Information Technology Act, 2000.
- To learn multifarious changes brought into substantive and procedural legislations.
- To know various facets of Cyber Law and its impact on modern world.

UNIT1 INTRODUCTION 9 Hrs.

Concept of Information Technology and Cyber Space- Interface of Technology and Law -Jurisdiction in Cyber Space and Jurisdiction in Traditional Sense – Internet Jurisdiction – Indian Context of Jurisdiction – Enforcement Agencies- International Position of Internet Jurisdiction – Cases in Cyber Jurisdiction.

UNIT 2 INFORMATION TECHNOLOGY ACT, 2000 9 Hrs.

Aims and Objects — Overview of the Act – Jurisdiction-Electronic Governance – Legal Recognition of Electronic Records and Electronic Evidence -Digital Signature Certificates – Securing Electronic Records and Secure Digital Signatures – Duties of Subscribers – Role of Certifying Authorities – Regulators Under the Act-The Cyber Regulations Appellate Tribunal – Internet Service Providers and Their Liability – Powers of Police Under the Act – Impact of the Act on Other Laws.

UNIT 3 E-COMMERCE NTEGRATION 9 Hrs.

E-Commerce – UNCITRAL Model – Legal Aspects of E-Commerce – Digital Signatures – Technical and Legal Issues – E-Commerce, Trends and Prospects – E-taxation, E-Banking, Online Publishing and Online Credits Card Payment – Employment Contracts – Contractor Agreements, Sales, Re-Seller and Distributor Agreements, Nondisclosure Agreements- Shrink Wrap Contract-Source Code- Escrow Agreements etc.

UNIT 4 CYBER LAW AND IPRS 9 Hrs.

Understanding Copy Right in Information Technology – Software – Copyrights Vs. Patents Debate – Authorship and Assignment Issues – Copyright in Internet – Multimedia and Copyright Issues – Software Piracy –Patents – Understanding Patents – European Position on Computer Related Patents – Legal Position of U.S. on Computer Related Patents – Indian Position on Computer Related Patents –Trademarks – Trademarks in Internet – Domain Name Registration- Domain Name Disputes & WIPO-Databases in Information Technology – Protection of Databases – Position in USA,EU and India.

UNIT 5 CYBER CRIMES 9 Hrs.

Meaning of Cyber Crimes–Different Kinds of Cyber Crimes – Cyber Crimes Under IPC, Cr.P.C and Indian Evidence Law – Cyber Crimes Under the Information Technology Act, 2000 – Cyber Crimes Under International Law – Hacking- Child Pornography- Cyber Stalking- Denial of Service Attack- Virus Dissemination- Software Piracy- Internet Relay Chat (IRC) Crime- Credits Card Fraud- Net Extortion-Phishing etc. – Cyber Terrorism – Violation of Privacy on Internet – Data Protection and Privacy.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Student are able to have in-depth understanding of Information Technology Law.
CO2 - Student are able to understand various Cyber Crimes.
CO3 - Student are able to understand e-commerce.
CO4 - Student are made to be acquainted with social and intellectual property issues in Cyberspace.

CO5 - Student are equipped with the regulations of the Information Technology law and various mechanisms working under the IT Act.

CO6 - This Course will equip the student with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Anirudh Rastogi, Cyber Law: Law of Information Technology and Internet, Lexis Nexis Wadha, Nagpur, 1st ed., 2014.
2. Vakul Sharma, Information Technology Law and Practice, Universal Law Publishers, 3rd ed., 2011.
3. Harish Chander, Cyber Laws and IT Protection, PHI Learning Pvt. Ltd., 2012.
4. Nandan Kamath, Law Relating to Computers, Internet and Ecommerce, Universal Law Publishing Co., Ltd., 2006.
5. Pavan Duggal, Mobile Crime and Mobile Law, Saakshar Law Publications, 2013.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SALB3083	INTELLECTUAL PROPERTY LAW	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To introduce the different categories of Intellectual Property Rights.
- To learn minimum standard to identify the items of protection.
- To know the rights conferred to the right holder and remedies available in the case of infringement.

UNIT1 INTRODUCTION 9 Hrs.

Meaning and concept of intellectual Property and the need for protection – The world Intellectual property Organization (WIPO) Convention – Origin and functions of World Trade Organisation (WTO) – Trade Related Intellectual Property Rights (TRIPS) Agreement of WTO and its effects on Intellectual Property law in India; Dispute Settlement Mechanism.

UNIT 2 COPYRIGHT ACT 9 Hrs.

The Copyright Act (1957) and recent amendments-works in which copyright subsist-Authorship and Ownership- Different Rights-Registration of copyright-Term of copyright-Administration of copyright law-Performer's Rights-Broadcaster's Rights-Collective administration of copyrights-Moral Rights-Copyright Infringements-Remedies-Composition of Copyright Board.

UNIT 3 TRADEMARK & DESIGNS ACT 9 Hrs.

The Trade Mark Act (1999), object, definitions, salient features- Distinctiveness, deceptive similarity-Assignment and transmission -Registration: Procedure-Term-Effects-Grounds for refusal- Powers and functions of Registrar- collective marks-certification marks-Trade mark agents – Appellate board – Infringement action, passing off action –Well known marks- The designs Act 2000; definitions, registration of designs, copyright in registered designs, piracy of registered designs, remedies, powers and duties of Controller – Semi-conductor integrated circuit layout-Trade secrets.

UNIT 4 LAW OF PATENTS 9 Hrs.

The Patents Act (1970): Object definitions, salient features-Invention: patentable and non- patentable inventions- product and process patents- -Rights of patentees-assignment and transmission-term of patent–Registration-opposition to grant of patent, anticipation- Revocation of patents- Compulsory licences- Exclusive marketing rights-Infringement- exclusive marketing rights- Patent office and power of Controller, patents of addition-Patenting of biotechnology-Nanotechnology.

UNIT 5 FARMERS AND BREEDERS RIGHT & GEOGRAPHICAL INDICATION 9 Hrs.

The Protection of Plant Varieties and Farmers' Rights Act, 2001: object definitions, salient features The Geographical Indications of Goods (Registration and Protection) Act, 1999- object definitions, salient features.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - The course is designed to introduce fundamental aspects of Intellectual property Rights.
CO2 - The course introduces all aspects of the IPR Acts.
CO3 - The course is intended to explain the basic principles of patents, trademarks, geographical designs, industrial designs, and copyright.
CO4 - The course follows an international perspective and examines the international IP legal regime rather than focusing solely or predominantly on the national framework.
CO5 - This course revolves around the protection of plant varieties and farmers right act.
CO6 - This Course will equip the student with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. V.K. Ahuja, Law Relating to Intellectual Property Law, Lexis Nexis, 2nd ed., 2013.
2. N.S. Gopalakrishnan& T.G. Ajitha, Principles of Intellectual Property, Eastern Book Company, 2nd ed., 2014.
3. B.L. Wadhera, Law Relating to Intellectual Property, Universal Law Publishing, 5th ed., 2014.
4. S. Narayan, Intellectual Property Law in India, Gogia Law Agency, Hyderabad, 3rd ed., 2005.
5. Holyoak&Torreman, Intellectual Property Law, Oxford University Press, New York, 2010.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SALB3073	INTERNATIONAL HUMAN RIGHTS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To introduce basic human rights philosophy, principles, instruments and institutions.
- To explore aspects of the diverse and increasingly complex body of international law of human rights that has both national and international application.
- To understand enforcement, implementation, remedies of International Human Rights Law.

UNIT1 HISTORICAL BACKGROUND 9 Hrs.

Historical origins- state and self-determination-Ideological foundations- normative differences between "civil rights", "constitutional rights" and "human rights"-The charter and the declaration: universality, inalienability and right- balancing introduced in the 1948 Universal Declaration of Human Rights.

UNIT 2 HUMAN RIGHTS NORMS 9 Hrs.

International Bill of Rights- UN- The ICCPR (International Covenant on Civil and Political Rights) Framework Provisions-The Prohibition against Torture -Economic and Social Rights-Minority Rights-Universal Declaration of Human Rights (UDHR).

UNIT 3 HUMAN RIGHTS INSTITUTIONS 9 Hrs.

The Charter and Treaty Bodies- Regional Arrangements: emergence of regional arrangements for human rights – advantages and disadvantages of promoting human rights on a regional basis- Critical Perspectives: criticisms against the human rights movement- effectiveness and legitimacy and exposing its alleged biases.

UNIT 4 PROTECTION OF HUMAN RIGHTS 9 Hrs.

Human Rights, Peace, Non-Violence, and Conflict Resolution-Implementing Human Rights Standards and Required Legal Aid, Remedies and Reforms-Role of Judiciary- Role of National Human Rights Commission and State Legal aid -Public Interest Litigation and Media- Refugee right- rights of prisoners and prison reforms- rights of women and children- Role of other agencies- Rights of Children- Convention on Rights of Children- CEDAW.

UNIT 5 IMPLEMENTATION, ENFORCEMENT, REMEDIES OF INTERNATIONAL HUMAN RIGHTS LAW 9 Hrs.

Magna Carta- International enforcement of international law of human rights- International adjudication- International political implementation- International procedures for making human rights complaints within the UN system

Max.45 Hrs.

COURSE OUTCOMES:

CO1 - Identify main historical trends in the development of international human rights law.
CO2 - Compare the international human rights law system and regional human rights law systems
CO3 - Evaluate the various mechanisms and procedures for human rights law enforcement
CO4 - Critically assess specific areas of international human rights law with reference to relevant legal instruments and contemporary cases.
CO5 - Critically assess specific areas of international human rights law with reference to relevant legal instruments and contemporary cases.
CO6 - This Course will equip the student with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Upendra Baxi, “The Future of Human Rights”, Oxford University Press, New Delhi.
2. Daniel Moeckli, Sangeeta Shah and Sandesh Sikumaran “International Human Rights Law”, 2014.
3. Alison Bisset, “Blackstone’s International Human Rights Documents”, 2014.
4. Asbjorn Eide, “International protection of human rights”, Strasbourg, 1995.
5. Henry Steiner, Philip Alston, “International Human Rights in Context- Law, Politics and Morals”, 2000.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SALB3096	PENOLOGY AND VICTIMOLOGY	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To understand basic concepts in penology Victimology.
- To encourage critical thinking on crime victims' place in the justice system.
- To understand historical trends in punishment, in and outside the community context and to explore alternative approaches to victimization and punishment.

UNIT1 PENOLOGY & THEORIES OF PUNISHMENT 9 Hrs.

Dimensions of Crime in India -Definition of penology-Theories of punishment-classical Hindu and Islamic approaches to punishment-Capital Punishment-Law reforms proposals- Criminal Justice System.

UNIT 2 APPROACHES TO SENTENCING 9 Hrs.

Alternatives to imprisonment-probation-corrective labour-fine: collective fines-reparation by the offender/ by the court- Parole: Nature- Authority for Granting Parole -The Probation of Offenders Act, 1958.

UNIT 3 SENTENCING AND IMPRISONMENT 9 Hrs.

Sentencing: Types of sentences: Indian penal code and special laws-white collar crimes-pre-sentence hearing: summary punishment-habitual offender-plea bargaining. Imprisonment: The prison system-Rights of prisoners –State of jails in India today-classification of prisoners-open prisoners- judicial surveillance, basis, development, reforms- Group Counseling and Re-Socialization Programme.

UNIT 4 THE POLICE SYSTEM 9 Hrs.

The Police System- Structural Organization of Police- Mode of Recruitment and Training- Powers and Duties of Police- Cr.P.C. and Other Laws- Constitutional Imperatives- Relationship between Police and Prosecution- Liability of Police for Custodial Violence- Police and Public Relations-Police force in India-the role of police- functions of police.

UNIT 5 HUMAN RIGHTS 9 Hrs.

Magna Carta- International enforcement of international law of human rights- International adjudication-International political implementation- International procedures for making human rights complaints within the UN system.

Max.45 Hrs.

COURSE OUTCOMES:

On the completion of the course the student will be able to

CO1 - This course makes Student to familiarize with basic terms in Victimology and penology and describes historical developments in penology, with regards to the reasons for punishment.

CO2 - Encourage critical thinking on crime victims place in the justice system.

CO3 - Examines crime victims and patterns of punishment as complementary aspects of the criminal justice system, and explores their contributions to social perceptions of crime and justice.

CO4 - Emphasize an idea of police system& prison system in India.

CO5 - Revolve around Victimization and punishment as complimentary aspects of the criminal process, and their reciprocal effect on social perceptions.

CO6 - This Course will equip the student with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Ahmed Siddique, Criminology: Problems and Perspective, Eastern Book Company, Lucknow, 2008.
2. N.Y. Paranjpe, Criminology and Penology, Central Law Publications, Allahabad, 2008.
3. ParkashTalwar, Victimology, Isha Books, Delhi, 2006.
4. SumainRai, Law Relating Plea Bargaining, Orient Publishing Company, 2007.
5. Dr. S.S.Srivastava, Criminology, Penology & Victimology, 4th ed, 2012, Repr.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SALB3084	LAND LAWS INCLUDING TENURE AND TENANCY SYSTEM	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To learn Movement of Land Reforms and abolition of Intermediaries.
- To understand the law for the acquisition of land required for public purposes.
- To know laws relating to land and land revenue in Tamil Nadu and Tamil Nadu Apartment Ownership Act, 1994.

UNIT1 INTRODUCTION: MOVEMENT OF LAW REFORMS 9 Hrs.

Ownership of Land – Doctrine of Eminent Domain – Doctrine of Escheat – Pre-Independence Position- Land Tenure- Zamindari Settlement – Ryotwari Settlement - Mahalwari System – Intermediaries – Absentee Landlordism – Large Holdings- Post-independence Reforms: Abolition of Zamindaries- Laws Relating to Abolition of Intermediaries.

UNIT 2 LAND CEILING 9 Hrs.

Urban Land Ceiling and Agrarian Land Ceiling- Tamil Nadu Land Reforms Fixation of Ceiling of Land Act 1961 and Amendment Act, 1971.

UNIT 3 LAWS RELATING TO ACQUISITION OF PROPERTY GOVERNMENTAL CONTROL AND USE OF LAND 9 Hrs.

Land Acquisition Act of 1894- Amendments to the Act – Tamil Nadu Amendments Act 1980 - Requisition and Acquisition of Immovable Property under Defense of India Act.

UNIT 4 LAWS RELATING TO TENANCY REFORMS 9 Hrs.

Rent Control and Protection Against Eviction- The Tamil Nadu Cultivating Tenants Protection 1955- The Tamil Nadu Cultivating Tenants (Payments of Fair Rent) Act, 1956- The Tamil Nadu Cultivating Tenants Arrears of Rent Relief Act, 1972- The Tamil Nadu Buildings (Lease and Rent Control) Act, 1960.

UNIT 5 ENACTMENT AND CULTIVATING TENANTS 9 Hrs.

The Tamil Nadu Cultivating Tenants Protection Act, 1955 – The Tamil Nadu Cultivating Tenants arrears of rent relief Act,1972, 1980 – The Tamil Nadu Cultivating Tenants Protection from Eviction Act,1983,1989 – The Tamil Nadu Cultivating Tenants (payment of Fair Rent) Act, 1956 – The Tamil Nadu Agricultural Land Record of Tenancy Right Act,1969– The Tamil Nadu Occupants of Kudiyiruppu and Conferment of Ownership Act,1971.

Max.45 Hrs.

COURSE OUTCOMES:

CO1 - This course will help the student to have an overview about Constitutional provisions relating to the concept of land.

CO2 - It provides an outlook over tedious legislation prevailed regarding land and the reforms undertaken subsequently

CO3 - Will help the student in understanding the procedures of law relating to tenancy, ceiling and other related concepts.

CO4 - Various reforms in this arena will enhance the research capacity of Student.

CO5 - This course will enrich the student in approaching this legislation in a practical way

CO6 - This Course will equip the student with the required Professional Skills.

TEXT / REFERENCE BOOKS

1. Prof. A. Chandrasekaran, Land Laws of Tamil Nadu, 2nd Edn 2002, reprint 2010.
2. Kanwal Singh, Land Laws (Including Land Acquisition and Rent Laws), 1st Ed., 2014.
3. N.K. Acharya, Commentary on the Right to Fair Compensation and Transparency in Land Acquisition, Rehabilitation and Resettlement Act, 2013, Asia Law House, 2014.
4. Constitution of India- J.N.Pandey.
5. Dr. P PSexena, Transfer of Property Act, 2nd Ed. 2012

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SBMB4001	TELEHEALTH TECHNOLOGY	L	T	P	EL	Credits	Total Marks
		3	0	0	0	0	100

COURSE OBJECTIVE

- To enable the student to understand the scope and benefits of telemedicine using communication networks and their protocols.
- To learn about new healthcare needs through the applications of telemedicine.

UNIT 1 INTRODUCTION 9 Hrs.

Fundamentals of Telemedicine, Block diagram of Telemedicine, History of telemedicine: Main phases of Telemedicine, Telehealthcare and E-medicine, Telemedicine access to health care services, Scope & Benefits and Limitation of Telemedicine. Social and legal issues, Safety and regulatory issues.

UNIT 2 COMMUNICATION AND NETWORK 9 Hrs.

Types of information: Audio, Video, Data, Fax, Still Image. Types of Communication and Networks: Overview of PSTN, POTS, ISDN, ATM, Videoconferencing, Wireless Communication – RF, GSM Satellite and Microwave, CDPD, Mobile handheld devices, and mobile communication. Internet technology and telemedicine using the world wide web (www)-Video and audio conferencing.

UNIT 3 DATA EXCHANGE AND NETWORK SECURITY 9 Hrs.

Basic concepts of the internet, Network Configuration, Circuit and Packet Switching, H.320 series, h.324 Protocols: TCP/IP, Standards for DICOM, Security: Encryption– DES, RSA, and cryptography.

UNIT 4 ETHICAL AND LEGAL ASPECTS AND CASE STUDIES 9 Hrs.

Confidentiality and law, Patient Rights and consent, Access to Medical Records, Consent treatment, jurisdictional issues, Intellectual Property Rights, Telemedicine technology and Health care delivery for rural population - Use of telemedicine technology for clinical diagnostic study-Conceptual framework on home telemedicine.

UNIT 5 APPLICATIONS OF TELEMEDICINE 9 Hrs.

Telemedicine – health education and self-care. Introduction to robotics surgery, Telesurgery. Teleradiography – Basic parts of a Teleradiography System, Telepathology, Telecardiology, Tele home – Care Home based Applications, Tele oncology, Telesurgery, Teledermatology, Telepharmacy

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understands the basics of telemedicine and its application in healthcare.
CO2 - Classify the various standards and protocols related to telemedicine.
CO3 - Discuss protocols and security for the transfer of telemedicine data.
CO4 - Understand and apply the ethical and legal issues in telemedicine.
CO5 - Explores the application of telehealth to modalities of medicine.
CO6 - Compares the telehealth technologies for future challenges arising in our community.

TEXT / REFERENCE BOOKS

1. Olga, Ferrer–Roca, M. Sosa, Marcelo C, Handbook of Telemedicine, IOS press 2002.
2. Ling Guan, Multimedia image and video processing, CRCPress,2000.
3. Thorsten M Buzug, Heinz Handels, Dietrich Holz, Telemedicine: Medicine and communication, Springer-Verlag 2001.
4. Douglas V Goldstein, E Healthcare: Harness the power of internet, e–commerce, and e–care, Jones and Barlett Publishers.2000.
5. Norris A.C., Essentials of Telemedicine and Telecare, JohnWiley&Sons, 2002.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SBMB4002	EMBEDDED SYSTEMS FOR BIOMEDICAL APPLICATIONS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- Basic Concepts of Embedded Systems.
- Various techniques are used for designing an embedded system.
- Real-time system with an example.

UNIT 1 SYSTEM DESIGN 9 Hrs.

Embedded system, Processor embedded into a system, Embedded hardware units and devices in a system, Embedded software in a system, Embedded system architecture, Classifications, Skills required for an embedded system designer. Typical application scenario of embedded systems.

UNIT 2 EMBEDDED SYSTEMS DESIGN, DEVELOPMENT PROCESS AND TOOLS 9 Hrs.

Complex systems and a microprocessor, Design process and metrics in embedded system, Design challenges, Optimizing the design metrics, Issues related to embedded software development, Hardware-software code sign, Embedded system design technology, Embedded software development process, and tools, Host and Target machine, Linking and Locating Software, Getting embedded software into the target system, Design process.

UNIT 3 REAL WORLD INTERFACING AND PROGRAMMING CONCEPTS 9 Hrs.

Study of microcontroller, Processor and memory organization, Switch, Keypad and LED interfacing, seven-segment display interfacing, Data Acquisition system, A/D, D/A converters, Programming in assembly language and high-level language, Embedded C programming- Simple programs, High-level language descriptions of software for embedded system.

UNIT 4 TECHNIQUES FOR EMBEDDED SYSTEMS 9 Hrs.

State Machine and State Tables in embedded system design, Simulation, and Emulation of embedded systems. Real-time models, Language and Operating Systems-Tasks and task states, operating system services, RTOS functions, Interrupt routine in RTOS environment.

UNIT 5 BIOMEDICAL APPLICATIONS 9 Hrs.

Body temperature measurement, Stepper motor control. Embedded system in biomedical application Wireless sensor technologies, Body sensor network, Patient monitoring system. Case study

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Discuss the basics of embedded systems and their hardware units
CO2 - Identify the various tools and development processes of embedded system
CO3 - Demonstrate the various I/O interfacing with the microcontroller
CO4 - Create the programming for embedded system design
CO5 - Summarize the real-time models, languages, and operating systems
CO6 - Design a real-time embedded system for biomedical applications.

TEXT / REFERENCE BOOKS

1. RajKamal, “Embedded Systems Architecture, Programming and Design”, Tata McGraw-Hill, Second Edition, 2008
2. Tim Wilhurst, “An Introduction to the Design of Small-Scale Embedded Systems, Palgrave, 2004.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SBMB4003	HUMAN FACTORS IN ENGINEERING AND DESIGN	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- Introduce the fundamental terms and concepts of human factors.
- Learn anthropometric principles and optimize human well-being and overall performance.

UNIT 1 INTRODUCTION 9 Hrs.

Introduction to human factors engineering - relevance of ergonomics. Process of seeing-visual capabilities-factors affecting visual acuity and contrast sensitivity -human factor aspects of hard copy text and computer screen text, factors in selecting graphic representations symbols, qualitative visual displays and representational displays-process of hearing- principles of auditory displays.

UNIT 2 MUSCLE PHYSIOLOGY 9 Hrs.

Effects of meteorology on Air Pollution - Fundamentals, Atmospheric stability, Inversion, Wind profiles and stack plume patterns- Atmospheric Diffusion Theories – Dispersion models, Plume rise.

UNIT 3 CONTROLS AND COMPATIBILITY 9 Hrs.

Spatial compatibility -physical arrangement of displays and controls- movement capability - rotary controls and rotor displays movement of displays-orientation of the operator and movement relationships-control orders and control responses human limitations in the tracking task.

UNIT 4 ENVIRONMENTAL CONDITIONS AND HUMAN MACHINE INTERFACE 9 Hrs.

Illumination, climate, noise, motion, sound, vibration, human system modeling, Human Output and Control, material handling, motor skill, human control of systems, controls and data entry devices, hand tools and devices.

UNIT 5 ANTHROPOMETRY 9 Hrs.

Anthropometry- anthropometric design principles-work space envelope factors in the design of workspace surfaces-principles of seat design-principles of control panel organization. Classification of human errors-dealing with human errors -theories of accident causes - reducing accidents by altering behavior.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Identify the problems in posture and work efficiency
CO2 - Classify the workspace and related systems
CO3 - Apply thoughts to design a human-computer interface.
CO4 - Analyze the anthropometric concepts of the human system and environment.
CO5 - Suggest practices to avoid errors & accidents in the workspace.
CO6 - Create instrumentation techniques for the development of user-friendly systems.

TEXT / REFERENCE BOOKS

1. Mark S. Sanders & Ernest J. McCormick, Human Factors in Engineering and Design, Mc-Graw Hill International Edition, 2014.
2. Christopher D. Wickens, Introduction to Human Factors Engineering, Prentice Hall; 2nd edition, 2012.

3. Terence S. Andre, Aaron W. Schopper, Human Factors Engineering in System Design, British Columbia Teacher,2013.
4. Wesley E. Woodson, Human Factors Design Handbook, McGraw-Hill Professional; 2nd edition, 2012.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SBMB4004	BIOMETRIC SYSTEM	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To comprehend the basic concepts of biometric modalities.
- To study the principles of biometric system design and its trade-offs.
- To introduce the knowledge on personal privacy and security implications of biometrics-based technology and its issues.

UNIT 1 INTRODUCTION TO BIOMETRICS 9 Hrs.

Introduction and background – biometric technologies – passive biometrics – active biometrics - Biometrics Vs traditional techniques – Benefits of biometrics - Operation of a biometric system– Key biometric processes: verification, identification and biometric matching-Performance measures in biometric systems - Assessing the privacy risks of biometrics.

UNIT 2 PHYSIOLOGICAL BIOMETRICS CHARACTERISTICS 9 Hrs.

Facial scan - Ear scan, Retina scan -Iris scan - Finger scan - automated fingerprint identification system - Palm print - Hand vascular geometry analysis - DNA - Dental.

UNIT 3 BEHAVIORAL BIOMETRICS CHARACTERISTIC 9 Hrs.

Signature scan - Keystroke scan - Voice scan, Gait recognition - Gesture recognition - Video face-mapping the body technology.

UNIT 4 BIOMETRIC INTERFACES 9 Hrs.

Human-machine interface - BHMI structure, Human side interface: Iris image interface - Hand geometry and fingerprint sensor - Machine side interface - Parallel port - Serial port - Network topologies.

UNIT 5 BIOMETRIC APPLICATIONS 9 Hrs.

Categorizing biometric applications, Application areas: Criminal and citizen identification – Surveillance - PC/network access - E-commerce and retail/ATM - Costs to deploy - Issues in deployment - Biometrics in medicine - cancellable biometrics.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the fundamentals of Biometrics and its processes.
CO2 - Analyze the physiological biometric characteristics.
CO3 - Evaluate the behavioral biometric characteristics.
CO4 - Comprehend the interfaces used in the biometric systems.
CO5 - Apply the concepts of biometrics in a real-world scenario.
CO6 - Develop a basic biometric system for real-time applications.

TEXT / REFERENCE BOOKS

1. Anil K. Jain, Arun A. Ross & Karthik Nandakumar, “Introduction to Biometrics”, Springer, 2011, ISBN 978-0-387-77326-1
2. J.L. Wayman, A.K. Jain, D. Maltoni and D. Maio, “Biometric Systems: Technology, Design, and Performance Evaluation”, Springer, 2005, ISBN 978-1-84624-064-1.
3. Samir Nanavati, Michael Thieme, Raj Nanavati, Biometrics: Identity Verification in a Networked World, John Willey Publication, 2002.
4. G. R. Sinha, Biometrics: Concepts and Application, ISBN-13: 9788126538652, Wiley India Pvt Ltd.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SBMB4005	FORENSIC SCIENCE	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To provide a brief and basic knowledge to understand forensic science, particularly to the biomedical student.
- To provide reasonable coverage of the subject to know the basic concepts of the sciences that the student can implement their knowledge in higher studies.
- To understand the forensic importance of chromosomal techniques.

UNIT 1 FORENSIC SCIENCE AND EVIDENCE 9 Hrs.

Definition of Forensic Science, The Role of the Forensic Laboratory, History and Development of Forensic Science in India & Abroad, Pioneers in Forensic Science, Concise of Forensic Physical, Biological, Chemical, and psychological evidence, Medico-Legal Cases, Branches of Forensic Science, Scope and jobs in Forensic Science.

UNIT 2 BODY FLUIDS AND HUMAN REMAINS 9 Hrs.

Blood and Body fluids–forensic significance– morphological identification of bones–forensic importance, Identification of Human remains–methods of reconstruction–personal identity in the living and the dead, Medico-legal aspects of death. Causes of death. Determination of time since death.

UNIT 3 BIOMETRICS IN PERSONAL IDENTIFICATION 9 Hrs.

Introduction, Concepts of Biometric Authentication, Role in person Identification, Techniques and Technologies - Finger Print Technology, Face Recognition, IRIS, Retina Geometry, Hand Geometry, Speaker Recognition, Signature Verification and gait patterns and their characteristics, DNA fingerprinting–RFLP, RAPD, PCR-Blotting types (Southern, Northern and Western)–forensic importance.

UNIT 4 FORENSIC TOXICOLOGY 9 Hrs.

Forensic toxicology – poison and drugs, classifications, Source, nature, Actions and diagnosis of poisoning cases, post-mortem findings and examination, treatment of poisoning cases, medicolegal aspects; corrosive agents, irritants, Applications of forensic toxicology.

UNIT 5 SEROLOGICAL AND CHROMOSOMAL TECHNIQUES 9 Hrs.

Serology–basic principles of serology – the concept of antigen and antibody and their reaction – application of serology in forensic science. Chromosomal theory of inheritance, Karyotyping–banding patterns–-chromosomal abnormalities–sex determination–Barr bodies.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understands the basic knowledge about forensic importance and evidence
CO2 - Analyse the human body fluids and medico-legal aspects of death.
CO3 - Recognize biometric authentication and molecular characterization of DNA for the identification of victims.
CO4 - Demonstrate information about medico-legal aspects of different types of poisoning cases.
CO5 - Remembers to identify unnatural causes of death based on immunological techniques.
CO6 - Summarizes the karyotyping technique to identify a chromosomal abnormality.

TEXT / REFERENCE BOOKS

1. Nanda, B.B. and Tewari, R.K. (2001) Forensic Science in India: A vision for the twenty-first century Select Publisher, New Delhi.
2. James, S.H and Nordby, J.J. (2003) Forensic Science: An introduction to scientific and investigative techniques CRC Press,
3. Richard Saferstein Ed, Forensic Science Handbook, Prentice-Hall, 2010.
4. Narayan Reddy, The Essential of Forensic Medicine and Toxicology, 31st edition, 2012.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SBTB4001	BIOLOGY FOR ENGINEERS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To imply the importance of biology as a scientific discipline forming the basis for applying engineering knowledge.

UNIT 1 EVOLUTION AND CLASSIFICATION 9 Hrs.

Darwinian evolution & molecular perspective; Introduction to phylogeny - Classification systems in biology, Five kingdom classification, major groups and principles of classification in each kingdom. Systematic and binomial system of nomenclature.

UNIT 2 GENETICS 9 Hrs.

The cell concept, structure of prokaryotic, eukaryotic cells, plant cells and animal cells, Structure and function of cell membrane, cell organelles and their function. Tissues in animals and plants, Morphology, anatomy and functions. Concepts of alleles and genes, Mendelian Experiments, Cell cycle (Elementary Idea), mitosis and meiosis, techniques to study mitosis and meiosis.

UNIT 3 BIOMOLECULES 9 Hrs.

Biomolecules - classification, salient features - biological significance - carbohydrates, proteins and amino acids - lipids and fats - nucleic acids – vitamins - Enzymes.

UNIT 4 BIOTECHNOLOGY 9 Hrs.

Transgenic plants and animals-stem cell and tissue engineering-bioreactors-biopharming-recombinant vaccines-cloning-drug discovery-biological neural networks – bioremediation – biofertilizer – biocontrol biofilters – biosensors - biopolymers-biomaterials – biochips - basic biomedical instrumentation.

UNIT 5 MICROBIOLOGY 9 Hrs.

Brief history of microbiology, Types of microorganisms, Basic idea of domain bacteria, proteobacteria, non-proteobacteria Gram positive and Gram-negative bacteria, lichens, algae, protozoa, helminthes, viral structures, viral multiplication, Role of microorganisms in the production of industrial chemicals and pharmaceuticals.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Describe the major discoveries in biological sciences
CO2 - To understand the types and structures of different types of biomolecules in living systems
CO3 - Convey the classification of living beings and its structure and functions.
CO4 - Analyze the processes of transcription and translation in both prokaryotes and eukaryotes at molecular level.
CO5 - Understand the different classification of microorganism
CO6 - Explain the importance of microorganism in industry

TEXT / REFERENCE BOOKS

1. Biology: A global approach: Campbell, N. A.; Reece, J. B.; Urry, Lisa; Cain, M, L.; Wasserman, S. A.; Minorsky, P. V.; Jackson, R. B. Pearson Education Ltd
2. Outlines of Biochemistry, Conn, E.E; Stumpf, P.K; Bruening, G; Doi, R.H., John Wiley and Sons
3. Principles of Biochemistry (V Edition), By Nelson, D. L.; and Cox, M. M.W.H. Freeman and Company

4. Molecular Genetics (Second edition), Stent, G. S.; and Calender, R.W.H. Freeman and company, Distributed by Satish Kumar Jain for CBS Publisher
5. Microbiology, Prescott, L.M J.P. Harley and C.A. Klein 1995. 2nd edition Wm, C. Brown Publishers

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SBTB4002	ENTREPRENEURSHIP IN BIOTECHNOLOGY	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- Introduce students to the principles and concepts of bioentrepreneurship, and how it relates to the life sciences and biotechnology sectors.
- To develop students' understanding of the process of identifying and evaluating entrepreneurial opportunities in the bioindustry.

UNIT 1 INTRODUCTION TO ENTREPRENEURSHIP 9 Hrs.

Definition of Entrepreneurship and start up, Types of Entrepreneurships, Essential entrepreneurs' skills, Process of Entrepreneurship, Current status of start-up process registration in India, Start-up Agencies in India.

UNIT 2 PRODUCTION OF MUSHROOM 9 Hrs.

Definition of mushroom, classification, life cycle of Oyster mushroom, Type of Mushrooms: Oyster mushroom, Milky mushroom, Reishi. Mushroom production: Substrates, sterilization methods, Process, Value added products, scenario of mushroom cultivation in India.

UNIT 3 PRODUCTION OF SERICULTURE AND API CULTURE 9 Hrs.

Definition of Sericulture, Moriculture, silkworm life cycle and rearing, reeling. scenario of sericulture in India.

Definition of Apiculture, Classification of Honey bee, life cycle, role of honey bee: Drone, Queen, Worker. Harvesting boxes, Extracting Products, apiculture biproducts, scenario of Apiculture in India.

UNIT 4 PRODUCTION OF SPIRULINA AND VERMICOMSTING 9 Hrs.

Definition of SCP, classification of Spirulina, Life cycle, Nutritional Profile and benefits, Production Process and Harvesting methods.Value added products, scenario of Spirulina cultivation in India.Definition of Vermicomposting, Substrates for vermicomposting, Production Process, applications. scenario of Vermicomposting in India

UNIT 5 PRODUCTION OF SEA WEEDS 9 Hrs.

Classification of Seaweed, Life cycle, Benefits of seaweed, Production Process: Seed Material, methods of Farming, Harvesting Methods, value added products,scenario of Scenario of sea weed farming in India.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Describe the importance of Entrepreneurship
CO2 - Summarize the process of initiating start ups
CO3 - Demonstrate the cultivation of mushroom
CO4 - Analyse the effectiveness of Apiculture
CO5 - Appraise the process of Vermicompost technology
CO6 - Evaluate the value products of seaweeds.

TEXT / REFERENCE BOOKS

1. Biotech Consortium India Ltd, Resource book, 2018.
2. Suman B.C and Sharma V.P, Mushroom cultivation In India,2007.
3. Madhan Mohan Rao,M, An Introduction to Sericulture , 2nd Edition, BS Publications.2019.
4. Jayashree K.V, Thara Devi C.S, Arumugam N, Apiculture,SaraS Publications, 2014.

5. KarthiKeyan, Spirulina formula for starting harvest,2022.
6. Seetha Lekshmy, Santhi R, Vermitechnology, SaraS Publications, 2012.
7. Bruno Augusto Amato Borges, Seaweed Cultivation, Del Publishing, 2017.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SBTB4003	ORGANIC AGRICULTURE	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To emphasize the need for novel organic methods in agriculture for healthy living and better soil management.

UNIT 1 DEVELOPMENT OF ORGANIC AGRICULTURE 9 Hrs.

Stages in Agricultural Development – History of Alternative Agricultural Development – Ill effects of Green Revolution Organic farming – Need, Concepts, Definition and Components – Essential characteristics – Key principles – Different concepts of organic farming – Natural farming, Biodynamic farming, Perma culture and Zero Budget Farming.

UNIT 2 AGRICULTURAL POLLUTION AND MANAGEMENT 9 Hrs.

Adverse effect of Modern Agriculture on soil and water resources - Impact of high technology agriculture on crop production – Soil pollution – Agro chemical pollution – Detrimental effects of currently chemical dependant farming - Reduction of crop production due to depletion of soil Health - Pesticide contamination and human health hazard - Contamination of food products by pesticides & chemicals - Environmental (soil, water, air) pollution - Reduction of natural enemies of crop pests - Threat to Bio diversity.

UNIT 3 IMPORTANCE OF SOIL 9 Hrs.

Soil formation, composition and characteristics, types of soil according to composition. Acidic, alkaline and saline soils – effect on agriculture and methods of reclamation. Soil productivity – meaning and concept. Difference between soil fertility and productivity, methods of increasing productivity and fertility. Properties of fertile soil.

UNIT 4 ORGANIC SOURCES OF PLANT NUTRIENTS 9 Hrs.

Essential plant nutrients, Soil plant nutrients, soil organic matter. Manures, farmyard manure, sheep and goat manure, poultry manure, concentrated organic manures. Compost, methods of composting, benefits of using composts to agriculture, improves the physical, chemical and biological properties of soil, vermicomposting, coir pith composting, crop residue composting, tricho-composting.

UNIT 5 BIOFERTILIZER 9 Hrs.

Working principles of biofertilizer, application of biofertilizers. Green manuring, benefits of using green manuring, selecting green manures ot use. Panchagavya, EM technology in organic farming.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Summarize the development of organic agriculture.
CO2 - Associate the impact of current agricultural practices to pollution.
CO3 - Intepret the impact of chemicals on soil fertility.
CO4 - Analyze the characteristics of soil.
CO5 - Appraise the effectiveness of manures and composts.
CO6 - Recommend the application of biofertilizer and green manure.

TEXT / REFERENCE BOOKS

1. Principles of Organic Farming, E. Somasundaram, D. Udhaya Nandhini, M. Meyyappan, New India Publishing Agency, 2021
2. Basics of Organic Farming, Bansal M, Athithi books, 2020
3. Organic Farming Theory And Practice 2nd Revised Ed, Palaniappan S P and K Annadurai, Scientific Publishers (India), 2022
4. Principles of Organic Farming, S.R. Reddy, Kalyani publications, 2017

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SBTB4004	ORNAMENTAL AQUACULTURE	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To learn the basics of ornamental fish culture, Breeding, water quality and disease management.

UNIT 1 INTRODUCTION TO ORNAMENTAL FISH CULTURE 9 Hrs.

World trade of ornamental fish and export potential. Different varieties of exotic and indigenous fishes. Principles of a balanced aquarium. Fabrication, setting up and maintenance of freshwater and marine aquarium.

UNIT 2 WATER QUALITY MANAGEMENT AND FILRATION 9 Hrs.

Water quality management. Water filtration system-biological, mechanical and chemical. Types of filters.

UNIT 3 AQUARIUM PLANTS, ACCESSORIES AND FEEDS 9 Hrs.

Aquarium plants and their propagation methods. Lighting and aeration. Aquarium accessories and decorative. Aquarium fish feeds. Dry, wet and live feeds.

UNIT 4 ORNAMENTAL FISH CULTURE AND BREEDING 9 Hrs.

Breeding and rearing of ornamental fishes. Brood stock management. Application of genetics and biotechnology for producing quality strains.

UNIT 5 DISEASE MANAGEMENT AND TRADE 9 Hrs.

Management practices of ornamental fish farms. Common diseases and their control. Conditioning, packing, transport and quarantine methods. Trade regulations and wild life act in relation to ornamental fishes.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Identify the common ornamental fishes and plants.
CO2 - Design the aquarium tanks
CO3 - Setup the aquarium accessories and equipment.
CO4 - Experiment the water quality parameters for aquatic organisms' culture and transport.
CO5 - Formulate the feeds for aquatic organisms.
CO6 - Investigate, Identify, and treat the ornamental fish diseases.

TEXT / REFERENCE BOOKS

1. Ahilan. B, Felix. N and Santhanam. R., 2008. Text book of Aquariculture. Daya Publishing House, New Delhi. p.157.
2. Ahilan. B, Felix. N and Jameson, J.D., 2009. Goldfish. Daya Publishing House, New Delhi. p.87.
3. Archana Sinha, Prem Shankar Pandey and Surya Kumar Prabhakar 2008. Training Manual on Culture and Breeding of Ornamental Fish. Central Institute of Fisheries Education, Kolkata centre.
4. Dey, V.K., 2008. Global Trade in Ornamental Fish: Trends, Prospects and Issues. Abstract, International seminar on Ornamental fish breeding, farming and trade, Cochin, India. pp.2.
5. Singh, T. and Dey, V.K., 2003. Ornamental fish trade runs into billions, Info fish Int., 5:54-60.

6. Thomas, K., 2008. Status of Ornamental fish trade in India with special reference to investment and trade opportunities. Abstract, International seminar on ornamental fish breeding, farming and trade, Cochin, India. pp.7.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCHB4001	ENERGY ENGINEERING	L	T	P	Credits	Total Marks
		3	0	0	3	100

COURSE OBJECTIVE

- To enable the learner to understand the various renewable energy sources, energy conversion, energy resources and fuel cells.

UNIT 1 INTRODUCTION TO CONVENTIONAL & NON-CONVENTIONAL ENERGY SOURCES 9 Hrs.

Conventional energy sources; non-conventional energy sources; Energy sources, Coal, Oil, Natural gas, nuclear fuels, Hydro power advantages. Classification of fuels. Introduction to solar energy, Solar radiation and its measurement, solar constant, solar radiation at earth's surface, solar radiation geometry, solar radiation measurement. Applications, solar water heating, space heating, space cooling, solar thermal electric conversion. Agriculture and industrial process heating, solar distillation, solar pumping, solar cooking.

UNIT 2 ENERGY FROM BIOMASS (BIO – ENERGY): INTRODUCTION 9 Hrs.

Biomass conversion Technologies. Wet processes, Dry processes. Biogas generation. Factors affecting bio digestion or generation of gas. Classification of biogas plants. Advantages and disadvantages of floating drum plant. Advantages and disadvantages of fixed dome type plant. Types of biogas plants (KVIC model & Janata model). Selection of site for biogas plant.

UNIT 3 BIO – ENERGY (THERMAL CONVERSION) AND ELECTRICAL CONDUCTION (MHD) 9 Hrs.

Methods of obtaining energy from biomass, Thermal gasification of biomass, Classification of biomass gasifiers, Chemistry of gasification process, Applications of the gasifiers. Magneto hydrodynamic generator, electrical conductivity and formation of MHD, performance comparison of open and closed cycle.

UNIT 4 WIND ENERGY AND OTEC 9 Hrs.

Basic components of WECS (wind energy conversion system): Classification of WECS, Types of wind machines, horizontal axis machines, vertical axis machines. Applications of wind energy. Energy from the oceans: Introduction, Ocean thermal electric conversion (OTEC), Methods of ocean thermal electric power generation, Open cycle OTEC system, Closed or Anderson OTEC cycle, hybrid cycle. Application of energy from oceans.

UNIT 5 FUEL CELLS BASICS AND WASTE HEAT RECOVERY 9 Hrs.

Fuel Cells, Difference between batteries and fuel cells, Components of fuel cells, Principle of working of fuel cells, Fuel cell types: Alkaline fuel cells. Polymer electrolyte fuel cells, Phosphoric acid fuel cells, Molten carbonate fuel cells, Solid oxide fuel cells, Applications. Co-generation- waste heat recovery and heat pump.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand various conventional and non- conventional energy sources.
CO2 - Evaluate the advantages and disadvantages of various types of bio gas generators
CO3 - Demonstrate the working principle of biomass gasifiers.
CO4 - Classify wind energy conversion systems
CO5 - Compare the various methods of generating ocean thermal electric power
CO6 - Demonstrate the working principle of various kinds of fuel cells.

TEXT / REFERENCE BOOKS

1. Rai G.D., Non-Conventional Energy Sources, 4thEdition, Khanna Publishers, New Delhi, 2004.
2. Rao S.S., Energy Technology, 3rdEdition, Khanna Publishers, New Delhi, 2009.
3. R.K.Singal, Efficient utilization of energy, 2ndEdition,New Age International Publishers, New Delhi ,2017.
4. Christopher H. and Armsteed H., Geothermal Energy, 3rdEdition, John Wiley, New York, 2000.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCHB4002	INDUSTRIAL POLLUTION PREVENTION AND CLEANER PRODUCTION	L	T	P	Credits	Total Marks
		3	0	0	3	100

COURSE OBJECTIVE

- Cleaner production is the continuous application of an integrated preventive environmental strategy applied to process, products and services to increase overall efficiency and reduce risks.
- To impart the knowledge on these principles are implied under the conception of cleaner production.

UNIT 1 INTRODUCTION 9 Hrs.

Industrial Activity and Environment – Industrialization and Sustainable Development – Indicators of Sustainability- Sustainability Strategies – Barriers to Sustainability – Industrial Ecology – Pollution Prevention (PP) and Cleaner Production (CP) in achieving Sustainability- Prevention versus Control of Industrial Pollution - Environmental Policies and Regulations to encourage Pollution Prevention and Cleaner Production – Regulatory versus Market-based approaches**.**

UNIT 2 CONCEPT OF POLLUTION PREVENTION AND CLEANER PRODUCTION 9 Hrs.

Definition – Importance - Historical Evolution – Benefits - Promotion - barriers – Role of Industry, Government and Institutions - Environmental Management Hierarchy – Source Reduction techniques – Process and Equipment Optimization, Reuse, Recover, Recycle, Raw material substitution - Internet information and Other PP and CP Resources.

UNIT 3 PP & CP MANAGEMENT 9 Hrs.

Pollution Prevention and Cleaner Production Project development and implementation – Overview of CP Assessment steps and skills, Preparing the site, Information gathering, and Flow diagram, Material balance, PP and CP Option generation, Technical and Environmental Feasibility analysis, Total Cost analysis - PP and CP Financing.

UNIT 4 MANAGEMENT PROGRAM 9 Hrs.

Establishing a Program - Organizing a Program- Preparing a program plan - Measuring progress – Pollution Prevention and Cleaner Production Awareness Plan - Waste Audit- Environmental Statement - Environmental Management Program – Economic incentive and disincentives as instruments for environmental management – Tax, subsidies, fee, tradable permits.

UNIT 5 CASE STUDIES 9 Hrs.

Industrial Applications of PP and CP, LCA, EMS and Environmental Audits.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand Industrialization, Sustainable Development and Environmental Policies and Regulations.
CO2 - Apply concept of pollution prevention and role of industry.
CO3 - Estimate Source Reduction techniques and apply cleaner production.
CO4 - Analyze Pollution Prevention management.
CO5 - Analyze Cleaner Production and cost analysis.
CO6 - Carry out material balance and various audits.

TEXT / REFERENCE BOOKS

1. Paul L. Bishop, “Pollution Prevention: Fundamentals and Practice”, McGraw-Hill International, 2016.
2. World Bank Group, “Pollution Prevention and Abatement Handbook-Towards Cleaner Production”, World Bank and UNE, Washington D.C., 1998.
3. Prasad Modak, C. Visvanathan and Mandar Parasnis, “Cleaner Production Audit Environmental System Reviews”, No. 38, Asian Institute of Technology; Bangkok, 1995.
4. Freeman, H.M, Industrial Pollution Prevention Handbook”, McGraw Hill”, 2005.
5. James G. Mann and V.A. Liu, “Industrial Water Reuse and Wastewater Minimization”, McGraw Hill, 2018.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCHB4003	AIR POLLUTION AND CONTROL ENGINEERING	L	T	P	Credits	Total Marks
		3	0	0	3	100

COURSE OBJECTIVE

- To confer information on the guideline and plan of control of Indoor/particulate/vaporous air contamination and its arising patterns.
- To give general comprehension of nature of air and effect on neighborhood and worldwide impacts of air contamination on human, materials, properties and vegetation.
- To concentrate on the destiny and transport of air contaminations and its estimation strategies.
- To confer the information and comprehension of circumstances and end results of air contamination and their controlling instruments.

UNIT 1 INTRODUCTION 9 Hrs.

Structure and composition of Atmosphere – Definition, Scope and Scales of Air Pollution – Sources and classification of air pollutants and their effect on human health, vegetation, animals, property, aesthetic value and visibility- Ambient Air Quality and Emission standards.

UNIT 2 METEOROLOGY 9 Hrs.

Effects of meteorology on Air Pollution - Fundamentals, Atmospheric stability, Inversion, Wind profiles and stack plume patterns- Atmospheric Diffusion Theories – Dispersion models, Plume rise.

UNIT 3 PARTICULATE CONTAMINANTS 9 Hrs.

Control of Particulate Contaminants: Factors affecting Selection of Control Equipment – Gas Particle Interaction – Working principle - Gravity Separators, Centrifugal separators Fabric filters, Particulate Scrubbers, Electrostatic Precipitators.

UNIT 4 GASEOUS CONTAMINANTS 9 Hrs.

Control of Gaseous Contaminants: Factors affecting Selection of Control Equipment – Working principle - absorption, Adsorption, condensation, Incineration, Bio filters – Process control and Monitoring.

UNIT 5 AIR QUALITY MANAGEMENT 9 Hrs.

Indoor Air Quality Management: Sources, types and control of indoor air pollutants, sick building syndrome and building related illness. Sources and Effects of Noise Pollution – Measurement – Standards –Control and Preventive measures.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Identify the sources of air pollutants in a city.
CO2 - Estimate the damage due to air pollutants.
CO3 - Associate air pollution with meteorology.
CO4 - Calculate the concentrations of various air pollutants.
CO5 - Predict the concentrations of various air pollutants.
CO6 - Design air pollution control framework.

TEXT / REFERENCE BOOKS

1. Lawrence K. Wang, Norman C. Pareira, Yung Tse Hung, “Air Pollution Control Engineering”, Tokyo, springer science + science media LLC,2004.
2. Noel de Nevers, “Air Pollution Control Engineering”, Waveland press, Inc 2017.
3. Anjaneyulu. Y, “Air Pollution and Control Technologies", Allied Publishers (P) Ltd., India 2002.
4. David H.F. Liu, Bela G. Liptak, “Air Pollution”, Lweis Publishers, 2000.
5. Arthur C. Stern, “Air Pollution (Vol.I – Vol.VIII)”, Academic Press, 2006.
6. Wayne T.Davis, “Air Pollution Engineering Manual”, John Wiley & Sons, Inc, 2000.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCHB4004	INDUSTRIAL WASTEWATER TREATMENT	L	T	P	Credits	Total Marks
		3	0	0	3	100

COURSE OBJECTIVE

- To understand various terms used in industrial wastewater treatment and to acquaint with different steps involved in treatment of industrial wastewater.

UNIT 1 WATER POLLUTION 9 Hrs.

Nature and types of water pollutants, organic and inorganic water pollutants - Water treatment-municipal sewage andindustrial water treatment, Preliminary primary, secondary and tertiary treatment methods water reuse and recycling. General Characteristics of Industrial Effluents, Effects on Environment - ISI tolerance limits for discharging industrial effluents into surface water, into public sewers and onto land for irrigation - Toxic chemicals from industry.

UNIT 2 INDUSTRIAL WASTEWATER MANAGEMENT 9 Hrs.

Basic theories, Industrial waste survey -Measurement of industrial wastewater Flow-generation rates – Industrial wastewater sampling and preservation of samples for analysis -Wastewater Characterization-Toxicity of industrial effluents.

UNIT 3 TREATMENT OF WASTEWATER 9 Hrs.

Unit operations and processes-Volume and Strength reduction –Neutralization and Equalization, Segregation and proportioning-recycling, reuse and resources recovery.

UNIT 4 INDUSTRIAL EFFLUENTS TREATMENT 9 Hrs.

Pretreatment of Industrial effluents - Necessity of pretreatment - Equalization - Segregation - Process Changes Salvaging - By product Recovery. Removal by Reverse Osmosis, Ion Exchange, Electrodialysis, Solvent Extraction, Floatation. Removal of Refractory Organics - Removal of Nitrogen and Phosphorus.

UNIT 5 COMMON EFFLUENT TREATMENT PLANTS (CETP) 9 Hrs.

Location, Design, Operationand Maintenance Problems – Economical aspects. Major Industrial Effluents: Sources, Characteristics and Treatment. Food Industries: Sugar, Dairy, Distilleries, Chemical Industries: Paper and Pulp, Tanneries, Textiles, Fertilizers, Pharmaceuticals, Cement and Steel industry.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Analyze the characteristics of waste water
CO2 - Examine the manufacturing process of various industries
CO3 - Design treatment methods for any industrial wastewater
CO4 - Develop a component, system or process or technology to meet desired needs and imposed constraints.
CO5 - Ability to analyze the data, interpret results and draw conclusions
CO6 - Assess need for common effluent treatment plant for an industry

TEXT / REFERENCE BOOKS

1. M. N. Rao and A. K. Dutta, “Wastewater Treatment”, Oxford & IBH, New Delhi.
2. K.V. S. G. Murali Krishna, “Industrial Water and Wastewater Management”.
3. A. D. Patwardhan, “Industrial Wastewater treatment”, PHI Learning, Delhi.
4. Metcalf and Eddy Inc., “Wastewater Engineering”, Tata McGraw Hill co., New Delhi.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCHB4005	PROCESS SAFETY MANAGEMENT	L	T	P	Credits	Total Marks
		3	0	0	3	100

COURSE OBJECTIVE

- To enable the students to understand the importance of safety in process industries.
- To assess and identify the potential hazards in process industries.

UNIT 1 INTRODUCTION 9 Hrs.

Need for safety in industries, Safety Programmes, components and realization; Potential hazards, extreme operating conditions, toxic chemicals, safe handling.

UNIT 2 SAFETY PROCEDURES 9 Hrs.

Implementation of safety procedures, periodic inspection and replacement, Accidents, identification and prevention, promotion of industrial safety.

UNIT 3 RISK ANALYSIS 9 Hrs.

Overall risk analysis, emergency planning-on site & off-site emergency planning, risk management ISO 14000, EMS models case studies. Quantitative risk assessment - rapid and comprehensive risk analysis, Risk due to radiation, explosion due to over pressure, jet fire-fire ball.

UNIT 4 HAZARD ANALYSIS 9 Hrs.

Hazard identification safety audits, checklist, vulnerability models event tree analysis, fault tree analysis, Hazan past accident analysis Flixborough-Mexico-Madras-Vizag-Bhopal analysis.

UNIT 5 SAFE MANAGEMENT IN INDUSTRIES 9 Hrs.

Safe Handling and Operation of materials and Machinery, periodic inspection and replacement, maintenance of pumping system-reactor-mass transfer system.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Assess the risk in a process plant by hazard identification
CO2 - Determine the impact of the consequences of accidents and incidents
CO3 - Analyze a safety audit in a process plant with case studies
CO4 - Demonstrate the awareness of plant safety in selection and layout of chemical plants and the usage of safety codes.
CO5 - Exhibit the skill in classifying chemical, fire, explosion hazards and to understand the occupational diseases
CO6 - Analyse and implement the engineering response to health hazards

TEXT / REFERENCE BOOKS

1. Daniel A.Crowl, Joseph F. Louvar.,Chemical Process Safety Fundamentals with Applications, 3rd Edition, Prentice Hall Inc., New Jersey, 2011.
2. Hyatt, N., Guidelines for process hazards analysis, hazards identification & risk analysis, Dyadem Press, 2004
3. Ericson C.A., Hazard Analysis Techniques for System Safety, 2nd ed., Wiley, USA, 2015
4. Fawcett H.H. and Wood W.S., Safety and Accident Prevention in Chemical Operation, 2nd Edition, Inter Science, 1982

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCHB4006	SUSTAINABLE ENGINEERING	L	T	P	Credits	Total Marks
		3	0	0	3	100

COURSE OBJECTIVE

- To establish clear understanding and the role on the various impacts and issues related to sustainability.

UNIT 1 SUSTAINABILITY 9 Hrs.

Introduction, concept, evolution of the concept; Social, environmental andeconomic sustainability concepts; Sustainable development, Nexus between Technology andSustainable development; Millennium Development Goals (MDGs) and SustainableDevelopment Goals (SDGs), Clean Development Mechanism (CDM).

UNIT 2 WASTE MANAGEMENT 9 Hrs.

Zerowaste concept and 3 R concepts in solid waste management; Greenhouse effect, Global warming,Climate change, Ozone layer depletion, Carbon Creditss, carbon trading and carbon foot print,legal provisions for environmental protection.

UNIT 3 STANDARD 9 Hrs.

Environmental management standards: ISO 14001:2015 frame work and benefits, Scope andgoal of Life Cycle Analysis (LCA), Circular economy, Bio-mimicking, Environment ImpactAssessment (EIA), Industrial ecology and industrial symbiosis.

UNIT 4 RESOURCES AND ITS UTILIZATION 9 Hrs.

Basic concepts of Conventional and non-conventional energy,General idea about solar energy, Fuel cells, Wind energy, Small hydro plants, bio-fuels, Energyderived from oceans and Geothermal energy.

UNIT 5 SUSTAINABILITY PRACTICES 9 Hrs.

Basic concept of sustainable habitat, Methods for increasing energyefficiency in buildings, Green Engineering, Sustainable Urbanization, Sustainable cities,Sustainable transport

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the relevance and the concept of sustainability and the global initiatives
CO2 - Explain the different types of environmental pollution problems and their sustainable solutions
CO3 - Discuss the environmental regulations and standards
CO4 - Demonstrate the broad perspective of sustainable practices
CO5 - Analyze the problem and to develop the solutions in the area of sustainability for research and education
CO6 - Ability to quantify resource availability and rationalize the sustainability based on scientific merits.

TEXT / REFERENCE BOOKS

1. W. Wimmer, and Joanne Kauffman (Eds.), Handbook of Sustainable EngineeringSpringer (Available in June2011).
2. Daniel A. Vallero and Chris Brasier. Wiley-Blackwell (2008).Sustainable Design: The Science of Sustainability and Green Engineering Sustainable Engineering Practice: An Introduction
3. Committee on Sustainability, American Society of Civil Engineers (2004).

4. Systems Analysis for Sustainable Engineering: Theory and ApplicationsNi-Bing Chang, McGraw-Hill (2010).

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCHB4007	CORROSION ENGINEERING	L	T	P	Credits	Total Marks
		3	0	0	3	100

COURSE OBJECTIVE

- To provide fundamental understanding of aspects of electrochemistry and material science relevant to corrosion phenomena, prevention and remediation of corrosion

UNIT 1 INTRODUCTION 9 Hrs.

Definition of Corrosion, corrosion damage, effect of material safety and reliability, classification of corrosion, expression ofcorrosion rate, electrochemical corrosion reaction, redox reaction, effect of oxygen, oxidizers. Effect of temperatures,concentration of chemicals on corrosion rate, Corrosion: direct & two stage attack, electrochemical attack.

UNIT 2 TYPES OF CORROSION 9 Hrs.

Effect of galvanic coupling, metallurgical aspects, metallic properties, ringworm corrosion, Principle of modern corrosiontheory, Forms of corrosion, Uniform attack, galvanic corrosion, crevice corrosion, pitting inter-granular corrosion andhydrogen damage, higher corrosion resistance through proper selection of material.Technologies of anodization, enamelling, rubber lining, glass lining, refractory lining, painting and other surface protectivemeasures. Pourbaix Diagram for Iron, Magnesium and Aluminum.

UNIT 3 APPLICATION OF CORROSION ENGINEERING 9 Hrs.

Corrosion engineering in special applications such as material transport, pumping, filtration, condensation, boiling, riveting,welding, and high temperature environments. Surfacing Processes – CVD And PVD Processes, Sputter Coating. Laser andIon Implantation, Arc Spray, Plasma Spray, Flame Spray, HVOF.

UNIT 4 CORROSION TESTING AND MEASUREMENTS 9 Hrs.

Corrosion testing, monitoring and inspection, laboratory corrosion test, accelerated chemical tests for studying differentforms of corrosion, electrochemical methods of corrosion rate measurements by DC and AC methods, corrosion monitoringmethods, chemical and electrochemical removal of corrosion products, cost factor in competitive corrosion prevention andinhibition techniques.

UNIT5 INDUSTRIAL CASE STUDIES 9 Hrs.

Corrosion by organic acids and alkalise. Seawater and Fresh water corrosion on concrete structures, Corrosion in automobiles, biologicalcorrosion, Halogen corrosion of metals, Corrosion in Petroleum industry, Corrosion in aerospace. Corrosion and selection of materials of pulp and paper plants. Corrosion of wet scrubbers in pollution control. Nuclear waste isolation and corrosionby liquid metal and fused salts. Corrosion of surgical implants and prosthetic devices. Corrosion in electronic equipment

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Equipped with in an introduction to corrosion and its mechanism/types.
CO2 - Enable to explain the different types of corrosion.
CO3 - Inculcate the protective measures to overcome corrosion.
CO4 - Development of advanced technological process for corrosion prevention.
CO5 - Measurement and monitoring of corrosion mechanism.
CO6 - Attribute in depth knowledge to solve industrial corrosion situations.

TEXT / REFERENCE BOOKS

1. Uhlig. H.H. “Corrosion and Corrosion Control”. 2nd Edition, John Wiley & Sons. New York. USA. 2002.
2. Butler, G., H.C.K., Corrosion & its Prevention in Waters, 5th Edition, Leonard Hill, London, 2010.
3. Maslow, P., Chemical Materials for Construction, 3rd Edition, Structures Publishing Co., 2001.
4. Fontance, M.G. &Gtretrnee, N.D., Corrosion Engineering, 4th Edition, McGraw Hill, 2006.
5. Rajagopalan, K.S. Corrosion and its Prevention, Chemical Engineering Education Development Centre, IIT Madras, 2005.
6. Fontana M.G., "Corrosion Engineering", 3rd Edition, Tata McGraw Hill Publishing Company Ltd, New Delhi, 2005

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCIB4001	DISASTER MANAGEMENT	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To create an awareness towards natural and man-made disasters, disaster preparedness and disaster management.
- To prevent disasters and achieve substantial reduction of disaster risk and losses in lives, livelihoods, health, and assets.
- To study the risk assessment and people participation in risk assessment for holistic approach.

UNIT 1 INTRODUCTION TO DISASTERS 9 Hrs.

Natural resources and its importance - understanding on fragile eco-system - characteristics and types of Disasters, Geological and Mountain Area Disasters: Earthquakes, Volcanic eruption, landslides - Wind and Water Related Natural Disaster: Floods, Droughts, Cyclones, Tsunamis - Man Made Disasters: Forest fires, Nuclear, Biological and Chemical disaster - Causes and effects - Disaster Profile of India - Disaster Management cycle.

UNIT 2 DISASTER PREPAREDNESS 9 Hrs.

Disaster management, mitigation and preparedness: Disaster Preparedness for People and Infrastructure, Community based Disaster Preparedness Plan - Roles & Responsibilities of Different Agencies and Government: Education, Communication & Training, Central, State, District and local administration, Armed Forces, Police, Para Military Forces, International Agencies, and NGO's - Disaster Mitigation: Strategies, Emerging Trends, Mitigation management and Role of Team and Coordination.

UNIT 3 REHABILITATION, RECONSTRUCTION AND RECOVERY 9 Hrs.

Damage assessment – Development of Physical and Economic Infrastructure - Nature of Damage to Houses and Infrastructure due to Disasters - Funding Arrangements for Reconstruction - Monitoring and Evaluation of Rehabilitation Work: Training, Rescue and planning the rescue activities and rehabilitations - Role of Government and NGO's - Participative Rehabilitation Process: Case Studies.

UNIT 4 DISASTER RESPONSE AND DISASTER MANAGEMENT 9 Hrs.

Disaster Response Plan: Communication, Participation and Activation of Emergency Preparedness Plans, Search, Rescue, Evacuation and other logistic management - Human Behaviour and Response Management: Psychological Response and Psychological Rehabilitation, Trauma and Stress Management, rumour and Panic Management, Medical and Health Response to Different Disasters - Relief Measures: Minimum Standard of Relief, essential components of Relief Management, and funding.

UNIT 5 RISK ASSESSMENT AND VULNERABILITY ANALYSIS 9 Hrs.

Hazard, Risk and Vulnerability: Concept and Relationship: Disaster Risk Reduction, People Participation in Risk Assessment - Vulnerability Analysis, Vulnerability Identification - Vulnerability profile of India - Strategies for Survival - Social Infrastructure for Vulnerability Reduction.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the fragile ecosystem and the types of the disasters.
CO2 - Examine the preparedness and the responsibilities of different agencies on Disaster.
CO3 - Implement the rescue, rehabilitation and reconstruction process of disaster management.
CO4 - Assess the disaster response and relief measures.

CO5 - Understand the concepts of disaster risk.
CO6 - Gain and insight of the concepts of vulnerability reduction.

TEXT / REFERENCE BOOKS

1. Bryant Edwards, “Natural Hazards”, Cambridge University Press, U.K, 2005
2. Carter, W. Nick, “Disaster Management, Asian Development Bank”, Manila, 1991.
3. Government of India, “Vulnerability Atlas of India”, New Delhi, 1997.
4. Sahni, Pardeep et.al. (eds.), “Disaster Mitigation Experiences and Reflections”, Prentice Hall of India, New Delhi, 2002
5. Sahni, Pardeep and Ariyabandu, “Disaster risk reduction in South Asia”, Phi learning pvt. Ltd., New Delhi, 2012.
6. Sharma, R.K. & Sharma, G.,(ed), “Natural Disaster”, APH Publishing Corporation, New Delhi, 2005.
7. Taori, K, “Disaster Management through Panchayati Raj”, Concept Publishing Company, New Delhi, 2005.
8. NOAA Coastal Services Center, “Linking People Information and Technology”.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCIB4002	PUBLIC HEALTH ENGINEERING	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To provide knowledge about the solid waste management and its disposal.
- To implicate the importance of wastewater treatment.
- To create awareness and importance of the Rainwater Harvesting and Artificial Recharge Techniques.
- To provide an awareness about the health impacts due to water, air and land pollution.
- To gain knowledge on various regulatory bodies and acts.

UNIT 1 SOLID WASTE MANAGEMENT 9 Hrs.

Importance of public health engineering – Role of public health engineer - Sources and types of solid wastes - Waste generation rates and variation - Components of Integrated SWM - Sustainable SWM techniques at source - Segregation and sorting, reduce, reuse, and recycle. Present scenario of SWM in Urban Local Bodies - Dumping of solid waste- sanitary landfills- waste disposal options - Case studies related to reuse of waste.

UNIT 2 WASTEWATER MANAGEMENT 9 Hrs.

Sewage – classification - Waste water treatment – primary, secondary and tertiary stages - Standards for Disposal – Methods - Self- purification of river- Oxygen sag curve - Land disposal – Sewage farming - Objectives – Sludge characterization – Thickening – Design of gravity thickener- Sludge digestion – Sludge Conditioning and Dewatering – Sludge drying beds- ultimate residue disposal – recent advances - Case studies related to wastewater reclamation.

UNIT 3 WATER QUALITY MANAGEMENT 9 Hrs.

Role of Environmental Engineer - Water supply - development of public water supply - need for protected water supplies - objectives of water supply systems –- Quality of water - physical, chemical and biological aspects - analysis of water - water quality standards - Sustainable Development - Rainwater Harvesting-Artificial Recharge Techniques – Case studies related to water management.

UNIT 4 HEALTH IMPACTS 9 Hrs.

Health and environmental effects of water, air and land pollution - Chemicals in drinking water - Sources of air pollution – Sources of land pollutants - Disease - Preventive measures – Case studies related to pollution effects.

UNIT 5 GUIDELINES FOR WATER ACT & AIR ACT 9 Hrs.

Industrial Applications of PP and CP, LCA, EMS and Environmental Audits.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the segregation and 3R from the solid waste.
CO2 - Perform basic design of the unit operations and processes that are used in sewage treatment.
CO3 - Analysis of water quality criteria and standards and their relation to public health.
CO4 - Study on health impacts and its preventive measures.
CO5 - Gain and insight about the various boards for water and air acts.
CO6 - Understand the prevention and control of water and air pollution acts.

TEXT / REFERENCE BOOKS

1. Khan, I. H., & Ahsan, N. (2019). Textbook of solid waste management. New Delhi: Satish Kumar Jain for CBS Publisher and Distributors.
2. Mantell C.L., (1975), "Solid Waste Management", John Wiley.
3. "Wastewater Engineering - Treatment and Reuse", Metcalf and Eddy Inc., (2012), 4th Edition, Tata McGraw Hill Publishing Co. Ltd., New Delhi.
4. Viessman Jr, Hammer J. M, Perez, E.M, and Chadik, P. A, Water Supply and Pollution Control, PHI Learning, New Delhi, 2009
5. CPHEEO (2016). Manual on Municipal Solid Waste Management, Central Public Health and Environmental EngineeringOrganisation, Ministry of Urban Development, Govt. of India, New Delhi.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCSB4001	5G NETWORKS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVES

- To gain in depth knowledge of wireless networks for the future communication systems.
- To study the concepts of wireless networks for the future communication systems.
- To discuss 5G networks and its applications.

UNIT 1 MULTI-GIGABIT WIRELESS NETWORKS 9 Hrs.

Next generation (5G) wireless technologies- Upper Gigahertz and Terahertz wireless communications: Millimeter wave networking - Directionality and beam forming- Mobility and signal blockage - IEEE 802.11ad (60 GHz WLAN) MAC and PHY overview: Visible light communication- High-speed networking using LEDs - IEEE 802.15.7 PHY and MAC overview Sensing through visible light- Visible light indoor localization and positioning.

UNIT 2 INDOOR LOCALIZATION AND RF SENSING 9 Hrs.

Smartphone localization - WiFi fingerprinting - protocols and challenges - non-WiFi localization - Device-free sensing with radio frequency - Mining wireless PHY channel state information- Device- free localization and indoor human tracking - Activity and gesture recognition through RF.

UNIT 3 LOW-POWER NETWORKING FILTERS 9 Hrs.

Backscatter communication - Radio Frequency Identification (RFID) technology overview - Energy harvesting tags and applications- Internet-of-Things (IoT) - IoT protocol overview - CoAP and MQTT - IPv6 networking in low-power PANs (6LoWPAN).

UNIT 4 FUTURE MOBILE NETWORKS 9 Hrs.

Drone networking - multi-UAV networks, architectures and civilian applications-Communication challenges and protocols for micro-UAVs- Connected and autonomous cars - Wireless technologies for Vehicle-to-Infrastructure (V2I) and Vehicle-to- Vehicle (V2V) communications - Automotive surrounding sensing with GHz and THz signals.

UNIT 5 QUALITY OF SERVICE 9 Hrs.

QoS Challenges in Wireless IP Networks - QoS in 3GPP - QoS Architecture, Management and Classes -QoS Attributes - Management of End-to-End IP QoS - EPS Bearers and QoS in LTE networks.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the fundamental concepts of 5G networks.
CO2 - Describe the 5G architecture and operation model.
CO3 - Analyze the protocol support of 5G network.
CO4 - Design IoT based applications with 5G network.
CO5 - Describe the future mobile networks.
CO6 - Implement 5G network with simulation.

TEXT / REFERENCE BOOKS

1. Wireless Communications: Principles and Practice, by Theodore S. Rappaport, Prentice Hall., 2014
2. 802.11n: A Survival Guide, by Matthew Gast, O'Reilly Media.
3. 802.11ac: A Survival Guide, by Matthew Gast, O'Reilly Media.
4. Wireless Networking Complete, by Pei Zheng et al., Morgan Kaufmann.

5. Zhang, Yin, Chen, Min, “Cloud Based 5G Wireless Networks”, Springer, 2016
6. Jonathan Rodriguez, “Fundamentals of 5G Mobile Networks”, Wiley 2015.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCSB4002	MALWARE ANALYSIS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVES

- To introduce the concepts of OS security and malware.
- To learn the fundamentals of malware analysis.
- To understand the concepts of static malware analysis.
- To understand the concepts of dynamic malware analysis
- To describe the malware functionality and detection techniques.

UNIT 1 INTRODUCTION 9 Hrs.

Introduction to malware, OS security concepts, malware threats, evolution of malware, malware types – viruses, rootkits, worms, bots, Trojans, spyware, adware, logic bombs, basic malware analysis, static malware analysis, dynamic malware analysis.

UNIT 2 MALWARE ANALYSIS FUNDAMENTALS 9 Hrs.

Assembling a toolkit for effective malware analysis - examining static properties of suspicious programs - performing behavioural analysis of malicious Windows executables - performing static and dynamic code analysis of malicious Windows executables - interacting with malware in a lab to derive additional behavioural characteristics.

UNIT 3 STATIC MALWARE ANALYSIS 9 Hrs.

Architecture of X86 - Main Memory, Instructions, Opcodes and Endianness, Operands, Registers, Simple Instructions, The Stack, Conditionals, Branching, Rep Instructions, C Main Method and Offsets, Antivirus Scanning - Fingerprint for Malware, Portable Executable File Format, The PE File Headers and Sections.

UNIT 4 DYNAMIC MALWARE ANALYSIS 9 Hrs.

Malware Sandbox - running malware, Monitoring with Process Monitor, Packet Sniffing with Wireshark, source-level vs. assembly-level debuggers, Kernel vs. User-Mode Debugging, OLLYDBG - Breakpoints, Tracing, Exception Handling, Patching.

UNIT 5 MALWARE FUNCTIONALITY AND DETECTION TECHNIQUES 9 Hrs.

Downloaders – Backdoors - Credential Stealers - Persistence Mechanisms - Privilege Escalation - Covert malware launching – Launchers - Process Injection - Process Replacement - Hook Injection – Detours - APC injection - Signature-based techniques: malware signatures, packed malware signature, metamorphic and polymorphic malware signature - non-signature-based techniques: similarity-based techniques, machine-learning methods, invariant inferences.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the nature of malware, its capabilities and how gets combated through detection and classification.

CO2 - Apply the tools and methodologies to perform static and dynamic analysis on unknown executables.

CO3 - Analyse the static malware technique using reverse engineering.

CO4 - Analyse the dynamic malware technique using debugger.

CO5 - Use relevant tools to secure a network, respond to and follow up on various types of attacks.

CO6 - Describe the malware functionality and detection techniques.

TEXT / REFERENCE BOOKS

1. Practical malware analysis, "The Hands-On Guide to Dissecting Malicious Software", by Michael Sikorski and Andrew Honig ISBN-10: 159327-290-1, ISBN-13: 978-1-59327-290-6, 2012 2
2. Dang, Gazet and Bachaalany, "Practical Reverse Engineering",Wiley,2014
3. Computer viruses: From theory to applications by Filiol, Eric Springer Science & Business Media, 2006

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCSB4003	DESIGN AND DEVELOPMENT OF BLOCKCHAIN	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVES

- To understand how blockchain works in terms of Bitcoin and Ethereum.
- To learn about the various decentralized blockchain.
- To know the differences between proof of work and stake.
- To design and build own blockchain.
- To integrate own ideas with blockchain using Ethereum Wallet and Smart Contract.

UNIT 1 BLOCKCHAIN BASICS 9 Hrs.

Basics of Crypto economics- Blockchain – Cryptocurrencies overloaded –Blockchain in Nutshell: Benefits and Challenges – Blockchain types - Blockchain Peer to Peer Network: Consensus Mechanisms, Proof of Work, Proof of Stake, Mining Layer, Propagation Layer, Semantic Layer, Application Layer.

UNIT 2 COMPONENETS AND STRUCTURE OF BLOCKCHAIN 9 Hrs.

Blocks – Chain between the blocks – Digital signatures and Hashing – Block data examples: Bitcoin block, Ethereum block, Block time and Block size, Global Size – Blockchain miners and validators – Blockchain speed: Blockchain throughput and comparison with traditional network.

UNIT 3 DECENTRALIZATION USING BLOCKCHAIN 9 Hrs.

Methods of decentralization – Routes to decentralization – Blockchain and full ecosystem decentralization: Computation, Storage, Communication and decentralization – Smart Contracts – Organization of decentralization: Decentralized Autonomous: Organizations, Corporations, Societies, DApps and their requirements, Operations of DApps – Example of DApps: KYC-Chains, Open Bazzar, Lazooz.

UNIT 4 CREATING AN OWN BLOCK CHAIN 9 Hrs.

Creating: Basic P2P network, Genesis Blocks and Sharing Blocks – Registering Miners and Creating new blocks – Storing blocks – Creating: Blockchain wallet, API, Command Line Interface – Blockchain Wallet and Transaction: Wallet, Transaction and Colored Coins.

UNIT 5 ETHEREUM WALLET & SMART CONTRACT 9 Hrs.

Ganache Full node Client – Intellij Plugin for Solidity – Truffle Suite: Create your Smart Contract – Connect Truffle to Smart Contract – Smart Contract: Hello world, MD5 Smart Contract, Smart Contract with truffle, Deploy the Smart Contract to your deployment network – Truffle Console – Operation with your Smart Contract via the Truffle CLI – Cryptocurrency Mining: Mining Hardware, Miner Types, Mining Pools, Mining Software.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understanding emerging technology models of blockchain
CO2 - Known to deal with the component and structure of blockchain
CO3 - Deals to work with various decentralized blockchain
CO4 - Familiar with Ethereum wallet and smart contract
CO5 - Applications and implementation strategies
CO6 - Design and develop own blockchain for a real time application.

TEXT /REFERENCE BOOKS

1. EladElrom,"The Blockchain Developer A Practical Guide for Designing, Implementing, Publishing, Testing, and Securing Distributed Blockchain-based Projects",Apress (2019)
2. Brenn Hill, Samanyu Chopra, Paul Valencourt, Narayan Prusty, "Blockchain Developer's Guide Develop Smart Applications with Blockchain Technologies - Ethereum, JavaScript, Hyperledger Fabric, and Corda",Packt Publishing (2018)
3. Salman A.Baset, LucDesrosiers, NitinGaur, PetrNovotny, AnthonyO'Dowd, Venkatraman Ramakrishna, "Hands-On Blockchain with Hyperledger Building Decentralized Applications with Hyperledger Fabric and Composer", Packt Publishing (2018)
4. Imran Bashir, Narayan Prusty, "Advanced Blockchain Development Build Highly Secure, Decentralized Applications and Conduct Secure Transactions",Packt Publishing (2019)

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCSB4004	IOT NETWORKS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVES

- To understand the technologies behind the IoT and Networking.
- To learn about IoT networking core technologies.
- To acquire knowledge about different networking protocols for IoT devices.
- To provide knowledge about networks of IoT devices using simulation.
- To provide experience to design and program solutions for energy efficient network of IoT devices.

UNIT 1 IOT TECHNOLOGIES 9 Hrs.

Introduction to IoT- Introduction, Physical Design of IOT, Logical design of IoT, IoT enabling Technologies, IoT Levels & Development Templates, Difference between IoT and M2M, SDN and NFV for IoT, Need for IoT systems management, Simple Network Management Protocol (SNMP), Network operator requirements.

UNIT 2 IOT NETWORKING CORE 9 Hrs.

IoT Networking Core Technologies involved in IoT development, Internet web and Networking technologies, Infrastructure, Overview of IoT supported Hardware platforms such as: Raspberry pi, ARM Cortex Processors, Arduino and Intel Galileo boards, Wireless networking equipment and configurations.

UNIT 3 NETWORK PROTOCOLS 9 Hrs.

Layered networking models, Network protocols and architectures, Network security, Emerging network technologies, Standardisation of communication protocols, IoT networking: IPv6, 6LowPAN, CoAP, and various sensornets protocols.

UNIT 4 SIMULATIONS 9 Hrs.

Simulation on DNS using UDP sockets- ARP /RARP protocols-Simulation of Congestion Control Algorithms-Study of TCP/UDP performance using Simulation tool-Simulation of Distance Vector/ Link State Routing algorithm-Performance evaluation of Routing protocols using Simulation tool.

UNIT 5 CASE STUDY 9 Hrs.

Commercial building automation today & future, Automation in Industrial aspect of IOT- AirQ: Air Quality Analysis- Smart Parking –Smart Transport- Smart Healthcare-Smart Meters.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the basic concepts ofIoT and Networking.
CO2 - Recognize the various IoT platform and devices.
CO3 - Learn the networking models and protocols.
CO4 - Evaluate the different platforms for IoT application development.
CO5 - Evaluate the network protocols using simulation tool.
CO6 - Design and program solutions for energy-efficient networks of IoT devices.

TEXT/REFERENCE BOOKS

1. Virdis, Antonio, Kirsche, Michael (Eds.) “Recent Advances in Network Simulation,TheOMNeT++ Environment and its Ecosystem”2019,EAI/Springer Innovations in Communication and Computing.

2. Internet of Things: A Hands-On Approach Paperback – 2015, by ArsheepBahga (Author), Vijay Madisetti (Author)
3. IoT Fundamentals: Networking Technologies, Protocols and Use Cases for the Internet of Things by Pearson Paperback – 16 Aug 2017 ,by Hanes David (Author), Salgueiro Gonzalo (Author), Grossetete Patrick (Author), Barton Rob (Author)
4. Authors: Kazim Ergun, Xiaofan Yu, NitishNagesh, LudmilaCherkasova, Pietro Mercati, Raid Ayoub, TajanaRosing, "RelIoT: Reliability Simulator for IoT Networks", Published in: Internet of Things - ICIOT 2020,Publisher: Springer International Publishing.
5. Jamil Y. Khan (Editor), Mehmet R. Yuce (Editor), Internet of Things (IoT): Systems and Applications 1st Edition, Publisher: Jenny Stanford Publishing; 1st edition (October 1, 2019)

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCSB4005	HARDWARE INTERFACES AND ITS APPLICATION	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVES

- To understand the components on the motherboard.
- To understand different storage media.
- Install and Repair computer system.
- Install Network devices, configuration, optimization.
- Understand the features of different I/O peripheral devices and their interfaces.

UNIT 1 INTRODUCTION TO PC AND MEMORY 9 Hrs.

Evolution of Personal Computers - Overview of Systems and Components - Processor Modes - Modern CPU Concepts - Architectural Performance Features - Intel Core X-Series Processor - CPU Over Clocking - Essential Memory Concepts - Memory Packages - Logical Memory Organizations - Memory Considerations - Memory Types - SSD - OPTANE Memory - Memory Techniques - Selecting and Installing Memory - CPU Coolers.

UNIT 2 MOTHERBOARD DESIGNS 9 Hrs.

Motherboard Form Factors - IBM PC XT -IBM PC AT - The Baby AT - Micro-AT -LPX and Mini-LPX - ATX - Mini-ATX - NLX

- Active Motherboards - Sockets and Expansion Slots – DIMM.2 - M.2 Expansion Card – PCIE GEN3 M.2 - Intel D850GB - Upgrading a Mother Board -DDR4 BOOST - Chipsets - Intel -Non-Intel Chipsets - North Bridge - South Bridge - CMOS - Motherboard BIOS - RGB Headers - Live Dash OLED - NEXT GEN Connectivity 802.11 AD WIFI - USB 3.1 GEN2 Controller.

UNIT 3 POWER SUPPLIES AND STORAGE DEVICES 9 Hrs.

Power Supplies and Power Management - Modular – Non-Modular - Concepts of Switching Regulation - Potential Power Problems - Power Management -The Floppy Drive - Magnetic Storage - Floppy Drive - Hard Drive - SSD- CD-ROM Drive - DVD-ROM - DVD Media - DVD Drive and Decoder.

UNIT 4 I/O PERIPHERALS AND BUS ARCHITECTURE 9 Hrs.

Parallel Port - Signals and Timing Diagram - IEEE1284 Modes - Asynchronous Communication - Serial Port Signals - Video Adapters - Mice - Keyboards - Sound Cards – ISA - PCI - AGP.

UNIT 5 NETWORK COMPONENTS 9 Hrs.

Introduction of Network Cable - Ethernet Cable - FIBER Optics – HUB - Unmanageable Switch - Manageable Switch –Router – Modem - Wi-Fi - Access Point - PCI Wireless Card - USB Wireless Device - Print Server.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Explain the relationship between hardware and software.
CO2 - Classify and explain the function of different computer hardware components.
CO3 - Understand purpose and functions of networking.
CO4 - Understand the purpose and functions of the computer peripherals.
CO5 - Understand diagnostic procedures and troubleshooting techniques to personal computers, portabledevices, operatingsystems and computer peripherals.
CO6 - Simulate various Hardware interfaces.

TEXT / REFERENCE BOOKS

1. Stephen J Bigelow, “Trouble Shooting, maintaining and Repairing PCs”, Tata McGraw-Hill.
2. Ron Gilster, “PC Hardware: A Beginner's Guide”, Tata McGraw-Hill.
3. Craig Zacker and John Rourke, “The complete reference: PC hardware”, Tata McGraw-Hill.
4. Mike Meyers, “Introduction to PC Hardware and Troubleshooting”, Tata McGraw-Hill.
5. B.Govindarajulu, “IBM PC and Clones hardware trouble shooting and maintenance”, Tata McGraw-Hill.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCSB4008	INTELLIGENT SYSTEMS ENGINEERING	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- Understand the fundamental concepts and principles of intelligent systems engineering.
- Develop proficiency in designing and implementing intelligent systems using various techniques and methodologies.
- Apply intelligent systems engineering principles to solve real-world problems in diverse domains.

UNIT 1 INTRODUCTION TO INTELLIGENT SYSTEMS ENGINEERING 9 Hrs.

Introduction to intelligent systems-Components - Data Acquisition and Pre-processing- Knowledge Representation and Reasoning- Machine Learning and Data Analytics- Decision-Making and Control Systems- Human-Computer Interaction (HCI)-Applications of intelligent systems-Ethical considerations in intelligent systems.

UNIT 2 MACHINE LEARNING AND DATA MINING 9 Hrs.

Introduction to machine learning and data mining-Supervised and unsupervised learning algorithms-Feature extraction and dimensionality reduction-Data pre-processing and cleaning techniques-Evaluation and validation of machine learning models-metrics-Cross-validation-Over fitting and under fitting.

UNIT 3 KNOWLEDGE REPRESENTATION AND REASONING 9 Hrs.

Knowledge representation techniques- types of logical reasoning-semantic networks-Logic-based reasoning systems-Ontologies and semantic web-Reasoning under uncertainty-Expert systems and rule-based reasoning.

UNIT 4 NATURAL LANGUAGE PROCESSING AND UNDERSTANDING 9 Hrs.

Introduction to natural language processing (NLP)-Text pre-processing and tokenization-Syntax and semantic analysis-Named entity recognition and information extraction-techniques, challenges and applications-Machine translation and sentiment analysis.

UNIT 5 INTELLIGENT SYSTEMS APPLICATIONS 9 Hrs.

Intelligent systems in robotics and automation-Intelligent decision support systems (IDSS)-components, development, application-data mining and visualization-Intelligent transportation systems-Intelligent healthcare systems- clinical decision support system-Intelligent recommender systems-collaborative filtering-content based filtering-hybrid recommender systems.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Demonstrate an understanding of the fundamental concepts and principles of intelligent systems engineering.

CO2 - Design and implement intelligent systems using various techniques and methodologies.

CO3 - Apply intelligent systems engineering principles to solve real-world problems in diverse domains.

CO4 - Analyze and evaluate machine learning models and data mining techniques for intelligent system development.

CO5 - Develop proficiency in natural language processing and understanding for intelligent systems.

CO6 - Apply ethical considerations and considerations for responsible AI development in the design and implementation of intelligent systems.

TEXT / REFERENCE BOOKS

1. Stuart Russell and Peter Norvig, "Artificial Intelligence: A Modern Approach," Pearson, 3rd edition, 2010.
2. Kevin P. Murphy, "Machine Learning: A Probabilistic Perspective," MIT Press, 1st edition, 2012.
3. Dan Jurafsky and James H. Martin, "Speech and Language Processing," Pearson, 3rd edition, 2020.
4. David Poole and Alan Mackworth, "Artificial Intelligence: Foundations of Computational Agents," Cambridge University Press, 3rd edition, 2020.
5. George F. Luger, "Artificial Intelligence: Structures and Strategies for Complex Problem Solving," Pearson, 6th edition, 2009.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCSB4009	INTRODUCTION TO MACHINE LEARNING	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To understand the concepts of machine learning.
- To appreciate Classification and Regression algorithms.
- To understand SVM and ANN algorithms
- To know about probabilistic graphic models.

UNIT 1 INTRODUCTION TO MACHINE LEARNING 9 Hrs.

Machine Learning – Basic Concepts in Machine Learning – Types of Machine Learning – Examples of Machine Learning – Applications –The Bias-Variance - Data Pre-processing - Noise removal – Normalization - Principal Component Analysis – Independent Components Analysis.

UNIT 2 SUPERVISED LEARNING 9 Hrs.

Definition – Importance - Historical Evolution – Benefits - Promotion - barriers – Role of Industry, Government and Institutions - Environmental Management Hierarchy – Source Reduction techniques – Process and Equipment Optimization, Reuse, Recover, Recycle, Raw material substitution - Internet information and Other PP and CP Resources.

UNIT 3 SUPERVISED LEARNING TECHNIQUES & ENSEMBLE METHODS 9 Hrs.

SVM Classifier – Soft and Hard Margin - Kernel Methods – Ensemble Methods – Bagging – Boosting – Reinforcement Learning – Model based Reinforcement Algorithms – Model-free Reinforcement Algorithms - Q-Learning and SARSA algorithms.

UNIT 4 UNSUPERVISED LEARNING 9 Hrs.

Clustering – K-means – Hierarchical Clustering – EM Algorithm in General – Model Selection for Latent Variable Models.

UNIT 5 PROBABILISTIC GRAPHICAL MODELS 9 Hrs.

Directed Graphical Models – Bayes Theorem – Naïve Bayesian Classifier – Laplacian approximation - Bayesian Networks – Markov Models – Hidden Markov Models – Inference – Learning-Generalization.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Implement a neural network for an application using an available tool.
CO2 - Implement probabilistic discriminative and generative algorithms
CO3 - Use a tool to implement typical clustering algorithms for different types of applications.
CO4 - Design an HMM for a sequence model type of application
CO5 - Implement a PGM for any real time application using an open-source tool
CO6 - Identify applications suitable for different types of machine learning with suitable justification.

TEXT / REFERENCE BOOKS

1. Sridhar S and Vijayalakshmi M, “Machine Learning”, Oxford University Press, 2021.
2. Christopher Bishop, “Pattern Recognition and Machine Learning”, Springer, 2006.
3. Tom Mitchell, “Machine Learning”, McGraw-Hill, 1997.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCSB4010	IOT IN CLOUD ENVIRONMENT	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To Understand concept of IoT .
- To Understand the IoT Reference Architecture and Technologies.
- To Understand the various IoT Networks, Wi-Fi and Bluetooth.

UNIT 1 INTRODUCTION TO IOT 9 Hrs.

What is IoT, Genesis of IoT, Understanding IoT Devices, IoT and Digitization, IoT Architecture, IoT Impact, Convergence of IT and IoT, IoT Challenges, Layers of IoT, Understanding IoT Components, IoT Network Architecture and Design, The Core IoT Functional Stack, IoT Data Management and Compute Stack.

UNIT 2 IOT ARCHITECTURE & TECHNOLOGIES 9 Hrs.

IoT architecture layers, IoT sensors types, actuator types, and RFID types, IoT device platformsArduino, Raspberry Pi, and BeagleBoard.

UNIT 3 CLOUD COMPUTING 9 Hrs.

Introduction to Cloud Computing-Definition, Characteristics, Components, Introduction to Microsoft Azure, Cloud provider, SAAS, PAAS, IAAS and other Organizational scenarios of clouds.

UNIT 4 IOT NETWORKS 9 Hrs.

IoT network architecture, and wearable IoT networks, WLAN (Wireless Local Area Network), WPAN (Wireless Personal Area Network), and LPWAN (Low-Power Wide Area Network), WPAN (which include Bluetooth, ZigBee, 6LoWPAN, and IEEE 802.15.4 technology) and LPWAN (which include LoRa, UNB, Sigfox, and NB-IoT).

UNIT 5 WI-FI & BLUETOOTH 9 Hrs.

Wi-Fi technology, EDR (Enhanced Data Rate), HS (High Speed), BLE (Bluetooth Low Energy), and Beacon technology, Bluetooth piconets and types of operations.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Able to understand the concept of IoT Architecture.
CO2 - Able to understand the types of IoT sensors.
CO3 - Able to understand the concept of cloud Environment.
CO4 - Learn about the different types of IoT networks.
CO5 - To understand various technologies such as Wi-Fi and Bluetooth.

TEXT / REFERENCE BOOKS

1. ArshdeepBahga and Vijay Madisetti, “Internet of Things – A Hands on Approach”,Universities Press, 2015.
2. Kevin,Townsend, Carles,Cufí, Akiba and RobertDavidson,"Getting Started with Bluetooth Low Energy” O'Reilly
3. Madhur Bhargava “IoT Projects with Bluetooth Low Energy, Packt Publishing, August 2017.
4. Robin Heydon,”Bluetooth Low Energy: The Developer's Handbook”, Pearson, October 2012

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCSB4011	CYBERSECURITY ESSENTIALS FOR ENGINEERS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To introduce the basic concepts of cyber security.
- To acquire knowledge on cyber threats and attacks.
- To become aware of significant security technologies and tools.
- To impart knowledge on cipher methods and cryptographic algorithms.
- To explore various protocols for establishing secured communication.

UNIT 1 INTRODUCTION TO CYBERSECURITY 9 Hrs.

Introduction – Need for Security – Security Approaches – Principles of Security – Components – Balancing Security & Access – Software Development Life Cycle – Security Systems Development Life Cycle – Security Professionals and the organization.

UNIT 2 CYBERSECURITY – THREATS & ATTACKS 9 Hrs.

Threats: Intellectual Property - Software Attacks – Deviations in QoS – Espionage – Forces of Nature – Human Error – Information Extortion – Missing, inadequate or incomplete organization policy – Missing, inadequate or incomplete controls – sabotage – Theft – Hardware Failures – Software Failures Attacks: Malicious Code – Hoaxes – Back Doors – Password Crack – Brute Force – Dictionary – DoS and DDoS – Spoofing – Man-in-the-Middle – Spam–Email Bombing – Sniffers – Social Engineering – Pharming – Timing Attack.

UNIT 3 SECURITY TOOLS & TECHNOLOGIES 9 Hrs.

Firewall and VPNs – Intrusion Detection and Prevention Systems – Other Security Tools - Access Control – Firewalls – Protecting Remote Connections, Honeypots, Honeynets and Padded Cell Systems.

UNIT 4 CYRPTOGRAPHY 9 Hrs.

Cryptology Terminology - Cipher methods – Cryptographic Algorithms – Cryptographic tools –Attacks on cryptosystems - Physical Security.

UNIT 5 PROTOCOLS FOR SECURE COMMUNICATION 9 Hrs.

Basic Concepts – SHTTP, SSL & SET – S/MIME, PEM & PGP – WEP, WPA & WPA2 – IPSEC & PGP.

Max.45 Hrs.

COURSE OUTCOMES:

CO1 - Understand the basic concepts, need, approaches, principles and components of security.
CO2 - Explain the various cyber threats and attacks.
CO3 - Describe the various Security Technologies and Tools.
CO4 - Explain the basic principles of cryptography and algorithms.
CO5 - Examine the various protocols for secure communication.
CO6 - Explore the significant aspects of cybersecurity.

TEXT / REFERENCE BOOKS

1. Michael E. Whitman, Herbert J. Mattord," Principles of Information Security", CENGAGE Learning, 4th Edition.
2. William Stallings," Cryptography and Network Security – Principles and Practice", Pearson Education, 7th Edition.
3. Atul Kahate," Cryptography and Network Security", Mc Graw Hill, 4th Edition.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCSB4012	DECENTRALISED SYSTEMS AND BLOCKCHAIN TECHNOLOGY	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To understand the history, types and applications of Blockchain
- To acquire knowledge about cryptography and consensus algorithms.
- Deploy projects using Web3j and design blockchain based applications.

UNIT 1 INTRODUCTION TO DECENTRALIZED SYSTEMS and BLOCKCHAIN 9 Hrs.

Centralized vs. decentralized systems-Advantages and challenges of decentralization-Distributed consensus and peer-to-peer networks-Distributed DBMS – Limitations of Distributed DBMS, Introduction to Block chain – History, Definition, Distributed Ledger, Blockchain Categories – Public, Private, Consortium, Blockchain Network and Nodes, Peer-to-Peer Network, Mining Mechanism, Generic elements of Blockchain, Features of Blockchain, and Types of Blockchain.

UNIT 2 BLOCKCHAIN ARCHITECTURE 9 Hrs.

Blocks, transactions, and the blockchain data structure Operation of Bitcoin Blockchain, Blockchain Architecture – Block, Hash, Distributer P2P, Structure of Blockchain- Consensus mechanism: Proof of Work (PoW), Proof of Stake (PoS), Byzantine Fault Tolerance (BFT), Proof of Authority (PoA) and Proof of Elapsed Time (PoET).

UNIT 3 BLOCKCHAIN-BASED FUTURES SYSTEM 9 Hrs.

Project presentation- Futures smart contract: Blockchain oracles- Web3j: Setting up the Web3J- Installing web3j- Wallet creation, Java client: The wrapper generator- Initializing web3j- Setting up Ethereum accounts- Deploying the contract.

UNIT 4 BLOCKCHAINS IN BUSINESS 9 Hrs.

Public versus private and permissioned versus permission less blockchains- Privacy and anonymity in Ethereum- Why are privacy and anonymity important? - The Ethereum Enterprise Alliance- Blockchain-as-a-Service.

UNIT 5 DISTRIBUTED STORAGE IPFS AND SWARM 9 Hrs.

Ethereum Virtual Machine- Swarm and IPFS: Installing IPFS, hosting our frontend: Serving your frontend using IFPS, serving your frontend using Swarm, IPFS file uploader project: Project setup the web page.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Contentedly discuss and describe the history, types and applications of Blockchain
CO2 - Gains familiarity with cryptography and Consensus algorithms.
CO3 - Create and deploy projects using Web3j.
CO4 - Implement an ICO on Ethereum
CO5 - Design block chain-based application with Swarm and IPFS
CO6 - Address security and privacy concerns in decentralized systems and blockchain technology.

TEXT / REFERENCE BOOKS

1. Imran Bashir, “Mastering Blockchain: Distributed Ledger Technology, decentralization, and smart contracts explained”, 2ndEdition, Packt Publishing Ltd, March 2018.
2. BellajBadr, Richard Horrocks, Xun (Brian) Wu, “Blockchain By Example: A developer's guide to creating decentralized applications using Bitcoin, Ethereum, and Hyperledger”, Packt Publishing Limited, 2018.
3. Andreas M. Antonopoulos , “Mastering Bitcoin: Unlocking Digital Cryptocurrencies”, O’Reilly Media Inc, 2015
4. .Arvind Narayanan, Joseph Bonneau, Edward Felten, Andrew Miller and Steven Goldfeder, “Bitcoin and Cryptocurrency Technologies: A Comprehensive Introduction”, Princeton University Press, 2016.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCSB4013	INTRODUCTION TO DATA SCIENCE	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To learn concepts, techniques and tools they need to deal with various facets of data science practice, including data collection and integration.
- To understand the basic types of data and basic statistics.
- To understand descriptive and inferential data analytics.
- To Identify the importance of data reduction techniques.
- To analysis and build predictive models from data.

UNIT 1 INTRODUCTION 9 Hrs.

Introduction - Need for data science – benefits and uses – facets of data – data science process – setting the research goal – retrieving data – cleansing, integrating, and transforming data – exploratory data analysis – build the models – presenting and building applications.

UNIT 2 DESCRIPTIVE STATISTICS 9 Hrs.

Frequency distributions – Outliers –interpreting distributions – graphs – averages - describing variability – interquartile range – variability for qualitative and ranked data - Normal distributions – z scores – correlation – scatter plots – regression – regression line – least squares regression line – standard error of estimate – interpretation of r2 – multiple regression equations – regression toward the mean.

UNIT 3 INFERNTIAL STATISTICS 9 Hrs.

Populations – samples – random sampling – Sampling distribution- standard error of the mean - Hypothesis testing – z-test – z-test procedure –decision rule – calculations – decisions – interpretations - one-tailed and two-tailed tests – Estimation – point estimate – confidence interval – level of confidence – effect of sample size.

UNIT 4 ANOVA 9 Hrs.

T-test for one sample – sampling distribution of t – t-test procedure – t-test for two independent samples – p-value – statistical significance – t-test for two related samples. F-test – ANOVA – Two-factor experiments – three f-tests – two-factor ANOVA –Introduction to chi-square tests.

UNIT 5 PREDICTIVE ANALYTICS 9 Hrs.

Linear least squares – implementation – goodness of fit – testing a linear model – weighted resampling. Regression using Stats_Models – multiple regression – nonlinear relationships – logistic regression – estimating parameters – Time series analysis – moving averages – missing values – serial correlation – autocorrelation.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand basic terms what Statistical Inference means.
CO2 - Identify probability distributions commonly used as foundations forstatistical modelling.
CO3 - Describe the data using various statistical measures
CO4 - Analyse the variance in the data.
CO5 - Perform data reductiontechniques
CO6 - Build the model for predictive analytics

TEXT / REFERENCE BOOKS

1. Sanjeev J. Wagh, Manisha S. Bhende, Anuradha D. Thakare, “Fundamentals of Data Science”, CRC Press, 2022..
2. Vineet Raina, Srinath Krishnamurthy, “Building an Effective Data Science Practice: A Framework to Bootstrap and Manage a Successful Data Science Practice”, Apress, 2021.
3. Chirag Shah, “A Hands-On Introduction to Data Science”, Cambridge University Press, 2020.
4. Allen B. Downey, “Think Stats: Exploratory Data Analysis in Python”, Green Tea Press, 2014.
5. Cathy O’Neil and Rachel Schutt. Doing Data Science, Straight Talk From The Frontline. O’Reilly. 2014.
6. Avrim Blum, John Hopcroft and Ravindran Kannan. Foundations of Data Science.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCYB4001	APPLICATIONS OF PYTHON AND ARTIFICIAL INTELLIGENCE IN CHEMISTRY	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- Provide an overview of Python programming and AI in chemistry, including their applications in data manipulation, predictive modeling, material science, and drug discovery;
- Introduce ChemPy for chemical analysis, reaction thermodynamics, kinetics, equilibrium, and optimization;
- Cover data analysis techniques with NumPy, Pandas, and RDKit libraries, including chemical database management and material design;
- Explore AI applications in synthetic organic chemistry for reaction prediction, knowledge extraction, novel molecule design, and synthetic route optimization;
- Demonstrate AI's utility in IR and NMR data analysis, including signal processing, peak detection, quantitative analysis, data mining, and predictive modeling.

UNIT 1 INTRODUCTION TO PYTHON AND AI IN CHEMISTRY 9 Hrs.

Introduction to Python Programming for Chemistry; Data Manipulation with Python Libraries; Introduction to Artificial Intelligence in Chemistry; Predictive Modeling with Machine Learning, AI-assisted Chemical Reaction Design; Machine Learning for Material Science; Applications of Python and AI in Drug Discovery.

UNIT 2 INTRODUCTION TO CHEMPY 9 Hrs.

Basic Python Programming for Chemical Analysis; Chemical Thermodynamics with ChemPy, Chemical Kinetics and Reaction Rates; Chemical Equilibrium and Reaction Enthalpies; Balancing Chemical Equations and Reaction Mechanisms; Optimization of Chemical Reactions with ChemPy, Simulation of Chemical Systems with ChemPy.

UNIT 3 WORKING WITH CHEMICAL DATA 9 Hrs.

Introduction to NumPy and Pandas libraries; Reading and writing chemical data files; Data visualization using Matplotlib and Seaborn libraries; Data manipulation and analysis using Pandas library; Chemical structure representation using RDKit library; Predicting chemical reactivity; Chemical database management; Material design: Prediction of new materials, such as strength, conductivity, and thermal stability, based on their chemical composition.

UNIT 4 AI IN SYNTHETIC ORGANIC CHEMISTRY 9 Hrs.

Introduction to synthetic organic chemistry and retero synthesis; Prediction of reaction outcomes; Extraction of knowledge from literature; Design of novel molecules; Optimization of synthetic routes: Synthesis of complex molecules, taking into account factors such as reaction yield, cost, and safety.

UNIT 5 AI IN IR AND NMR DATA ANALYSIS 9 Hrs.

Signal processing: Removing background noise, correcting baseline drift. Classification and Peak detection of Functional groups. Quantitative analysis: Individual components in a mixture. Data mining: datasets of spectral data to identify patterns, trends, and correlations between different samples or experimental conditions. Predictive modeling: Predictive models based on spectral data to predict the properties of unknown compounds, such as chemical structure, melting point, and biological activity.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Recall the basic concepts of Python programming, chemical analysis, and AI techniques.

CO2 - Comprehend the significance of Python programming and AI techniques in chemistry, chemical analysis, and synthesis.

CO3 - Use Python programming and AI techniques to perform simple tasks, analyze chemical data, simulate chemical systems, predict reaction outcomes, design novel molecules, optimize synthetic routes, and analyze IR and NMR spectral data.

CO4 - Evaluate the effectiveness of using Python programming and AI techniques in chemistry, chemical analysis, and synthesis.

CO5 - Judge the benefits and drawbacks of using Python programming and AI techniques in chemistry, chemical analysis, and synthesis

CO6 - Generate innovative solutions using Python programming and AI techniques in chemistry, chemical analysis, and synthesis.

TEXT / REFERENCE BOOKS

1. Kiyoto Aramis Tanemura, Diego Sierra-Costa, and Kenneth M. Merz Jr. Python for Chemists, August 23, 2022; DOI:10.1021/acsinfocus.7e5030
2. De Almeida, A. F., Moreira, R., & Tiago, R. (2019), Synthetic organic chemistry driven by artificial intelligence. Nature Reviews.Chemistry, 3(10), 589-604. doi:https://doi.org/10.1038/s41570-019-0124-0
3. Gasteiger J. Chemistry in Times of Artificial Intelligence. Chemphyschem. 2020 Oct 16;21(20):2233-2242. doi: 10.1002/cphc.202000518. Epub 2020 Sep 28. PMID: 32808729; PMCID: PMC7702165.
4. Baskin, Igor &Madzhidov, Timur &Antipin, Igor &Varnek, Alexandre. (2017). Artificial Intelligence in Synthetic Chemistry: Achievements and Perspectives. Russian Chemical Reviews. 86. 10.1070/RCR4746.
5. Jonas, E., Kuhn, S., Schlörer, N., MagnReson Chem 2022, 60(11), 1021. https://doi.org/10.1002/mrc.5234
6. Li, C., Cong, Y., Deng, W., MagnReson Chem 2022, 60(11), 1061. https://doi.org/10.1002/mrc.5292
7. Abigail A. Enders, Nicole M. North, Chase M. Fensore, Juan Velez-Alvarez, and Heather C. Allen, Functional Group Identification for FTIR Spectra Using Image-Based Machine Learning Models, Analytical Chemistry 2021 93 (28), 9711-9718 DOI: 10.1021/acs.analchem.1c00867
8. A Creative Commons Textbook for Teaching Scientific Computing to Chemistry Students with Python and Jupyter Notebooks J. Chem. Educ. 2021, 98, 489-494 DOI: 10.1021/acs.jchemed.0c01071
9. Scientific Computing for Chemists: An Undergraduate Course in Simulations, Data Processing, and Visualization J. Chem. Educ. 2017, 94, 592-597 DOI: 10.1021/acs.jchemed.7b00078
10. Introduction to Stochastic Simulations for Chemical and Physical Processes: Principles and Applications J. Chem. Educ. 2017, 94, 1904-1910 DOI: 10.1021/acs.jchemed.7b00395

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SCYB4002	CHEM INTELLIGENCE	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- Understand machine learning algorithms and their applications in chemistry.
- Apply regression and classification techniques to chemically relevant problems.
- Develop skills in feature selection, data preprocessing, feature engineering, and model validation for chemical datasets.
- Gain practical experience in predicting chemical properties using machine learning and learning from case studies in chemistry research.
- Learn about predicting physical properties and using computational tools for this purpose.
- Develop skills in synthetic organic chemistry and using machine learning for reaction outcome prediction and route optimization.

UNIT 1 INTRODUCTION TO MACHINE LEARNING IN CHEMISTRY 9 Hrs.

Overview of machine learning algorithms used in chemistry; Regression and classification techniques; Feature selection and model evaluation; Data pre-processing and cleaning; Feature engineering and selection; Model validation and evaluation.

UNIT 2 HANDS-ON APPLICATIONS OF MACHINE LEARNING IN CHEMISTRY 9 Hrs.

Hands-on activities using machine learning algorithms for predicting chemical properties Case studies on the use of machine learning in chemistry research.

UNIT 3 PREDICTING PHYSICAL PROPERTIES 9 Hrs.

Overview of methods used for predicting physical properties such as melting points, boiling points, and solubility; Hands-on activities using computational tools to predict physical properties; Introduction to toxicity prediction and related computational tools.

UNIT 4 AI IN SYNTHETIC ORGANIC CHEMISTRY 9 Hrs.

Introduction to synthetic organic chemistry and retrosynthetic analysis; Prediction of reaction outcomes using machine learning algorithms; Extraction of knowledge from literature for designing novel molecules; Optimization of synthetic routes considering factors such as reaction yield, cost, and safety.

UNIT 5 AI IN IR AND NMR DATA ANALYSIS 9 Hrs.

Introduction to signal processing techniques for IR and NMR data analysis; Classification and peak detection of functional groups; Quantitative analysis of individual components in a mixture; Data mining to identify patterns, trends, and correlations between different samples or experimental conditions; Predictive modeling based on spectral data to predict the properties of unknown compounds.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Recall and explain the different types of machine learning algorithms used in chemistry.

CO2 - Understand and apply feature selection, model evaluation, and data preprocessing methods to a given dataset.

CO3 - Apply machine learning algorithms and computational tools to predict physical properties of chemical compounds.

CO4 - Apply machine learning algorithms to design novel molecules and optimize synthetic routes, and evaluate their safety, cost, andyield.

CO5 - Analyze and interpret datasets of spectral data, and develop predictive models for a specific chemistry problem based on spectral data.

CO6 - Evaluate the strengths, limitations, accuracy, and reliability of different machine learning techniques and computational tools used in chemistry, and develop novel approaches to solving chemistry problems using machine learning.

TEXT / REFERENCE BOOKS

1. De Almeida, A. F., Moreira, R., & Tiago, R. (2019), Synthetic organic chemistry driven by artificial intelligence. Nature Reviews.Chemistry, 3(10), 589-604. doi:https://doi.org/10.1038/s41570-019-0124-0
2. Gasteiger J. Chemistry in Times of Artificial Intelligence. Chemphyschem. 2020 Oct 16;21(20):2233-2242. doi: 10.1002/cphc.202000518. Epub 2020 Sep 28. PMID: 32808729; PMCID: PMC7702165.
3. Baskin, Igor &Madzhidov, Timur &Antipin, Igor &Varnek, Alexandre. (2017). Artificial Intelligence in Synthetic Chemistry: Achievements and Perspectives. Russian Chemical Reviews. 86. 10.1070/RCR4746.
4. Jonas, E., Kuhn, S., Schlörer, N., MagnReson Chem 2022, 60(11), 1021. https://doi.org/10.1002/mrc.5234
5. Li, C., Cong, Y., Deng, W., MagnReson Chem 2022, 60(11), 1061. https://doi.org/10.1002/mrc.5292

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SECB4001	ARTIFICIAL INTELLIGENCE SEARCH METHODS AND REASONING	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To get introduced to the basic knowledge representation, problem solving, and learning methods of Artificial Intelligence.
- To familiarize with various search methods.
- To familiarize with Game Theory and Automated planning.

UNIT 1 INTRODUCTION 9 Hrs.

History, Can Machines think?, Turing Test, Winograd Schema Challenge, Language and Thought, Wheels & Gears, Philosophy, Mind, Reasoning, Computation, Dartmouth Conference, The Chess Saga, Epiphenomena.

UNIT 2 STATE SPACE SEARCH 9 Hrs.

Solution Space, TSP, Escaping Local Optima, Stochastic Local Search Population Based Methods: Genetic Algorithms, SAT, TSP, emergent Systems, Ant Colony Optimization Finding Optimal Paths: Branch & Bound.

UNIT 3 HEURISTIC SEARCH 9 Hrs.

Depth First Search, Breadth First Search, Depth First Iterative Deepening, Heuristic Search: Best First Search, Hill Climbing, A*, Admissibility of A*, Informed Heuristic Functions.

UNIT 4 GAME PLAYING 9 Hrs.

Game Theory, Board Games and Game Trees, Algorithm Minimax, AlphaBeta and SSS*Domain Independent Planning, Blocks World, Forward &Backward Search, Goal Stack Planning, Plan Space Planning.

UNIT 5 AUTOMATED PLANNING 9 Hrs.

Problem Decomposition: Means Ends Analysis, Algorithm Graphplan, Algorithm AO* Rule Based Expert Systems: Production Systems, Inference Engine, Match-Resolve-Execute, Rete Net.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the fundamental concepts of Artificial Intelligence
CO2 - Analyze various searching algorithms in AI
CO3 - Analyze the methods used for finding the Optimal paths
CO4 - Analyze the algorithms of problem decomposition
CO5 - Apply analytical concepts for solving logical problems using game theory
CO6 - Implement AI concepts for Automated planning

TEXT / REFERENCE BOOKS

1. Deepak Khemani. A First Course in Artificial Intelligence, McGraw Hill Education (India), 2013.
2. Stefan Edelkamp and Stefan Schroedl. Heuristic Search: Theory and Applications, Morgan Kaufmann, 2011.
3. John Haugeland, Artificial Intelligence: The Very Idea, A Bradford Book, The MIT Press, 1985.
4. Pamela McCorduck, Machines Who Think: A Personal Inquiry into the History and Prospects of Artificial Intelligence, A K Peters/CRC Press; 2 edition, 2004.

5. Zbigniew Michalewicz and David B. Fogel. How to Solve It: Modern Heuristics. Springer; 2nd edition, 2004.
6. Judea Pearl. Heuristics: Intelligent Search Strategies for Computer Problem Solving, Addison-Wesley, 1984.
7. Elaine Rich and Kevin Knight. Artificial Intelligence, Tata McGraw Hill, 1991.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SECB4002	SOFTWARE TOOLS FOR ENGINEERING APPLICATIONS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To understand and gain complete knowledge about the fundamentals of MATLAB programming..
- To develop and translate mathematical concepts to MATLAB code.
- To provide data analytic skills by processing and visualization of data's.
- To design and develop Simulink and MATLAB models for specific engineering applications.

UNIT 1 INTRODUCTION TO MATLAB 9 Hrs.

Introduction To Matlab software-basic Features- Introduction to programming in MATLAB-M-File-Scripts-Input-Output commands - Creation and overwriting of Variables- Data types –Arithmetic, Relational & Logical operations - Example programs for operations- precedence of operators -Matrix generation and matrix arithmetic operation- Transposing a matrix - Concatenating matrices -Array Initialization and array arithmetic operations-Examples for Solving linear equations- Functions - User defined functions - passing arguments - using functions with vectors and matrices- cell arrays & structures - Strings - comparing - Concatenation.

UNIT 2 LOOPS AND CONTROL STATEMENTS 9 Hrs.

Control Flow & Decision statements- IF - IF ELSE - NESTED IF ELSE - SWITCH - TRY & CATCH - FOR -WHILE - NESTED FOR - FOR with IF statements, MATLAB program organization, Debugging methods- Setting and running with breakpoints – Examining values-Correcting and ending debugging, Example programs using the above commands. MISCELLANEOUS TOPICS: Date & Time Functions, Time Computations, File & Directory management.

UNIT 3 PLOTS IN MATLAB AND GUI 9 Hrs.

Basic 2D plots, Parametric & Implicit plots, subplot, LOG, LOG-LOG, SEMILOG-POLAR-COMET, exporting figures, HOLD, STEM, BAR, HIST, Interactive plotting, , axis labels, and annotations, Specifying line styles and colors, 3D plots – Mesh Surface- Contour –Plots with special graphics, View command, Plotting file data, Plotting from a function, GUI – Event based user interfaces, Matlab GUIDE, call back function, GUI controls, Example programs.

UNIT 4 ADVANCED MATHEMATICAL APPLICATIONS 9 Hrs.

Fitting Curves to Data -Polynomials, Addition, multiplication and division of polynomials, Roots and derivative of a polynomial, curve fitting, polyfit, Interpolation, Extrapolation, Least squares, basic fitting interface, Complex Numbers, Adding , Subtracting and Multiplying Complex Numbers, Integration and Differentiation, Trapezoidal Rule, Calculus in Symbolic Math Toolbox.

UNIT 5 SIMULINK AND APPLICATIONS USING MATLAB 9 Hrs.

Simulink- Introduction, Block setting, Model annotation, solver, sinks library, sources, math operations library, user defined functions and look up table in Simulink, ports and subsystems, masked sub system, program controls in Simulink: FOR, WHILE, IF, CASE, Signal routing and logical's, Exporting Simulink data to Matlab, Applications –Modelling of a simple PID controller using SIMULINK , Plotting the Frequency response of FIR & IIR filters using MATLAB.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Recall and recollect the basic programming fundamentals

CO2 - Implement various array arithmetic procedures
CO3 - Analyze and develop different control structures using MATLAB
CO4 - Evaluate different interactive plotting methods
CO5 - Identify the need for GUI based operations for real time programming.
CO6 - Design and demonstrate applications based on communication systems, controllers etc

TEXT / REFERENCE BOOKS

1. William J. Palm III, "Introduction to MATLAB for Engineers", 3rd Edition,McGraw Hill Publications,2012.
2. Bansal R.K, Goel A.K., Sharma M.K., "MATLAB and its Applications in Engineering", Pearson Education, 2012
3. Amos Gilat, "MATLAB-An Introduction with Applications", Wiley India, 2009. .
4. Stephen.J.Chapman, "Programming in MATLAB for Engineers", Cengage Learning, 2011.
5. Robert Schilling & Sandra L.Harris, "Introduction to Digital Signal Processing using Matlab", Cengage Learning, 2014.
6. Cesar Perez Lopez, "Matlab Programming for Numerical Analysis", Springer Publications, 2014

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SECB4003	DRONE ELECTRONICS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To Introduce the Concepts of Applying Aerodynamics to Drone Design
- To Familiarize the Student's Ability to Analyze the Concepts of Drone
- To Understand the Basic Operation of Various Sensors in Drone Application
- To Design Drone for The Mission Control Application.

UNIT 1 INTRODUCTION TO DRONE 9 Hrs.

Definition of drones , History of drones , Classification of drones based on structure- Fixed wing structure, Lighter than air systems and Rotary-wing aircraft, Application of drones, Parts of Drone system, System design, Mechanical design, hardware design, software architecture, Logistic and Operations Management.

UNIT 2 DYNAMICS AND STABILITY 9 Hrs.

Forces of flight, Principal axes and rotation of aerial systems - Longitudinal axis, Lateral(transverse) axis and Perpendicular axis, Equilibrium, Stability - Stable system, Unstable system and neutrally stable system, Control – Roll, Pitch, Yaw and Throttle.

UNIT 3 SENSORS IN DRONE 9 Hrs.

Sensors – Accelerometer, Barometer, Gyro Sensor, Magnetometer, Distance sensors, Time of Flight (ToF) Sensors,Thermal sensors, Chemical Sensors and thermal sensors. Sensor Testing – Test Philosophies and methodologies, Test equipment, Performance testing of sensors.

UNIT 4 GLIDING DRONE 9 Hrs.

Glider, Lift, Drag, Airfoil and its type, Incident and decalage angle, three axis motion (roll, pitch, and yaw), Thrust, Aspect ratio and glide ratio, Glide or dive and descent, gliding angle, Climb, Center of pressure, pitching moment, Load factor, Angle of attack, Build our own glider drone.

UNIT 5 DRONES FOR MISSION CONTROL APPLICATIONS 9 Hrs.

ESP8266, Downloading and installing APM Planner or Mission Planner, Configuring the quadcopter - Frame type selection, Compass calibration, Access calibration, Radio calibration, Flight mode calibration and Failsafe calibration, Surveying with a drone, tweaks with the Flight Plan screen. Future of Drone Systems.

Max.45 Hrs.

COURSE OUTCOMES:

CO1 - Apply the mathematical/engineering concepts in building drones
CO2 - Analyze the mathematical relation between force, equilibrium, stability and the movement of drones
CO3 - Select appropriate sensors and actuators for specific applications
CO4 - Design gliding drones for real world applications
CO5 - Appraise the performance of subunits in drones
CO6 - Design a drone for mission control application.

TEXT / REFERENCE BOOKS

1. Syed Omar Faruk Towaha, "Building Smart Drones with ESP8266 and Arduino: Build exciting drones by leveraging the capabilities of Arduino and ESP8266" Packt Publishing, 2018
2. Aaron Asadi, "Drones The Complete Manual. The essential handbook for drone enthusiasts", Imagine Publishing Limited, 2016
3. Neeraj Kumar Singh, PorselvanMuthukrishnan, Satyanarayana Sanpini, "Industrial System Engineering for Drones: A Guide with Best Practices for Designing", Apress, 2019
4. Felipe Gonzalez Toro, AntoniosTsourdos, "UAV or Drones for Remote Sensing Applications"2018.
5. K R Krishna, "Agricultural Drones: A Peaceful Pursuit", Apple Academic Press; CRC Press, 2018

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA : 10 Questions of 2marks each-No choice **20 MARKS**
PART B : 2 Questions from each unit of internal choice, each carrying 16marks **80 MARKS**

SEEB4001	SMART GRID	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To understand various aspects of smart grid.
- To Study about Smart Grid technologies, different smart meters and advanced metering infrastructure.
- To familiarize the power quality management issues in Smart Grid.
- To familiarize the high-performance computing for Smart Grid applications.

UNIT 1 INTRODUCTION TO SMART GRID 9 Hrs.

Evolution of Electric Grid, Concept, Definitions and Need for Smart Grid, Smart grid drivers, functions, opportunities, challenges and benefits, Difference between conventional & Smart Grid, Concept of Resilient &Self-Healing Grid, Present development & International policies in Smart Grid, Diverse Prospective from experts and global Smart Grid initiatives.

UNIT 2 SMART GRID ARCHITECTURE 9 Hrs.

Components and Architecture of Smart Grid Design –Review of the proposed architectures for Smart Grid. The fundamental components of Smart Grid designs – Transmission Automation – Distribution Automation –Renewable Integration.

UNIT 3 SMART METERS AND ADVANCED METERING INFRASTRUCTURE 9 Hrs.

Introduction to Smart Meters, Advanced Metering infrastructure (AMI) drivers and benefits, AMI protocols, standards and initiatives, AMI needs in the smart grid, Phasor Measurement Unit (PMU), Intelligent Electronic Devices (IED) & their application for monitoring & protection.

UNIT 4 POWER QUALITY MANAGEMENT IN SMART GRID 9 Hrs.

Power Quality & EMC in Smart Grid, Power Quality issues of Gridconnected Renewable Energy Sources, Power Quality Conditioners for Smart Grid, Web based Power Quality monitoring, Power Quality Audit.

UNIT 5 HIGH PERFORMANCE COMPUTING FOR SMART GRID APPLICATIONS 9 Hrs.

Local Area Network (LAN), House Area Network (HAN), Wide Area Network (WAN), Broadband over Power line (BPL), IP based Protocols, Basics of Web Service and CLOUD Computing to make Smart Grids smarter, Cyber Security for Smart Grid.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the concepts of Smart Grid and its present developments
CO2 - Analyze the various Smart Grid technologies.
CO3 - Interpret about different smart meters and advanced metering infrastructure
CO4 - Realize the power quality management in Smart Grids.
CO5 - Examine the concepts of various network.
CO6 - Investigate Cloud Computing for Smart Grid applications.

TEXT / REFERENCE BOOKS

1. Stuart Borlase “Smart Grid: Infrastructure, Technology and Solutions”,CRCPress2012.
2. Janaka Ekanayake, Nick Jenkins, Kithsiri Liyanage, JianzhongWu, Akihiko Yokoyama, “Smart Grid: Technology and Applications”,Wiley, 2012.
3. Vehbi C. Güngör,DilanSahin, TaskinKocak, SalihErgüt, ConcettinaBuccella, Carlo Cecati, and GerhardP. Hancke, “Smart Grid Technologies: Communication Technologies and Standards”, IEEE Transactions On Industrial Informatics, Vol. 7, No. 4, November 2011.
4. Xi Fang, SatyajayantMisra, Guoliang Xue, and Dejun Yang “Smart Grid – The New and Improved Power Grid: A Survey”, IEEE Transaction on Smart Grids,Vol.14,No.4,pp.944-980,2012.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SEEB4002	ELECTRIC VEHICLE	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To understand the concept of conventional vehicle.
- To acquire the knowledge about the electric vehicle.
- Apply the control of control techniques for motors.
- To understand the transmission system used in electric vehicle.
- To acquire the knowledge about the battery charging system.

UNIT 1 VEHICLE FUNDAMENTALS 9 Hrs.

General Description of Vehicle Movement, Vehicle Resistance, Dynamic Equation, Tire–Ground Adhesion and Maximum TractiveEffort, Power Train Tractive Effort and Vehicle Speed-Vehicle Power Plant and Transmission Characteristics-VehiclePerformance-Braking Performance.

UNIT 2 ELECTRIC VEHICLE FUNDAMENTALS 9 Hrs.

EV Types, EV Configurations, Energy Sources, Motors Used- construction-principal operation-Characteristics-Classification-DCmotor, Induction motor, PMBLDC motor, PMSM, SRM and Synchronous reluctance motor, Charging Systems, Power ConversionTechniques, Technological Problems, Control Algorithms, Trends and Future Developments.

UNIT 3 ELECTRIC POWER TRAIN 9 Hrs.

Series Hybrid Electric Drive Train Design-Sizing of the Major Components- The Hybrid Electric Vehicle-Energy Use inConventional Vehicles-Energy Savings Potential of Hybrid Drive trains-HEV Configurations-Series Hybrid System-Parallel HybridSystem-Series-Parallel System-Complex Hybrid System.

UNIT 4 ELECTRIC PROPULSION SYSTEM 9 Hrs.

DC motor drive-Chopper control of DC motor drive- multi-quadrant control of Chopper fed drive Induction motor drive-constant v/fcontrol-power electronics control-FOC-VSI for FOC. PMBLDC motor drive -performance and control of PMBLDC machine. SRMdrive- SRM drive converter-modes of operation-generating modes of operation.

UNIT 5 BATTERY STORAGE AND CHARGING 9 Hrs.

Batteries-Overview-Types of battery-Fuel Cell-Super capacitor -Flywheel. Charging, standards and infrastructure-Wireless powertransfer-Solar charging case study. Case studies-General motor EV-1 and Tesla roadster.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Apply Vehicle concept to electric vehicle.
CO2 - Analyze the power conversion technique of electric vehicle.
CO3 - Examine the performance of different electric drive train.
CO4 - Select the appropriate electric motor for electric propulsion system.
CO5 - Select a suitable battery for electric vehicle.
CO6 - Investigate the recent technique used in modern electric vehicle.

TEXT / REFERENCE BOOKS

1. M. Ehsani, Modern Electric, Hybrid Electric and Fuel Cell Vehicles: Fundamentals, Theory and Design, CRC Press, 2005 Suggested Reading.
2. Tom Denton, Electric and Hybrid vehicle routledge,2016.
3. Husain, Electric and Hybrid Electric Vehicles, CRC Press, 2003
4. Un-Noor, F., Padmanaban, S., Mihet-Popa, L., Mollah, M.N. and Hossain, E., 2017. A comprehensive study of key electric vehicle (EV) components, technologies, challenges, impacts, and future direction of development. Energies, 10(8), p.1217.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SEEB4003	GREEN ENERGY SYSTEMS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To understand the need and advantages of renewable energy.
- To study the performance, efficiency and the relevancy to the future energy needs.

UNIT 1 INTRODUCTION 9 Hrs.

Overview of conventional & renewable energy sources, need, potential & development of renewable energy sources, types of renewable energy systems, Future of Energy Use, Present Indian and international energy scenario of conventional and RE sources, Energy for sustainable development, Environmental Aspects of Energy, Limitations of RE sources.

UNIT 2 SOLAR ENERGY 9 Hrs.

Theory of solar cells - VI and PV curves - Equivalent circuit. Concept of solar PV module, Panel, Array, MaximumPowerPointtracking-SolarPVsystems-SolarCollectors Classifications–SolarPVApplications-Solar Refrigeration - Solar Pond Power Plant - Solar Thermal PowerPlant.

UNIT 3 WIND ENERGY 9 Hrs.

Wind Power and its Sources-Energy from Wind - Horizontal axis Wind Turbine - Vertical Axis Wind Turbine - Wind Energy Conversion Systems - Cp Vs Speed Curve.

UNIT 4 HYDROGEN PRODUCTION AND HYDROGEN STORAGE 9 Hrs.

Chemical Production of Hydrogen- Electrolytic Hydrogen- Thermolytic Hydrogen- Photolytic Hydrogen- Photobiologic Hydrogen Production- Compressed Gas- Cryogenic Hydrogen- Storage of Hydrogen - Adsorption- Chemical Compounds- Hydride Hydrogen Compressors- Hydride Heat Pumps.

UNIT 5 HYBRID RENEWABLE ENERGY SYSTEMS 9 Hrs.

Need for Hybrid Systems- Range and type of Hybrid systems - Configuration and Coordination, Electrical interface: wind-PV, Wind-PV-Fuel cell -Power quality issues in Hybrid Energy System.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Discuss various energy sources and their environmental issues
CO2 - Sketch the limitless availability of green energy sources.
CO3 - Interpret solar energy conversion and their benefits.
CO4 - Select available possibilities for building a small range of wind energy conversion system.
CO5 - Analyze hydrogen production method and storage methods.
CO6 - Formulate the challenges in renewable hybrid system.

TEXT / REFERENCE BOOKS

1. Aldo Vieira da Rosa, Juan Carlos Ordonez,"Fundamentals of Renewable Energy Processes" - Elsevier academic press 4th Edition 2021
2. Janaka Ekanayake and Nicholas Jenkins "Renewable Energy Engineering"- Cambridge university press-2017
3. B Khan ,"Non conventional Energy resources", Tata McGrawHill, 2 nd Edition 2009.
4. Mukund R. Patel ,Wind& Solar Power Systems- Design, Analysis and Operation, , Taylor and Francis, 2nd Edition 2005.
5. James Larminie& Andrew Dicks, "Fuel Cell Systems Explained", John Wiely& Sons, 2nd Edition.

6. John Twideu and Tony Weir, “Renewal Energy Resources” BSP Publications, 2006.
7. C.S. Solanki, “Renewal Energy Technologies: A Practical Guide for Beginners” PHI Learning.
8. K R Krishna, “Agricultural Drones: A Peaceful Pursuit”, Apple Academic Press; CRC Press, 2018

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SITB4001	ARTIFICIAL INTELLIGENCE & MACHINE LEARNING	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To Learn the basic AI approaches and to develop problem solving agents
- To understand the basic concepts of Machine Learning and build on the construction and study of algorithms that canlearn from data
- To evaluate the algorithms based on corresponding metrics identified.

UNIT 1 INTELLIGENT AGENTS 9 Hrs.

Introduction to AI – Agents and Environments – concept of rationality – nature of environments – structure of agents. Problem solving agents – search algorithms – uninformed search strategies.

UNIT 2 PROBLEM SOLVING 9 Hrs.

Heuristic search strategies – heuristic functions. Local search and optimization problems – local search in continuous space – search with non-deterministic actions – search in partially observable environments – online search agents and unknown environments.

UNIT 3 INTRODUCTION TO MACHINE LEARNING 9 Hrs.

Machine learning - examples of machine learning applications - Learning associations - Classification - Regression –Unsupervised learning-Supervised Learning-Learning class from examples-PAC learning-Noise, model selection and generalization-Dimension of supervised machine learning algorithm.

UNIT 4 NEURAL NETWORKS 9 Hrs.

Multilayer perceptron, activation functions, network training – gradient descent optimization – stochastic gradient descent, error back propagation, from shallow networks to deep networks –Unit saturation (aka the vanishing gradient problem) – ReLU, hyperparameter tuning, batch normalization, regularization, dropout.

UNIT 5 DESIGN AND ANALYSIS OF MACHINE LEARNING EXPERIMENTS 9 Hrs.

Guidelines for machine learning experiments, Cross Validation (CV) and resampling – K-fold CV, bootstrapping, measuring classifier performance, assessing a single classification algorithm and comparing two classification algorithms – t test, McNemar's test, K-fold CV paired t test.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Explain intelligent agent frameworks
CO2 - Apply problem solving techniques
CO3 - Explain the basic concepts of machine learning
CO4 - Construct s supervised learning models
CO5 - Construct unsupervised learning algorithms
CO6 - Evaluate and compare different models.

TEXT / REFERENCE BOOKS

1. Stuart Russell and Peter Norvig, "Artificial Intelligence – A Modern Approach", IVth Edition, Pearson Education, 2021.
2. M.TimJones,"ArtificialIntelligence:ASystemsApproach(ComputerScience)",JonesandBartlettPublishers,Inc.,FirstEdition,2008.

3. EthemAlpaydin, “Introduction to Machine Learning”, MIT Press, Fourth Edition, 2020.
4. TomMitchell,“MachineLearning”,McGrawHill,1997.
5. ShaiShalev-ShwartzandShaiBen-David,“Understanding MachineLearning: From Theoryto Algorithms”, Cambridge, University Press,2014.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SITB4002	USERINTERFACEDESIGN	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To explain hypertext and style sheet languages and apply RWD.
- To illustrate the basics of JavaScript, AJAX
- To build Server side JS frameworks & Angular JS frameworks.

UNIT 1 UIDESIGN 9 Hrs.

HTML5: What is HTML5 - Features of HTML5 – Semantic Tags – New Input Elements and tags - Media tags(audio and video tags) – Designing Graphics using Canvas API - Drag and Drop features – Geolocation API – Webstorage(Session andlocalstorage).CSS3:WhatisCSS3,–FeaturesofCSS3– Implementationofborderradius,boxshadow,imageborder,customwebfont,backgrounds-Advancedtexteffects(shadow)- 2Dand3DTransformations

UNIT 2 RESPONSIVEWEBDESIGN(RWD) 9 Hrs.

Responsive Design: What is RWD – Introduction to RWD Techniques – Fluid Layout, Fluid Images and Mediaqueries-Introduction to RWD Framework. TwitterBootstrap–BootstrapBackgroundandFeatures-GettingStartedwithBootstrap-DemystifyingGrids–OffCanvas-BootstrapComponents-JSPlugins–Customization.

UNIT 3 INTRODUCTIONTOJAVASCRIPTANDAJAX 9 Hrs.

Introduction-Corefeatures – Data types and Variables-Operators,Expressions and Statements-Functions&Scope- Objects - Array, Date and Math related Objects - Document Object Model - Event Handling – Browser ObjectModel - Windows and Documents - Form handling and validations. Object-Oriented Techniques in JavaScript -Classes – Constructors and Prototyping (Sub classes and Super classes) – JSON – Introduction to AJAX.

UNIT 4 INTRODUCTIONTOSERVER-SIDEJSFRAMEWORK–NODE.JS 9 Hrs.

Introduction - What is Node JS – Architecture – Feature of Node JS - Installation and Setup - Creating web serverswith HTTP (Request & Response) – Event Handling - GET & POST implementation - Connect to SQL Database usingNodeJS–ImplementationofCRUDoperations.

UNIT 5 INTRODUCTIONTOCLIENT-SIDEJSFRAMEWORK 9 Hrs.

IntroductiontoAngular4.0-Needs&Evolution –Features–SetupandConfiguration – ComponentsandModules – Templates – Change Detection – Directives – Data Binding - Pipes – Nested Components. Template - Model DrivenForms or Reactive Forms - Custom Valuators.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - DevelopwebpagesandstylesheetsusingHTMLandCSS3respectively
CO2 - Design responsivewebsiteswithRWDtechniques.
CO3 - ApplyJavaScriptandalliedscriptinglanguagesforimplementingobjectmodelsandfunctions.
CO4 - DemonstrateServeSideJSFramework forapplicationdevelopment.
CO5 - UseClient-SideJSFrameworkforredefiningtheapplicationdevelopment
CO6 - DevelopUserInterfaceDesignsusingtheframeworks.

TEXT / REFERENCE BOOKS

1. HarveyandPaulDeitel&Associates, HarveyDeitelandAbbeyDeitel,"InternetandWorldWideWeb-HowtoProgram",5thEdition,Pearson Education,2011.
2. AchyutSGodboleandAtulKahate,"WebTechnologies",2ndEdition,TataMcGrawHill,2012.
3. ThomasAPowell, FritzSchneider,"JavaScript:TheCompleteReference",3rdEdition,TataMcGrawHill,2013.
4. DavidFlanagan,"JavaScript:TheDefinitiveGuide,6thEdition",O'ReillyMedia,2011.
5. BearBibeaultandYehudaKatz,"jQueryinAction",January2008.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SMEB4001	WIND AND SOLAR ENERGY	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To understand the fundamentals of wind energy and its conversion system.
- To learn and study the solar radiation and various solar collectors

UNIT 1 WIND ENERGY FUNDAMENTALS & WIND MEASUREMENTS 9 Hrs.

History of wind power, Indian and Global statistics,Wind Energy Basics, Wind Speeds and scales, Terrain, Roughness, Wind Mechanics, Power Content, Class of wind turbines, Atmospheric Boundary Layers, Turbulence. Instrumentation for wind measurements, Wind data analysis, tabulation, Wind resource estimation, Betz's Limit, Turbulence Analysis.

UNIT 2 AERODYNAMICS THEORY & WIND TURBINE TYPES 9 Hrs.

Review of modern wind turbine technologies, Fixed and Variable speed wind turbines, Airfoil terminology, Blade design, Rotor performance and dynamics, Balancing technique (Rotor &Blade), Types of loads; Sources of loads Vertical Axis Type, Horizontal Axis, Constant Speed Constant Frequency, Variable speed Variable Frequency, Up Wind, Down Wind, Stall Control,Pitch Control, Gear Coupled Generator type, Direct Generator Drive /PMG/Rotor Excited Sync Generator.

UNIT 3 WIND TURBINE COMPONENTS AND THEIR CONSTRUCTION 9 Hrs.

Electronics Sensors /Encoder /Resolvers, Wind Measurement : Anemometer & Wind Vane, Grid Synchronisation System, Soft Starter, Switchgear [ACB/VCB], Transformer, Cables and assembly, Compensation Panel, Programmable Logic Control, UPS, Yaw & Pitch System : AC Drives, Safety Chain Circuits, Generator Rotor Resistor controller (Flexi Slip), Differential Protection Relay for Generator, Battery/Super Capacitor Charger & Batteries/Super Capacitor for Pitch System, Transient Suppressor/Lightning Arrestors, Oscillation & Vibration sensing.

UNIT 4 SOLAR RADIATION AND MEASUREMENT 9 Hrs.

Energy from Sun – Solar Constant –Sun earth relationship – Spectral distribution of Extra-terrestrial Radiation – Variation of Extra-terrestrial Radiation – Solar angles–Sun path diagrams– Solar Time and its equation –Air mass ratio – Radiation reaching Earth's surface – Measurement and estimation on horizontal and tilted surfaces –Measurement devices for Solar Radiation, temperature-efficiency measurements-high efficiency cells–Solar thermo-Photovoltaic.

UNIT 5 SOLAR COLLECTORS 9 Hrs.

Flat plate collector thermal analysis – Testing Methods-Evacuated tubular collectors –Concentrating collectors – Classification- Design and performance parameters-Tracking systems- Compound parabolic concentrators – Parabolic trough Concentrators-Concentrators with point focus-Heliostats– performance of the collectors.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Determine energy available in wind and limitations in wind turbine design.
CO2 - Analyze the wind turbine aerodynamics and breaking system.
CO3 - Explain about various components of wind turbine and its working.
CO4 - Illustrate solar radiation and its measurement.
CO5 - Identify various solar thermal energy technologies and their applications.
CO6 - Compare various solar PV cell materials and interpret factors influencing of conversion efficiency.

TEXT / REFERENCE BOOKS

1. C-WET: Wind Energy Resources Survey in India.
2. John D Sorensen and Jens N Sorensen, Wind Energy Systems, Wood head Publishing Ltd, 2011
3. Kaldellis. J.K, Stand–alone and Hybrid Wind Energy Systems, CRC Press, 2010
4. Chetan Singh Solanki, Solar Photo voltatics – Fundamentals, Technologies and Applications, PHI Learning Private limited, 2011
5. John A.Duffie, William A.Beckman, Solar Engineering of Thermal Processes, John Wiley & Sons, 2013.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SMEB4002	INDUSTRIAL ROBOTICS AND EXPERT SYSTEMS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To teach students the basics of robotics and Automation Systems.
- To teach students robot cell design, Robot Configuration and robot programming.
- To teach students application of artificial intelligence and expert systems in robotics.

UNIT 1 INTRODUCTION AND ROBOT KINEMATICS 9 Hrs.

Definitionneedandscopeofindustrialrobots – CoordinateSystemsClassificationofRobot – Robotanatomy – workvolume – Precisionmovement–Endeffectors-sensors.Robotkinematics–Basicsaboutplane rotation–rotationmatrix – Directandinversekinematics – RobotTrajectories – Controlofrobotmanipulators – Robotdynamics – Methodsfororientationand locationofobjects.Pitch,Yaw,Roll,JointNotations,SpeedofMotion,PayLoad.

UNIT 2 ROBOT DRIVES 9 Hrs.

Controllingtherobotmotion – Positionandvelocitysensingdevices – Designofdrivesystems – HydraulicandPneumatic drives- D.C.Servo Motors, Stepper Motors, A.C. Servo Motors Linear and rotary actuators and control valves,electricdrives – Motors–SelectionofDrives-designingofendeffectors-Vacuum,magneticandair operatedgrippers.

UNIT 3 ROBOT SENSORS & IMAGE PROCESSING 9 Hrs.

Robot Sensors-Proximity sensors – Touch sensors-range sensors- temperature sensors-introduction to image processing- Robotic vision system - Image Gripping - Image processing and analysis - Image segmentation – Pattern recognition - Training of vision system.

UNIT 4 ROBOT CELL DESIGN AND FIELD ROBOTS 9 Hrs.

Robot work cell design and control - Safety in Robotics - Robot cell layouts - Multiple robots and machine interference - Robot cycle time analysis - Ariel robots- Collision Avoidance-Robots for agriculture, mining, exploration, underwater, civilian and military applications, nuclear applications, Space applications.

UNIT 5 ROBOT PROGRAMMING 9 Hrs.

Methods of robot programming - characteristics of task level languages- lead through programming-Methods-Motion interpolation. Different Programming Languages – basic motion commands – MOVEL, MOVEJ, MOVEC,WAIT, SIGNAL, DELAY Commands.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Describe Fundamental Concepts of Robots and Kinematics.
CO2 - Implement Drives concepts in End effectors.
CO3 - Analyze and design Path planning and Image processing.
CO4 - Design robot work cell for automation industries.
CO5 - Understand the robot programmingmethods.
CO6 - Understand the concepts of various commands.

TEXT / REFERENCE BOOKS

1. K.S.Fu,R.CGonzalezandC.S.G.Lee,Roboticscontrol,Sensing,Visionandintelligence",McGrawHill ,2010.

2. Kozyrey,Yu,"IndustrialRobotics",MIRPublishersMoscow,2022.
3. Richard.D.,Klafter, Thomas.A, Chmielewski, Machine Negin "Robotics Engineering-An Integrated Approach", Prentice Hall of India,2009.
4. Deb,S.R."RoboticsTechnologyandFlexibleAutomation",TataMcGrawHill,2018.
5. Mikell,P.Groover,MitchellWeis,RogerN.Nagel,NicholasOdrey"IndustrialRoboticsTechnology,Programmingand Applications", McGraw Hill, Int., 2021.
6. TimothyJordonidesetal,"ExpertSystemsandRobotics",Springer-Verlag,NewYork,May2018.
7. AshitaveGhosal"Robotics–FundamentalconceptsandAnalysis"OxfordUniversityPress,2006.
8. KorenY,"RoboticsforEngineers',McGrawHillBookCo.,2019.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SMEB4003	INDUSTRIAL SAFETY ENGINEERING	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To understand the safety functions and safety audit.
- To understand the types of operational safety like hot metal operation and gold metal operation.
- To understand the safety consideration with health, Welfare Act.
- To learn the safety performance monitoring and management techniques.

UNIT 1 INTRODUCTION TO INDUSTRY 9 Hrs.

Evaluation of modern safety concepts - Safety management functions - safety organization, safety department - safety committee, safety audit - performance measurements and motivation - employee participation in safety - safety and productivity.

UNIT 2 OPERATIONAL SAFETY 9 Hrs.

Hot metal operation – safety in Cutting – safety in welding – safety in Boilers- Pressure vessels – Furnace (all types) - Heat treatment processes shops – electroplating – grinding – forming processes-rolling – forging - surface hardening – casting – Moulding – coiling. Operational safety (cold metal operation), Safety in Machine shop - Cold bending and chamfering of pipes - metal cutting - shot blasting, grinding, painting - power press and other machines.

UNIT 3 SAFETY, HEALTH, WELFARE AND LAW 9 Hrs.

Features of Factory Act – explosive Act – boiler Act – ESI Act – workman's compensation Act – industrial hygiene – occupational safety – diseases prevention – ergonomics - Occupational diseases, stress, fatigue - Health, safety and the physical environment - History of legislations related to Safety-pressure vessel act-Indian boiler act - The environmental protection act - Electricity act - Explosive act.

UNIT 4 PERSONAL PROTECTIVE EQUIPMENT 9 Hrs.

Introduction, Selectivity of PPE, Protective Equipment for Eyes, Types, Protection of Face, Eye, Arms, Hands, Fingers, Foot, Legs, Head, Ears and Respiration System, Safety Belt for Industrial Operation.

UNIT 5 SAFETY MANAGEMENT 9 Hrs.

Methods of promoting safe practice – Safety organization- OSHA – Safety controls. visible and latent hazards - human factors and safety - safety audit - Case study roll of management and roll of Govt. in industrial safety - safety analysis Industrial fatigue- role of industrial psychology- risk analysis - safety training - accident and near miss investigations- promotional measures to avoid accidents - human reliability - safety management characteristics-industrial safety policies and implementation.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the safety audit committee and management functions.
CO2 - Evaluate the modern safety concepts, measurements and motivations.
CO3 - Obtain knowledge on different types of operational safety in hot metal and cold metal working\process,
CO4 - Analyze function and uses of the personal protective equipments.
CO5 - Examine the safety performance monitoring and evaluations of accident rate.
CO6 - Analyze and implementing management techniques.

TEXT / REFERENCE BOOKS

1. R.K.Jain, Industrial safety, Health and Environmental Management System, Khanna Publishers, First reprint, 2017.
2. Deshmukh, Industrial Safety Management, Tata McGraw Hill, New edition, 2017.
3. Thomas D. Schneid, Legal Liabilities in Safety and Loss Prevention, CRC Press, 3rd Edition, 2019.
4. Roy Asfatil C, David W Rieske, Industrial safety and Health Management, Pearson, 7th Edition, 2018.
5. Joseph F. Gustin, Safety Management: A Guide for facility Management, River Publisher, 2008

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SMRB4001	INTRODUCTION TO MECHATRONICS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To create a strong base on the various sensors and transducers in mechanical system.
- To learn interdisciplinary applications of Electronics, Electrical, Mechanical and Computer Systems for the Control of Mechanical and Electronic Systems.
- To design control system for computer application like CNC.

UNIT 1 INTRODUCTION 9 Hrs.

Mechatronics: Definition, introduction to mechatronics, review of basic electronics and Key Issues - Evolution - Elements - Mechatronics Approach to Modern Engineering, Industrial design and safety Design.

UNIT 2 SENSORS AND TRANSDUCERS 9 Hrs.

Introduction and background, difference between transducer and sensor, transducers types, transduction principle, photoelectric transducers- thermistors, thermos devices, thermocouple, inductive transducers capacitive transducers, piezoelectric transducers, piezoelectric transducers. Hall Effect transducers, Fiber optic transducers, Signal Processing - Data Display.

UNIT 3 ACTUATION SYSTEMS 9 Hrs.

Introduction to Mechanical Types and Electrical Types - Pneumatic & Hydraulic Systems - Applications - Selection of Actuators, Actuators for mechatronic applications, Kinematics of robot manipulator links.

UNIT 4 DIGITAL AND CONTROL SYSTEMS 9 Hrs.

Digital logic neuron system, Types of Controllers - Programmable Logic Controllers - applications - ladder diagrams - Microprocessor Applications in Mechatronics: Temperature measurement system, Domestic washing machine - Programming Interfacing - Computer Applications: CNC drilling machine.

UNIT 5 RECENT ADVANCES 9 Hrs.

Digital electronics, basic logic functions, logic gates, logic ICs, Biomedical robotics and applications, Manufacturing Mechatronics - Automobile Mechatronics - Medical Mechatronics - Office Automation – Case Studies

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Understand the approach of Mechatronics to engineering concepts
CO2 - Classify the different types of sensors, transducers
CO3 - Explains the actuator and use of robot kinematics.
CO4 - Distinguish the different control and interfacing techniques.
CO5 - Analyses the applications of mechatronics in the fields of automobile, robotics, medicine.
CO6 - Identification of key elements of mechatronics system and its representation in terms of block diagram.

TEXT / REFERENCE BOOKS

1. Bolton. W “Mechatronics: Electronic Control System for Mechanical & Electrical Engineering”, 2nd Edition Pearson Education, 2004.
2. Histand, M. B., Alciatore, D. G. (2007). Introduction to Mechatronics and Measurement Systems 3rd ed., WCB/McGraw-Hill, Boston. ISBN: 9780072963052.
3. Ramachandran. K.P,Vijaya Raghavan. G.K, Mechatronics, A.R.S. Publications, Second Edition, 2008.
4. Bradly.D.A, Dawson.D, Burd. N.C, Loader. A.J “Mechatronics: Electronics in Products and Processes” Nelson Publisher, 2004.
5. Dan Necsulescu, “Mechatronics”, Pearson Education, 2005.
6. Bishop, Robert H, "Mechatronics Hand book", CRC Press, 2002.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SMRB4002	ELECTRICAL AND ELECTRONIC CERAMICS	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To provide in-depth knowledge about the fundamentals of various ceramic materials in electrical, electronics and energy related application.
- To prepare future materials scientist and engineers who can fit in academia and industry for relevant scientific breakthrough.
- To be well versed with fundamental theories, processing, fabrication of advanced ceramic materials for electrical, electronics and energy related applications that is adopted by industries.

UNIT 1 STRUCTURE OF CERAMIC MATERIALS 9 Hrs.

Introduction Brief Review of Structure in Materials, bonding in Materials, Packing of Atoms in Metals, Interstices of Covalent Ceramics, Structure of Covalent Ceramics, Ionically Bonded Ceramic Structures, Compounds based on FCC packing of Ions, Other Cubic Structures, Orthogonal Structure, Structure based on HCP packing of Ions.

UNIT 2 DEFECT CHEMISTRY AND DEFECT EQUILIBRIA 9 Hrs.

Point Defects, Defect Reactions, Defect Structures in Stoichiometric Oxides, Dissolution of Foreign cations in an Oxide, Concentration of Intrinsic Defects, Intrinsic and Extrinsic Defects, Units for Defect Concentration, Defect Equilibria, Defect Equilibria in Stoichiometric Oxides, Defect Equilibria in Non-Stoichiometric Oxides, Defect Equilibria in Non – Stoichiometric Oxides, Defect Structures involving Oxygen vacancies and Interstitials, Defect Equilibrium Diagram.

UNIT 3 DIFFUSION AND CONDUCTION IN CERAMICS 9 Hrs.

Diffusion, Diffusion Kinetics, Examples of Diffusion in Ceramics, Mobility and Diffusivity, Analogue to the Electrical Properties, Conduction in Ceramics, Ionic conduction: Basic facts, Ionic and Electronic Conductivity, Characterization of Ionic Conduction, Theory of Ionic Conduction, Conduction in glasses, Fast Ion Conductors, Nernst Equation and Application of Ionic Conductors.

UNIT 4 DIELECTRIC CERAMICS 9 Hrs.

Basic Properties: Dielectrics in DC Electric Field, Mechanisms of Polarization, Microscopic Approach, Determination of Local Field, Analytical Treatment of Polarizability, Effect of Alternating Field on the Behaviour of a Dielectric Material, Frequency Dependence of Dielectric properties: Resonance, Dipolar Relaxation, Circuit Representation of a Dielectric and Impedance analysis, Impedance Spectroscopy, Dielectric Breakdown, Basic Mechanisms of Breakdown.

UNIT 5 MAGNETIC CERAMICS 9 Hrs.

Magnetic Moments, Macroscopic view of Magnetization, Classification of Magnetization, Classification of Magnetism, Diamagnetism, Ferromagnetism, Anti ferromagnetic materials, Ferromagnetic Materials, Magnetic Losses and Frequency Dependence, Magnetic Ferrites.

Max.45 Hrs.

COURSE OUTCOMES

CO1 - Apply the theoretical knowledge imparted during course to carry out independent research and developmental work related to ceramic materials for different emerging applications.

CO2 - To be well versed with fundamental theories, processing, fabrication of advanced ceramic materials for electrical, electronics and energy related applications that is adopted by industries.

CO3 - Prepare future materials scientist and engineers who can fit in academia and industry for relevant scientific breakthrough.
CO4 - Design conventional and advanced ceramics materials for future technological needs.
CO5 - Design conventional and advanced ceramics materials for future technological needs.
CO6 - Solve problems and case studies related to capacitor materials, electrical insulator, devices, magnetic ceramics, ceramic conducting and semiconducting materials for sensor, fuel cell, battery.

TEXT / REFERENCE BOOKS

1. Mohsen Mhadhbi, (2021), "Advanced Ceramic Materials", Intech Open, ISBN:9781838812041
2. A. Fletcher, (2013), "Advanced Materials 1991-1992. II. Directory", Elsevier Science, ISBN:9781483293516.
3. David W. Richerson, (2012), "The Magic of Ceramics", Wiley, ISBN:9781118392300.
4. Jose James, Pramoda Kumari Pallathadka, Sabu Thomas, (2019), "Polymers and Multicomponent Polymeric Systems Thermal, Thermo-Mechanical and Dielectric Analysis", CRC Press, ISBN:9780429943478
5. Yet-Ming Chiang, Dunbar P. Birnie, W. David Kingery Physical Ceramics: Principles for Ceramic Science and Engineering, ISBN 9780471598732.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SMRB4003	RESOURCE MANAGEMENT TECHNIQUES	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- To solve problems in linear programming and Integer programming.
- To develop in a student efficient and effective deployment of an organization's resources when they are needed.
- To analyze and appreciate variety of performance measures for various optimization problems.

UNIT 1 INTRODUCTION AND LINEAR PROGRAMMING 9 Hrs.

Operations Research(OR)- Nature – Characteristics – Phases - Role of OR in Decision making - Outline of OR Models Linear Programming – Formulation of L.P.P. problems –Solution by graphical method, simplex method, Big M methods.

UNIT 2 TRANSPORTATION AND ASSIGNMENT MODEL 9 Hrs.

Transportation problem – Initial Basic feasible solution- Northwest corner method, Least Cost method, Vogel's approximation method – Test for optimality-MODI method. Assignment problems- Hungarian assignment models-Travelling salesman problems.

UNIT 3 RESOURCE SCHEDULING AND NETWORK ANALYSIS 9 Hrs.

Problem of Sequencing – Problem with N jobs and 2 machines N Jobs 3 machines N Jobs and m machines and 2 Jobs m machines (Graphical method). Project Management -Basic concepts–Network construction and scheduling Critical Path Method (CPM) & Program evaluation review technique (PERT) and resource leveling by network techniques, time – Cost trade off.

UNIT 4 INVENTORY CONTROL 9 Hrs.

Inventory Control – Various Types of inventory models – deterministic inventory models – Production model, Purchase model– with and without shortage- Economic Order Quantity (EOQ) – Buffer stock – Shortage quantity, Probabilistic inventory models – Quantity Discount and Price Breaks.

UNIT 5 QUEUEING THEORY, GAME THEORY AND REPLACEMENT MODELS 9 Hrs.

Queuing theory – Poisson arrivals and exponential service times, Single channel models only, Concepts of Game problem. Two- person zero-sum game. Pure and Mixed strategies. Saddle point and its existence, Mixed Strategy of game theory, Concept of Dominance. Dominance and Graphical method of solving game problems. Replacement policy for items whose maintenance cost increases with time- Consideration of time value of money - Replacement policy- Individual, Group replacement of items that fail completely and suddenly.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Formulate the linear programming problems.
CO2 - Analyze transportation and assignment problems.
CO3 - Develop the scheduling systems and analyze CPM and PERT methods.
CO4 - Describe the different inventory modals
CO5 - Design the Queuing theory and examine the replacement model.
CO6 - Know about replacement policy, Individual and group displacement.

TEXT / REFERENCE BOOKS

1. K. Malik, S. K. Yadav, S. R. Yadav, Optimization Techniques. I K International Publishing House Pvt. Ltd; First Edition edition, 2013.
2. PK Gupta, D.S Hira Operations Research. S Chand seventh revised edition, 2014.
3. Sharma S.D, Operation research Theory,Methods and Application, 17th Edn., Kedar Nath Ram Nath Publication, 2010.
4. Nita H Shah, Ravi M Gor& Hardik Soni, Operation research, 4th Edn., PHI, 2010.
5. Edwin K. P. Chong & Stanislaw H. Zak," An Introduction to Optimization" Wiley India, 2017.
6. Mohan, Kusum Deep, Optimization Techniques. New Age Science, 2009.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SPYB4001	Personality Development	L	T	P	EL	Creditss	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVES

- Understand the meaning and nature of personality.
- Analyze their attitudes for personal enrichment.
- Understand the concept of motivation and achievement motivation.
- Maintain healthy relationships with others in turn developing personalities.

UNIT 1 MEANING AND NATURE OF PERSONALITY 9 Hrs.

Personality: Definitions, Meanings, Elements of personality, Types of Personality, Determinants of personality, Personality SWOT Analysis.

UNIT 2 PERSONALITY ENRICHMENT 9 Hrs.

Self esteem, Self concept, Advantages of high self esteem, Characteristics of people with high and low self esteem, Steps to building positive self esteem, Attitude, Factors that determine our attitude., Benefits of a positive attitude and consequences of a negative attitude, Steps to building a positive attitude.

UNIT 3 MOTIVATION 9 Hrs.

Motivation: Meaning and nature, The difference between inspiration and motivation, Motivation redefined, External motivation vs. Internal motivation, Achievement motivation.

UNIT 4 SUCCESS 9 Hrs.

Defining success-Real or imagined obstacles to success, Qualities that make a person successful, Reasons for failure – Interpersonal skills, Dealing with seniors, colleagues, juniors, customers, suppliers at the workplace.

UNIT 5 POSITIVE RELATIONSHIPS & PERSONALITY 9 Hrs.

Positive Relationships – Factors that prevent building and maintaining positive relationships, the difference between ego and pride, the difference between selfishness and self interest, Steps for building a positive personality, Body language: understanding body language, Projecting positive body language.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - To understand different elements of personality
CO2 - They can able to know different types of Personality
CO3 - Students can understand determinants of personality
CO4 - To understand advantages of high self esteem
CO5 - Students will be able to acquire the skills to manage time and relationship
CO6 - Students can identify the factors that prevent building and maintaining positive relationships.

TEXT / REFERENCE BOOKS

1. Nathan Dorman (2004) Personality Development Abishek Publication, New Delhi.
2. Jafar Mahmud (2004) Introduction to Psychology APH Publishing Corporation, New Delhi.
3. Zig Ziglar (2000) See You at the Top Magna Publishing Co. Ltd., Mumbai.
4. Shiv Khera (1998) You can win MacMillan India Ltd., New Delhi.
5. Walter Doyle Staples (2000) Think Like a Winner Magna Publishing co. Ltd., Mumbai\

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SPYB4002	PSYCHOLOGY AND LAW	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVES

- To overview the domains at which the fields of psychology and law intersect.
- To examine the tensions between the disciplines of psychology and the law, and the tensions common to psycho-legal issues.
- To examine the ways in which the legal system influences the practice of psychology, and to examine the ways in which psychological techniques and research influence the legal system.

UNIT 1 **9 Hrs.**

Overview of Psychology and the Legal System, Interrogations and Confessions, Lie Detection, the Psychology of Forensic Identification, Criminal Profiling and Psychological Autopsies.

UNIT 2 **9 Hrs.**

Recovered Memories: Interviewing Children and Memories of Sexual Abuse, Eyewitness Memory, Jury Selection, Legal Decision-Making.

UNIT 3 **9 Hrs.**

Competency to Stand Trial, Racial Diversity, Age of Consent, Adolescent Development in "Reforming Juvenile Justice" The Insanity Defense.

UNIT 4 **9 Hrs.**

Clinical Syndromes common to legal settings: Psychosis, ASPD & Psychopathy, Malingering, Neuroscience Applications in Law, Mental Illness and Violence.

UNIT 5 **9 Hrs.**

Violence Risk Assessment, Sexual Offending, Sexually Violent Predator laws, Civil forensic psychology, Civil Law-families, Juvenile Justice, Victims, Rape, Sexual Harassment, Punishment, Corrections: Death Penalty.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - To become familiar with important case law that has helped shape the relationship between the mental health fields and the legal system.

CO2 - To understand the applications of psychology to various criminal justice and correctional issues.

CO3 - To consider critically psycho-legal issues as they are portrayed in the popular media and in political debate.

CO4 - Can able to Interviewing Children and Memories of Sexual Abuse.

CO5 - Analyzes Civil Law-families, Juvenile Justice, Victims, Rape, Sexual Harassment, and Punishment.

CO6 - Apply Neuroscience Applications in Law, Mental Illness and Violence.

TEXT / REFERENCE BOOKS

1. Costanzo, M., & Krauss, D. (2018). Forensic and Legal Psychology (3rd ed.). New York: Worth Publishers. ISBN: 9781319060312, 1319060315
2. Bushman, B.J. &Anderson, CA (2001). Media violence in the American Public: Scientific facts versus media misinformation. American Psychologist, 56,477-489.
3. Otto, R.K. & Heilbrun, K. (2002). The practice of forensic psychology: A look toward the future in light of the past. American Psychologist, 57, 5-18.
4. R.E. (2001). Sociopolitical diversity in psychology: The case for pluralism. American Psychologist, 56, 205-215.
5. Greene, Heilbrun, Furtune, & Nietzel. (2007). Wrightsman's Psychology and the Legal System-Sixth Edition.
6. Additional assigned readings (book chapters and journal articles) will be available online via SHSU Blackboard

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2 marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SPYB4003	FAMILY THERAPY	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVE

- Description of family interactional patterns according to the concepts of Family Systems.
- Understand the distinctiveness of the major approaches to Family counselling and Family Therapy.

UNIT 1 **9 Hrs.**

Historical evolution of the field of marriage and family therapy. Current and Future trends. Foundations of Family Therapy. Fundamental concepts. Evaluation of Family Therapy, Family therapy research – Empirical foundations and Practice implications.

UNIT 2 **9 Hrs.**

Assessment in marriage and family counselling, Applications of assessment: Treatment planning, evaluation and accountability. Assessment and Diagnosis. Assessment with special populations, Ethical and legal issues in assessment, Technological applications, and future trends.

UNIT 3 **9 Hrs.**

Social Institutions: Family: Functions of the Family – Matriarchal Family –Patriarchal Family – Joint Family – Nuclear Family – Changing Trends in the family system.

UNIT 4 **9 Hrs.**

Family and Marital Counselling: Need for Family Counselling i) Family systems, Nuclear Family – Joint Family problems. ii) Child Guidance – Counselling the parents-child relationship problems, rejection, favouritism and other problems. iii) Parental Counselling – role of parents in dealing with children's problems.

UNIT 4 **9 Hrs.**

Need for Marital Counselling i) Marital problems – socio-economic factors, finance, social life, religious and other values ii) Counselling the Unwed Mothers, Divorcees and the Separated Parents of Handicapped and deviant Children. iii) Genetic Counselling and its importance – before and after marriage.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Know the historical evolution, foundations and current as well as future trends of family therapy.
CO2 - Explain the importance of assessment in marriage and family counseling.
CO3 - Make use of the learned skills in family and marital counseling.
CO4 - Assess the special population for ethical and legal issues
CO5 - Define the importance of counselling for parent child relationship problems
CO6 - To understand the socio-economic factors.

TEXTBOOKS/REFERENCES

1. Heckler, L.L. & Wetchler, J.L. (2015). An introduction to marriage and family therapy. New York. Routledge Mental Health: a Division of Taylor and Francis Group.
2. WinniCott, D.W. (1995). Counselling and Therapy. London: Sage Publications
3. Whiston, S.C (2000). Principles ad applications of assessment in counseling , Wadsworth, Belmont. Brooks- Clole

4. Nichols, M.P. & Schwartz, R.C. (2010). Family therapy: Concepts and methods. 9th ed. Toronto: Allyn and Bacon, Pearson education, Inc.Press, Inc
5. Patterson, J., William, L., Grauf-Grounds, C., &Chamow. (2009). Essential skills in family therapy: From the first interview to termination. 2nd Edition. New York: The Guilford Press.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA : 10 Questions of 2 marks each-No choice **20 MARKS**
PART B : 2 Questions from each unit of internal choice, each carrying 16marks **80 MARKS**

SPYB4004	MEDIA PSYCHOLOGY	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVES

- Access, Time and content-Gender media use and effect- Prosocial, para social and unsocial effects of media exposure on the family.
- From educational media How to incorporate social media into the introductory psychology classroom.
- Media symbol systems and cognitive processes, psychological effects of social media.

UNIT 1 **9 Hrs.**

Impacts of media on society What is social media? Opportunities in social media, social media & online education Psycho-Social and Cognitive effect of Media: Media use across childhood: Access, Time and content-Gender media use and effect- Prosocial, para social and unsocial effects of media exposure on the family.

UNIT 2 **9 Hrs.**

Media symbol systems and cognitive processes. - Learning from educational media How to incorporate social media into the introductory psychology classroom (Twitter, Facebook, whatsup, LinkedIn, topsy, google plus etc...) How to incorporate social media into research, how to integrate social media into campus life activities (ex. clubs), Future of social media.

UNIT 3 **9 Hrs.**

Psychological effects of social media Psychologies related to Television, Motion Pictures, CD and other blended media Psychologies related to newspapers, radio and other media.

UNIT 4 **9 Hrs.**

Personality theory and media Violence and media- Learning by Observation- Mirrors and imitation in the brain; applications of observational learning; Thinking critically about: Does viewing media violence trigger violent behaviour? Aggression – origin, influences (social and situational), theories, forms (violence in school, sexual harassment, sexual aggression, domestic violence, media violence, terrorism.)

UNIT 5 **9 Hrs.**

Prevention and control. Animation and media communication Models, Video Games, and Aggression.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Know the basic principles that governs social media psychology
CO2 - Describe Psychologies related to Television, Motion Pictures, CD and other blended media
CO3 - Identify the different opportunities in social media
CO4 - Explain the effect of media exposure on families
CO5 - Apply the concepts of observational learning to identify the relationship between violence and media
CO6 - Analyze the prevention and control social media.

TEXT / REFERENCE BOOKS

1. Kendrick, D.T., Neuberg, S.L., & Cialdini, R.B. (2010). Social Psychology: Goals in Interaction (5th Edition/Global Edition). Boston: Pearson Education Publishing as Allyn& Bacon.
2. Calvert, S. L. & Wilson, B.J. (2008). The Handbook of Children Media, and Development. New York: Wiley-Black Well.
3. Wilmmer, R. D. & Dominick, J. R. (2003). Mass Media Research. New York:Thomson Woodsworth.
4. McLuhan,M.(1964).Understanding media: The extensions of man. New York: McGraw-- - Hill (Signet Books).Pp. 149-179.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2 marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SPYB4005	STRESS MANAGEMENT	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVES

- To understand how the stressors will change the Life events or life change events.
- To know the different Theories of Stress.
- To highlight the different types of relaxation technique to reduce stress.

UNIT1 **9 Hrs.**

Introduction : The science and sources of stress – Stress and health – Types of stress –concept of stress – Causes of stress –Theories of stress - Response-based concept of stress - Event-based concept of stress.

UNIT 2 **9 Hrs.**

Stressors - Life events or life change events - Chronic stressors - Effects of stress on the body - Enhancing awareness about managing stress - The health belief model and its application to stress management: an in -depth investigation.

UNIT 3 **9 Hrs.**

Relaxation: Meaning – Sleep – Sleep related disorders - Relaxation techniques: yoga and meditation – Biofeedback -Progressive muscle relaxation - Autogenic training -Visual imagery - Self-hypnosis - Humor, stress, and relaxation - Mindfulness meditation.

UNIT 4 **9 Hrs.**

Coping mechanisms: Method Based on Rational Emotive Therapy-Method Based on Simplified Kundalini Yoga -Method Based on Gestalt Therapy - Systematic Desensitization - Cognitive Behavioral Therapy -Regular physical activity and exercise.

UNIT 5 **9 Hrs.**

Implementing a Stress Reduction Plan: Importance of implementing a plan - Stages of change - Determining goals, objectives, and targets: goal setting: Establishing objectives - Deciding targets - Social support.

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - Discuss the definition of stress and apply critical thinking to identify its causes and treatments
CO2 - Become familiar with seminal and contemporary research on stress, coping and resilience
CO3 - Identify common stressors inherent in today's global marketplace
CO4 - Develop an understanding of the impact of stress on physiological, motional and cognitive processes
CO5 - Recognize the role of stress and coping in human wellbeing, communication, relationships, academic and work performance.
CO6 - Apply the health belief model and its application to stress management.

TEXT / REFERENCE BOOKS

1. Greenberg, Jerrold, S. Comprehensive Stress Management. NY: McGraw-Hill, latest edition.
2. Cooper, C.L. & Payne, R.P (1994). Causes,Coping & Consequences of Stress at Work. Wiley. Lewis, S., & Cooper,C.L. (2005).

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2 marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SPYB4006	EDUCATIONAL PSYCHOLOGY	L	T	P	EL	Credits	Total Marks
		3	0	0	0	3	100

COURSE OBJECTIVES:

- To provide an understanding about the psychological elements in learning process and different views about learning.
- To familiarize students with various aspects related to the instructional process.
- To develop an overview of the importance of development in education.

UNIT 1 **9 Hrs.**

Definition, Historical Background, Role and Scope of Educational Psychology, Effective Teaching Methods.

UNIT 2 **9 Hrs.**

Understanding Student Development and Diversity- General Principles of Development, Importance of Development in Education, Brain and Cognitive Development, Language Development, Importance of Personal, Social and Emotional Development, Importance of Culture, Community and Gender.

UNIT 3 **9 Hrs.**

Understanding Learning Process - Importance of Behavioural Approaches to Learning, Importance of Information Processing Approach, Complex Cognitive Processes, Importance of Social, Cognitive and Constructivist Views of Learning.

UNIT 4 **9 Hrs.**

Motivation in Learning and Teaching - Creating Learning Environment: The Need for Organization, Creating a Positive Environment, Maintaining a Good Environment for Learning. Teaching for Academic Learning Planning: Teacher-centered Lesson-planning and Instruction, Lesson-centered Lesson-planning and Instruction. Classroom Management: Designing Physical Environment of the Classroom, Creating Positive Environment for Learning, Classroom Assessment.

UNIT 5 **9 Hrs.**

Students with Special Educational Needs -Learning Disabilities: Types of remedial teaching Gifted students:

Max.45 Hrs.

COURSE OUTCOMES

On the completion of the course the student will be able to

CO1 - To understand nature, scope and methods of educational psychology.
CO2 - To apply knowledge of learning theories to child development.
CO3 - To familiarize with the higher mental processes and techniques to facilitate learning.
CO4 - To understand the contribution of educational psychology for expertise in teaching and research.
CO5 - To understand the theoretical perspective in educational psychology.
CO6 - Apply concepts of such theories in practical life.

TEXT / REFERENCE BOOKS

1. Woolfolk.A. (2004). Educational Psychology. 9th ed. Delhi: Pearson Education.
2. Santrock, J. W. (2004). Educational Psychology. 2nd ed. International Edition: McGraw Hill.
3. Ormrod, J. E. (2000). Educational Psychology: Developing Learners. ed. New Jersey: Merrill.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2 marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**

SNSA1121	ESSENTIALS OF HEALTHCARE	L	T	P	Credits	Total Marks
		3	0	0	3	100

COURSE OBJECTIVES

- To understand the concepts of health, illness and the scope of healthcare services.
- To gain knowledge regarding essential nutrition & dietetics and healthy lifestyle modifications.
- To gain skills in providing first-aid measures during emergencies.

UNIT 1 BASICS OF HEALTH AND ILLNESS 9 hrs.

Concept of Health - Concept of Growth & Development - Maslow's Hierarchy of needs-Health – Illness continuum - Factors influencing health-Causes and risk factors for developing illnesses - Illness – Types, illness behavior-Impact of illness on family-Levels of Illness Prevention – Primary (Health Promotion), Secondary and Tertiary-Levels of Care– Primary, Secondary and Tertiary.

UNIT 2 ESSENTIAL NUTRITION & DIETETICS 9 Hrs.

Definition of Nutrition & Health - Role of Nutrition in maintaining health - Factors affecting food and nutrition – Balanced diet: Definition, principles, steps -Food guides – Basic Four Food Groups - RDA – Definition, limitations, uses - Cooking **–** Methods, Advantages and Disadvantages -Preservation of nutrients - Measures to prevent loss of nutrients during preparation - Safe food handling and Storage of foods - Food preservation.

UNIT 3 CONCEPTS OF MENTAL HEALTH & WELL BEING 9Hrs.

Body-mind relationship-Brain and behaviour-Concept of mental health and mental hygiene - Characteristic of mentally healthy person-Promotive and preventive mental health strategies and services-Personality development - Survival strategies – managing time, coping stress, resilience, work–life balance.

UNIT 4 COMMUNITY BEHAVIOR 9 Hrs.

Self-empowerment - Use of information and communication technology to improve or enable personal and public healthcare - Role of individuals in the conservation of natural resources, and equitable use of resources for sustainable lifestyle practices.

UNIT 5 COMMON FIRST AID MEASURES DURING EMERGENCIES 9 Hrs.

First aid: Definition, principles – first-aid for: Sudden cardiac arrest, bleeding, fracture, snake bite, dog bite, different poisonings – burns- disaster preparedness.

Max.45 Hrs.

COURSE OUTCOME

On the successful completion of the course, the students will be able to

CO1 - Understand the concepts of health and illness
CO2 - Enumerate the basics of nutrition and dietetics
CO3 - Apply the concepts of mental health and wellbeing
CO4 - Recognise the ability of self and individual role in the society
CO5 - Provide first aid measures during emergencies.

TEXT/REFERENCE BOOKS

1. Alfred, T., Ben-Shlomo, Y., et al. (2012). A Multi-cohort Study of Polymorphisms in The GH/IGF Axis and Physical Capability: The HALCyon Programme
2. Alwin, D. F. (2012). Integrating Varieties of Life Course Concepts. The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences, 67(2), 206–220.
3. Antony, P. M., Balling, R., et al. (2012). From Systems Biology to Systems Biomedicine. Current Opinion in Biotechnology, 23(4), 604–608.
4. Arnesen, E., & Forsdahl, A. (1985). The Tromsø Heart Study: Coronary Risk Factors and Their Association with Living Conditions During Childhood. Journal of Epidemiology and Community Health, 39(3), 210–214.

END SEMESTER EXAMINATION QUESTION PAPER PATTERN

Max.Marks:100 **Exam Duration: 3 Hrs.**

PARTA	: 10 Questions of 2 marks each-No choice	**20 MARKS**
PART B	: 2 Questions from each unit of internal choice, each carrying 16marks	**80 MARKS**