



Syllabus-2023-2024

(SOS)(BSc_PCM)

Title of the Course	English-I
Course Code	AEC0201[T]

Part A

Year	1st	Semester	2nd	Credits	L	T	P	C
						2	0	0
Course Type	Theory only							
Course Category	Ability Enhancement Courses							
Pre-Requisite/s	The students have a basic knowledge and understanding of the English language and communication.			Co-Requisite/s	Communication skills, Leadership development etc.			
Course Outcomes & Bloom's Level	CO1- Determine interpersonal skills and be an effective goal-oriented team player(BL1-Remember) CO2- Elaborate creativity and lateral thinking(BL2-Understand) CO3- Examine attitudes, emotional intelligence and understand its influence on behavior(BL3-Apply) CO4- Justify approaches to conflict resolution.(BL4-Analyze) CO5- Evaluate goal setting, management, decision-making skills.(BL5-Evaluate)							
Courses Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✓ Environment ✗		SDG (Goals)	SDG4(Quality education)				

Part B

Modules	Contents	Pedagogy	Hours
Module 1	Where the Mind is Without Fear, The Tryst with Destiny The Hero, Indian Weavers The Portrait of a Lady The Solitary Reaper	Classroom Lecture, PPTs, Videoes	10
Module 2	Basic Language Skills Synonyms, Antonyms, Homonyms, Word Formation, Prefix, Suffix	Classroom Lecture, PPTs,	6
Module 3	Uncountable Noun, Verb, Tense, Adverb	Classroom Lecture, PPTs,	6
Module 4	Trading Comprehension, Unseen Passage	Classroom Lecture, PPTs, Videos	4
Module 5	Introduction to Report Writing, Major Objectives of Writing Reports, Significance of Business/Technical, Types and Forms of Reports, Styles of Writing Reports – Printed format, Memo Format, Letter Format, Book/Letter Text Format, Layout and Structure of Reports, Components of Report Writing.	Classroom Lecture, PPTs, Videos	5

Part D(Marks Distribution)

Theory					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
100	40	40	12	60	
Practical					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation

Part E

Books	C. Muralikrishna and S. Mishra (2011) Communication Skills for Engineers, Pearson education. ISBN: 9788131733844
Articles	Carnegie Dale, How to win Friends and Influence People, New York: Simon & Schuster, 1998.
References Books	Technical Communication – Principles and Practices by Meenakshi Raman & Sangeeta Sharma, Oxford Univ. Press, 2007, New Delhi.
MOOC Courses	https://nptel.ac.in/courses/109103020
Videos	https://nptel.ac.in/courses/109103020

Syllabus-2023-2024

(SOS)(BSc_PCM)

Title of the Course	Analytical Chemistry
Course Code	BSCH0201[T]

Part A

Year	1st	Semester	2nd	Credits	L	T	P	C
					3	0	1	4
Course Type	Embedded theory and lab							
Course Category	Discipline Core							
Pre-Requisite/s	Knowledge of Fundamentals of Analytical Chemistry			Co-Requisite/s				
Course Outcomes & Bloom's Level	CO1- To remember basic concept and principle of analytical techniques(BL1-Remember) CO2- To understand the difference between the analytical techniques(BL2-Understand) CO3- To use/apply the basic statistical treatment of the analytical data for getting a correct result and analytical methods(BL3-Apply) CO4- To Analyse Qualitative and Quantitative aspects(BL4-Analyze) CO5- To Evaluate the data obtained from the analysis(BL5-Evaluate)							
Courses Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗		SDG (Goals)	SDG4(Quality education)				

Part B

Modules	Contents	Pedagogy	Hours
Module 1	General purification techniques Purification of solid organic compounds, recrystallisation, use of miscible solvents, use of drying agents and their properties, sublimation. Purification of liquids. Different types of extraction: use of immiscible solvents solvent extraction, efficiency of extraction, selectivity of extraction, liquid phase and solid phase extraction systems, methods of extraction, applications. Chemical methods of purification and test of purity	Problem solving sessions, Experienced examples, Quizzes Summarizing, Leaving Questions Hand on Experience ,Tutorials	8
Module 2	Titrimetric Methods of Analysis General Introduction General principle. Types of titrations. Requirements for titrimetric Analysis. Concentration systems: Molarity, formality, normality, wt % ppm, milliequivalents and millimoles-problems Primary and secondary standards, criteria for primary standards, preparation of standard solutions, standardization of solutions. Limitation of volumetric analysis, end point, equivalence point	Learn by doing, Simulations/ Virtual labs, Videos	8
Module 3	Chromatography, Introduction, Principle of chromatography, Classifications of chromatography, Techniques of paper and column chromatography, Thin Layer Chromatography(TLC) Partition chromatography, Ion exchange chromatography	Tutorials, Virtual labs, Demonstrations, Experiments	8
Module 4	Thermal Analysis Thermal analytical methods, principle involved in thermogravimetric analysis differential gravimetric analysis and differential scanning calorimeter, discussion of various components with block diagram, characteristics of TG and DTA, Factors affecting TG, DTA and DSC Curves	Problem solving sessions, Expeieced examples,	8
Module 5	Evaluation and proccession of analytical data, Precision and accuracy, Types of errors, Normal distribution curve, Standard deviation, Confidence limit, Graphical presentation of result-method of average, Method of linear list square, Significant figures, Statistical aid to hypothesis testing: t-test & F-test, Correlation coefficient, Rejection of data	. Problem solving sessions, Expeieced examples,	8

Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
I	Complexometric titration	Experiments	BL3-Apply	4
VIII	Qualitative Analysis using Thin Layer Chromatography	PBL	BL4-Analyze	6
IX	Purification of sample by Crystallization technique	PBL	BL6-Create	7
IV	To determine the Percentage of Copper in copper alloy solution	Experiments	BL3-Apply	2
V	To determine the percentage of Chromium in chrome alloy	Experiments	BL3-Apply	2
VI	To purify the given sample Ammonium Chloride	Experiments	BL3-Apply	
VII	Qualitative Analysis using Paper, Chromatography	PBL	BL4-Analyze	6

Part D(Marks Distribution)

Theory					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
100	40	40	12	60	
Practical					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
100	50	40	20	60	

Part E

Books	Y Anjaneyulu Textbook of Analytical Chemistry 2008
Articles	https://nptel.ac.in/courses/104105084
References Books	Skoog D.A. and West D.M. Saunders Fundamental of Analytical Chemistry Ninth Edition
MOOC Courses	https://nptel.ac.in/courses/104105084
Videos	https://nptel.ac.in/courses/104105084

Syllabus-2023-2024

(SOS)(BSc_PCM)

Title of the Course	Environmental Studies
Course Code	BSFC0201[T]

Part A

Year	1st	Semester	2nd	Credits	L	T	P	C
					2	0	2	4
Course Type	Theory only							
Course Category	Interdisciplinary Major							
Pre-Requisite/s				Co-Requisite/s				
Course Outcomes & Bloom's Level	<p>CO1- -The course shall develop in student the scientific background needed to understand how the earth works and how we, as human beings, fit into that. (BL1-Remember)</p> <p>CO2- At the end of the course, it is expected that students will be able to identify and analyze environmental problems as well as the risks associated with these problems.(BL2-Understand)</p> <p>CO3- Ability to distinguish between various methods of various pollution analysis.(BL3-Apply)</p> <p>CO4- Students acquire skills for to communicate, prepare, plan and implement the environmental management project.(BL4-Analyze)</p>							
Coures Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✓		SDG (Goals)	SDG3(Good health and well-being) SDG5(Gender equality) SDG6(Clean water and sanitation) SDG7(Affordable and clean energy) SDG9(Industry Innovation and Infrastructure) SDG11(Sustainable cities and economies) SDG12(Responsible consumption and production) SDG13(Climate action) SDG14(Life below water) SDG15(Life on land)				

Part B

Modules	Contents	Pedagogy	Hours
Unit 1. Study of Environment and Ecology	(a) Environment – Definition and Its segments (Atmosphere, Lithosphere, Hydrosphere and Biosphere). (b) Environmental education- Definition, scope, importance, Need for Public Awareness & multidisciplinary nature of Environmental Science. (c) Elements of ecology (d) Ecosystem- Concepts, components, structure & function, energy flow, food chain, food web, ecological pyramids and types.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	6
Unit 2. Environmental Pollution and Population	(a) Air, water, noise, soil and nuclear pollution- definition, causes, effect and prevention of pollution. (b) Environmental issues (c) Population growth, disparities between countries. (d) Population explosion, family welfare program. (e) Environment and human health. Cleanliness and disposal of domestic waste	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	6
Unit 3. Natural resources, Problems and Conservation	(a) Natural resource- Definition and classification (b) Water resources, Forest resources, Land resources, Food resources and its management (c) Energy resources- Classification and alternatives of conventional energy resources (Solar energy, geothermal energy, wind energy, nuclear energy, biomass and biogas energy)	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	6
Unit 4. Bio-diversity and its Protection	(a) Introduction- Genetic, species and ecosystem diversity. (b) Value of bio-diversity- Consumable use: Productive use, Social, Moral and Aesthetic uses. (c) India as a nation of mega bio-diversity center, bio-diversity at national and local levels. (d) Threats to bio-diversity – Loss of habitat, poaching of wildlife, man and wildlife conflicts.	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	6
Unit 5. Disaster Management and Environmental Laws	(a) Concepts of hazard, Vulnerability, Risks, Natural disasters (earthquake, cyclone, floods, volcanoes), and man made disaster (Armed conflicts and civil strip, Technological disasters, Human settlement, Slow disasters (famine, draught, epidemics) and Rapid onset disasters(Air crash, tidal waves, Tsunami) (b) Disaster Management: Prevention, Preparedness and Mitigation (c) Environmental legislations in India: Air conservation act, water conservation act, wildlife conservation act, environment protection act. Role of information technology in protecting environment and health	Lecture with ppt., Diagrams, Flowchart depiction on whiteboard during online/offline lectures, Audio/Video clips, Group discussion.	6

Syllabus-2023-2024

(SOS)(BSc_PCM)

Title of the Course	Abstract Algebra
Course Code	BSMA0201[T]

Part A

Year	1st	Semester	2nd	Credits	L	T	P	C
					4	0	0	4
Course Type	Theory only							
Course Category	Disciplinary Minor							
Pre-Requisite/s	Basic Knowledge of Set theory and Basic understanding of elementary mathematics.			Co-Requisite/s	Understanding of sets, subsets, operations on sets, and basic set operations such as union, intersection, and complement. Familiarity with fundamental algebraic structures such as groups, rings, and fields, including their definitions, properties, and basic examples.			
Course Outcomes & Bloom's Level	<p>CO1- CO1: To remember the basic knowledge of the Groups, Subgroups, Normal Subgroups, Cyclic Groups, Homomorphism and Isomorphism of groups, Automorphisms, Ring and Field. (BL1-Remember)</p> <p>CO2- CO2: To understand the fundamental concept and properties of Groups, Rings, Fields and integral domains. (BL2-Understand)</p> <p>CO3- CO3: To apply the knowledge of groups, rings, fields and integral domains in all the fields of learning including higher research and extensions. (BL3-Apply)</p> <p>CO4- CO4: To analyze and solve the well-defined problems in mathematics related to the different groups, rings, and fields. (BL4-Analyze)</p> <p>CO5- CO5: To evaluate the studied problems from application point of view by using the results of the different theorems. (BL5-Evaluate)</p>							
Courses Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗		SDG (Goals)	SDG4(Quality education)				

Part B

Modules	Contents	Pedagogy	Hours
1	Definition and basic properties of groups, subgroups, Subgroups generated by a subset, Cyclic groups and simple properties.	Audio/Video clips, group discussion, lecture with ppt, quiz	8
2	Coset decomposition, Lagrange's theorem and its corollaries including Fermat's theorem, Normal subgroups and Quotient groups.	Audio/Video clips, group discussion, lecture with ppt, Review Analysis	9
3	Homomorphism and Isomorphism of groups, Fundamental theorem of homomorphism, Transformation and Permutation group, S_n (Various subgroups of S_n $n < 5$ to be studied), Cayley's theorem.	Audio/Video clips, group discussion, lecture with ppt, classroom presentations, Analysis	10
4	Group Automorphisms, Inner Automorphism, Group of Automorphisms, Conjugacy relation and Centralizer, Normaliser, Counting principle and class equation of a finite group, Cauchy's theorem for finite abelian groups and non-abelian groups.	Audio/Video clips, group discussion, lecture with ppt, quiz	9
5	Definition and basic properties of rings, Ring homomorphism subrings, Ideals and Quotient rings, Polynomial rings & its properties, Integral domain and Field.	Audio/Video clips, group discussion, lecture with ppt, quiz	8

Part D (Marks Distribution)

Theory					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
100	40	60	18	40	22
Practical					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
0	0	0	0	0	0

Part E

Books	I. N. Herstein, Topics in Algebra Wiley Eastern Ltd. New Delhi,
Articles	
References Books	Shantinayakan A Text Book of Modern Abstract Algebra S. Chand and Company, New Delhi
MOOC Courses	https://onlinecourses.nptel.ac.in/noc24_ma06/preview
Videos	https://onlinecourses.nptel.ac.in/noc24_ma06/preview

Syllabus-2023-2024

(SOS)(BSc_PCM)

Title of the Course	Thermodynamics and Kinetic Theory of Gases
Course Code	BSPH0201[T]

Part A

Year	1st	Semester	2nd	Credits	L	T	P	C
					3	0	1	4
Course Type	Embedded theory and lab							
Course Category	Disciplinary Major							
Pre-Requisite/s	Knowledge of Physics upto Class 12			Co-Requisite/s	Knowledge of Mathematics upto Class 12			
Course Outcomes & Bloom's Level	<p>CO1- To remember the basic laws of Thermodynamics and Kinetic theory of Gases(BL1-Remember)</p> <p>CO2- Understand the basic concepts of Thermodynamics and Kinetic theory of Gases(BL2-Understand)</p> <p>CO3- To apply the concepts of Thermodynamics and Kinetic theory of Gases to different system(BL3-Apply)</p> <p>CO4- To Analyze the laws of Thermodynamics and Kinetic theory of Gases (BL4-Analyze)</p> <p>CO5- To evaluate the laws of thermodynamics and Kinetic theory of Gases(BL5-Evaluate)</p>							
Courses Elements	Skill Development ✗ Entrepreneurship ✓ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗		SDG (Goals)	SDG4(Quality education)				

Part B

Modules	Contents	Pedagogy	Hours
1	First Law of Thermodynamics and Heat engines Basic Concepts of Thermodynamics Reversible and irreversible process, First Law of Thermodynamics Heat engines, Definition of efficiency, Steam engine, Otto engine, Petrol engine, Diesel engine, Effective way to increase efficiency Carnot's ideal heat engine, Carnot's cycle, Second law of thermodynamics, Various statements of Second law of thermodynamics, Carnot's theorem Refrigerator, Coefficient of performance.	Audio/Video clips, group discussion, lecture with ppt, on white board, quiz	8
2	Entropy & II law of thermodynamics Concept of entropy, Change in entropy in adiabatic process, Change in entropy in reversible Cycle Principle of increase of entropy, Change in entropy in irreversible process .T-S diagram, Physical significance of Entropy, Entropy of a perfect gas	Audio/Video clips, group discussion, lecture with ppt, on white board, quiz	8
3	Thermodynamic Potentials and Maxwell Relations Thermodynamic Potentials and Maxwell Relations and its applications like Clausius-Clapeyron equation, $CP - CV$, CP / CV Change in temperature in adiabatic change, TdS equations	Audio/Video clips, group discussion, lecture with ppt, on white board, quiz	8
4	Production of Low Temperatures Introduction, Traditional methods of cooling, Adiabatic cooling, Joule-Thomson effect, Adiabatic demagnetization, Practical uses and applications of low temperatures.	Audio/Video clips, group discussion, lecture with ppt, on white board, quiz	8
5	Kinetic Theory of Gases Behavior of real gas and its deviation from an ideal gas, virial equation, Andrew's experiment on CO ₂ gas. Critical constants, continuity of the liquid and gaseous states. Vapour and gas state Boyal Temperature, Van der Waals equation for real gas, Values of critical constant, Law of corresponding state.	Audio/Video clips, group discussion, lecture with ppt, on white board, quiz	8

Part C

Modules	Title	Indicative-ABCA/PBL/ Experiments/Field work/ Internships	Bloom's Level	Hours
1	To determine the Specific heat capacity of a given substance with help of electric kettle.	Experiments	BL2-Understand	3
2	To study of different thermocouples and Plot a graph between thermo EMF and temperature of hot junction.	Experiments	BL4-Analyze	3
3	To determine the mechanical equivalent of (J) with the help of Joule's calorimeter	Experiments	BL2-Understand	3
4	To verify Newton's law of cooling	Experiments	BL2-Understand	3
5	To Find the Melting Point of a given substance (Wax), Using Platinum Resistance Thermometer.	Experiments	BL2-Understand	3
6	Determine the Melting Point of Paraffin wax using thermocouples.	Experiments	BL2-Understand	3
7	To determine the Brake power of a Diesel Engine	Experiments	BL2-Understand	3
8	To determine the specific fuel consumption. of a Diesel Engine	Experiments	BL2-Understand	3
9	To determine the mechanical efficiency of Diesel Engine	Experiments	BL2-Understand	3
10	To calculate the C. O. P. of Ice Plant.	Experiments	BL4-Analyze	3

Part D(Marks Distribution)

Theory					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
100	40	60	18	40	
Practical					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
100	50	60	30	40	

Syllabus-2023-2024

(SOS)(BSc_PCM)

Title of the Course	Statistical physics
Course Code	BSPH0202[T]

Part A

Year	1st	Semester	2nd	Credits	L	T	P	C
					3	0	0	3
Course Type	Theory only							
Course Category	Disciplinary Major							
Pre-Requisite/s	Knowledge of Physics upto Class 12			Co-Requisite/s	Knowledge of Mathematics upto Class 12			
Course Outcomes & Bloom's Level	CO1- To remember the basic laws of Statistical Physics(BL1-Remember) CO2- Understand the basic concepts of Statistical Physics(BL2-Understand) CO3- To apply the concepts of Statistical Physics to different system.(BL3-Apply) CO4- To Analyze the laws of Statistical Physics(BL4-Analyze) CO5- To evaluate the laws of Statistical Physics(BL5-Evaluate)							
Courses Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✗ Environment ✗		SDG (Goals)	SDG4(Quality education)				

Part B

Modules	Contents	Pedagogy	Hours
1	Statistical Physics-I Description of a system: (Significance of statistical approach, Particle-states, System-states, Microstates and Macro-states of a system, Equilibrium states, Fluctuations,) Classical & Statistical Probability, the probability of a distribution, the most probable distribution and its narrowing with increase in number of particles The equal-probability postulate,	Audio/Video clips, group discussion, lecture with ppt, on white board, quiz	8
2	Unit-II Statistical Physics-II Phase space, Statistical ensemble, Number of states Accessible to a system, Phase space. Micro Canonical Ensemble, Canonical Ensemble, Partition Function, Relation between Partition Function and Entropy Constraints of accessible and inaccessible states.	Audio/Video clips, group discussion, lecture with ppt, on white board, quiz	8
3	Unit-III Maxwell-Boltzmann Statistics Maxwell-Boltzmann statistics, Most Probable distribution in discrete energy levels (MB distribution) Molecular speeds, Distribution and mean, r.m.s. and most probable velocity,	Audio/Video clips, group discussion, lecture with ppt, on white board, quiz	8
4	Unit-IV Bose Einstein Statistics Bose-Einstein statistics, Ideal Bose Einstein gas Black ₁ body radiation, The Rayleigh-Jeans formula, The Planck radiation formula	Audio/Video clips, group discussion, lecture with ppt, on white board, quiz	8
5	Unit-V Fermi Dirac Statistics Fermi-Dirac statistics, Ideal Fermi Dirac gas Thermionic emission, Photoelectric effect White Dwarf Star, Concept of Phase transitions	Audio/Video clips, group discussion, lecture with ppt, on white board, quiz	8

Part D(Marks Distribution)

Theory					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
100	40	60	18	40	
Practical					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation

Syllabus-2023-2024

(SOS)(BSc_PCM)

Title of the Course	NCC (optional)
Course Code	NCC0201[T]

Part A

Year	1st	Semester	2nd	Credits	L	T	P	C
					2	0	2	4
Course Type	Theory only							
Course Category	Generic Elective							
Pre-Requisite/s	Should be acquainted with the basics knowledge of General Awareness about Leadership Quality, Personality Development, Defense system etc			Co-Requisite/s				
Course Outcomes & Bloom's Level	CO1- Develop the qualities of social skills.() CO2- Imbibe leadership qualities. () CO3- Be motivated to serve the nation by joining Armed forces. () CO4- Contribute in environmental awareness and conservation activities() CO5- Keep abreast of current affairs & general awareness.() CO6- Effectively contribute in managing disaster relief tasks()							
Courses Elements	Skill Development ✓ Entrepreneurship ✗ Employability ✓ Professional Ethics ✗ Gender ✗ Human Values ✓ Environment ✓		SDG (Goals)	SDG3(Good health and well-being) SDG4(Quality education) SDG6(Clean water and sanitation) SDG13(Climate action) SDG15(Life on land)				

Part B

Modules	Contents	Pedagogy	Hours
Unit 1. Personality Development	Group Discussions – Social Skills & Time management.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 2. Leadership Development	Case Studies – Case Studies – Ratan Tata, Rabindra Nath Tagore, Role of NCC cadets in 1965 war.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 3. Disaster management	(i) Initiative Trg, Organising Skills. (ii) Dos and Don'ts. (iii) Natural Disasters. (iv) Man Made Disasters. (v) Fire Services and Fire Fighting.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit-4.Environmental Awareness	Adventure Environmental Awareness and Conservation, Local and global approaches to conserve nature.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5
Unit 5. General Awareness & Armed Forces	General Awareness, Army, Navy, Air Force and Central Armed Police Forces.	Lecture, Tutorials, Group discussion, Collaborative work, self-study, Seminar presentations by students, individual and group drills, group and individual field-based assignments, Educational Excursion	5

Part D(Marks Distribution)

Theory					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
0	0	0	0	0	0
Practical					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation

Syllabus-2023-2024

(SOS)(BSc_PCM)

Title of the Course	SEC-2
Course Code	SEC0201

Part A

Year	1st	Semester	2nd	Credits	L	T	P	C
					24	0	0	24
Course Type	Theory only							
Course Category	Humanities, Social Sciences and Management							
Pre-Requisite/s				Co-Requisite/s				
Course Outcomes & Bloom's Level	CO1- 1.At the end of this course, students would be intellectually well equipped to have a sense of modern Indian history and culture . 2. The students will have an understanding of making of India as a nation . 3.The students will have an understanding of salient features of modern India . 4.It will help students to develop their personality and thinking horizon for being a good and concerned Indian citizen (BL5-Evaluate)							
Coures Elements	Skill Development ✗ Entrepreneurship ✗ Employability ✗ Professional Ethics ✗ Gender ✗ Human Values ✓ Environment ✗			SDG (Goals)	SDG4(Quality education) SDG5(Gender equality) SDG11(Sustainable cities and economies) SDG15(Life on land)			

Part B

Modules	Contents	Pedagogy	Hours
5	<p>1. Idea of India in historical perspective a) Indian culture, b) cultural commonness, c)cultural diversities, d)unity in diversity, e) culturall accomodations ,f) cultural conflicts, g)Idea of India and British Rule , h) Role of Indian Intelligentsia. 2. Emergence and growth of Indian Nationalism a) Anti-colonial basis ,b) Economic Nationalism ,c) communalism and nationalism ,d) revivalism and Indian nationalism ,e)Enlightenment values ,f)European Nationalism and Indian Nationalism 3. Social Reform Movements a) British Rule and Indian introspection ,b)Raja Rammohan Roy, c) social reform movements in 19th century , d)Swami Vivekanand ,e)The women issue ,f)Caste system 4. Indian National Movement a)Early Revolts and 1857 Revolt, b)Early Nationalists ,c) Bang Bhang Movement , d) Gandhi led Mass Movements, e) Socialist and Left trends , f) Princely States and their integration into nation, h)Partition and Independence . 5. India after independence a)Making of Indian Constitution ,b) Post Independent Nehru Era , c) India facing Wars , d) Indian econmy- From Planning to LPG ,e) Achievements, f) Challenges in 21st century India.</p>	Class room Lecuters	24

Part D(Marks Distribution)

Theory					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
None	0	0	None	None	None
Practical					
Total Marks	Minimum Passing Marks	External Evaluation	Min. External Evaluation	Internal Evaluation	Min. Internal Evaluation
None	0	0	None	1. Bipan Chandra and others: India's Struggle For Independence , Penguin Publishers. 2. Bipan Chandra: History Of Modern India, Orient Blackswan publishers. 3. Sunil Khilnani: The Idea of India, Penguin publishers. 4. Shekhar Bandopadhyay: From Plastic to Partition and After, A History of Modern India, Orient Blackswan publishers. 5. Rakesh Batabyal: The Penguin Book of Modern Indian Speeches,1878 to Present, Penguin Publishers. 6. A R Desai:Social Background of Indian Nationalism, Popular Prakashan . 7. B R Nanda: Mahatma Gandhi ,A Biography,London 8. B.R.Nanda:Gandhi and His Critics, Oxford 9. Girja Shankar: Socialist Trends in Indian National Movement ,Meerut 10. Urmila Phadnis:Towards the integration of Indian States,1919-1947,Mumbai 11. Bimal Prasad: Gandhi,Nehru and JP,A Study in Leadership,New Delhi 12. Bipan Chandra and others:India Since Independence ,Penguin 13. Ramchandra Guha:Makers of Modern India, Penguin. 14. Austin Granville: The Indian Constitution, Oxford	None

Part E

Books	None
Articles	
References Books	None
MOOC Courses	None
Videos	

