

XH	Humanities & Social Sciences
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This part is to test the candidate's ability to comprehend and interpret written information – skills that are critical in research in the Humanities and Social Sciences. The section will not directly test language competence in terms of grammar, vocabulary etc. The focus is instead on critical reasoning (similar to what is often found in exams like LSAT, GRE, GMAT etc.) and analysis of the text and its stylistic and rhetorical structure.

XH0: Reasoning and Comprehension (Compulsory for all XH candidates)

Section XH0.1:	Reading Comprehension
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Ability to understand complex language material in short paragraphs and answer questions regarding them.

Section XH0.2:	Expression
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Questions on stylistic and rhetorical aspects of a short passage including corrections or modifications of particular sentences.

Section XH0.3:	Analytical Reasoning
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Ability to understand relationship in statements or short passages and being able to draw reasonable conclusions/inferences from them.

Section XH0.4:	Logical Reasoning
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Thinking critically to evaluate or to predict an argument, identify the main and supporting arguments, predict outcomes etc.

XH1: Economics**Section XH1.1: Microeconomics**

Theory of Consumer Behaviour: Cardinal Approach and Ordinal Approach; Consumer Preferences; Nature of the utility function; Marshallian and Hicksian demand functions; Duality Theorem. Slutsky equation and Comparative Statics. Homogeneous and Homothetic Utility Functions; Euler's Theorem. The Theory of Revealed Preference: Weak Axiom of Revealed Preference and Strong Axiom of Revealed Preference, Theory of Production and Costs: Short-run and Long-run Analysis, Existence, Uniqueness and Stability of Market Equilibrium: Walrasian and Marshallian Stability Analysis. The Cobweb Model, Decision making under uncertainty and risk. Asymmetric Information: Adverse Selection and Moral Hazard. Theory of Agency costs. The Theory of Search, Non-Cooperative games: Constant sum game, Mixed Strategy & Pure Strategy, Bayesian Nash Equilibrium, SPNE, Perfect Bayesian Equilibria., Theory of Firm: Market Structures — Competitive and Non-competitive equilibria and their efficiency properties. Structure-Conduct-Performance Paradigm, Factor Pricing: Marginal productivity Theory of Distribution in Perfectly Competitive markets; Theory of Employment in Imperfectly Competitive Markets — Monopolistic Exploitation, General Equilibrium Analysis. Welfare Economics: Fundamental Theorems, Social Welfare Function. Efficiency Criteria: Pareto-Optimality.

Section XH1.2: Macroeconomics

National Income Accounting: Closed Economy Concepts and Measurement and Open Economy Issues, Determination of output and employment: Classical & Keynesian Framework, Theories of Consumption: Absolute Income Hypothesis, Relative Income Hypothesis, Life Cycle Hypothesis, Permanent Income Hypothesis and Robert Hall's Random Walk Model; Investment Function Specifications - Dale Jorgenson's Neoclassical Theory of Capital Accumulation and Tobin's, Keynesian Stabilization Policies, (Autonomous) Multipliers and Investment Accelerator, Demand and Supply of Money, Components of Money Supply, Liquidity Preference and Liquidity Trap, Money Multiplier, Interest Rate determination, Central Banking, Objectives, Instruments (Direct and Indirect) of Monetary Policy, Prudential Regulation, Quantitative Easing (Unconventional Monetary Policy), Commercial Banking, Non-Banking Financial Institutions, Capital Market and its Regulation, Theories of Inflation and Expectations Augmented Phillips Curve, Real Business Cycles, Adaptive Expectations Hypothesis, Rational Expectation Hypothesis and its critique. Closed Economy IS – LM Model and Mundell Fleming Model: Monetary and Fiscal Policy Efficacy. The Impossible Trinity.

Section XH1.3: Statistics, Econometrics and Mathematical Economics

Basic Statistics: Probability Theory: Concepts of probability, Probability Distributions [Discrete and Continuous], Central Limit Theorem, Index Numbers and Construction of Price Indices, Sampling Methods & Sampling Distribution, Estimation and Hypothesis Testing; Econometrics: Simple Linear Regression Models; the Gauss Markov Theorem; Regression with multiple variables, Heteroscedasticity, Multicollinearity and Autocorrelation, Dummy variable regression, Simultaneous Equation Models – recursive and non-recursive, Identification Problem; Time Series Analysis: Dynamic Models, Models of Non-Stationarity, Spurious Regression, Univariate Time Series Analysis – AR, MA, ARMA, Multivariate Time Series Analysis – cointegration, error-correction, causality and VAR;; Mathematical Economics: Differential Calculus and its Applications, Linear Algebra – Matrices, Applications of Cramer's Rule, Static Optimization Problems and Applications, Input-Output Model, Linear Programming, Difference equations and Differential equations with applications.

Section XH1.4: International Economics

Theories of International Trade, International Trade under Imperfect Competition, Gains from Trade, Terms of Trade, Trade Multiplier, Tariff and Non-Tariff barriers to trade; Dumping and Anti-Dumping Policies, GATT, WTO and Regional Trade Blocks; Trade Policy Issues, Balance of Payments: Composition, Equilibrium and Disequilibrium and Adjustment Mechanisms, Foreign Exchange Market and Arbitrage, Exchange rate determination, IMF & World Bank.

Section XH1.5: Public Economics

Market Failure and Remedial Measures: Asymmetric Information, Public Goods, Externality, Regulation of Market – Collusion and Consumers' Welfare, Public Revenue: Tax & Non-Tax Revenue, Direct & Indirect Taxes,

Progressive and non-Progressive Taxation, Incidence and Effects of Taxation, Public expenditure, Public Debt and its management, Public Budget and Budget Multiplier, Tax Incidence, Fiscal Policy and its implications, Environment as a Public Good, Market Failure and Coase Theorem, Cost-Benefit Analysis.

Section XH1.6:	Development Economics
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Theories of Economic Development: Adam Smith, David Ricardo, Karl Marx, J. Schumpeter, W. Rostow, Balanced & Unbalanced Growth, Big Push Approach, Indicators of Economic Development: HDI, SDGs, MDGs, Poverty and Inequalities – Concepts and Measurement Issues, Social Sector Development: Health, Education, Gender, Fertility, Morbidity, Mortality, Migration, Child Labor, Age Structure, Demographic Dividend, Models of Economic Growth: Harrod-Domar, Solow, Ramsey, Technical progress – Disembodied & Embodied, Endogenous Growth Models.

Section XH1.7:	Indian Economy
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Economic Growth in India: Pattern and Structure, Agriculture, Industry & Services Sector: Pattern & Structure of Growth, Major Challenges, Policy Responses, Rural & Urban Development – Issues, Challenges & Policy Responses, Flow of Foreign Capital, Trade Policies, Infrastructure Development: Physical and Social; Public-Private Partnerships, Reforms in Land, Labour and Capital Markets, Poverty, Inequality & Unemployment, Functioning of Monetary Policy in India, Fiscal Policy in the Indian context: Structure of Receipts and Expenditure, Tax reforms-Goods and Services Tax, Issues of Growth and Equity, Fiscal Federalism, Centre-State Financial Relations and Finance Commissions of India; Sustainability of Deficits and Debt, The Fiscal Responsibility and Budget Management Act 2003, Demonetization and aftermath. India's balance of payments, Composition of India's Trade, Competitiveness of India's exports, India's exchange rate policy.

XH2: English**Section XH2.1: Literary Forms, Genres, and Modes of Expression**

Poetry, drama, fiction (novels, short stories, graphic narratives), creative non-fiction, and nonfiction prose from the Medieval period to the present.

Literary Genres and Subgenres: History, evolution and importance of categorisation to understand different kinds of writing.

Aesthetic and rhetorical strategies, including narrative and poetic techniques, and figures of speech.

Section XH2.2: History of English Literature and Literary Studies

English Literary Traditions across Time: Chaucer to Contemporary English Literature.

Global Perspectives on Literary Studies: Anglophone literatures (British, American, Canadian and other Postcolonial literatures).

Intersections of literature with political, social, and intellectual movements.

Literary Studies in relation to Sociology, Psychology, Philosophy, Environment and other allied disciplines.

Section XH2.3: Comparative and World Literatures in English Translation

Literatures in English translation, particularly from India and the Global South.

Cross-cultural Exchanges and their impact on literary traditions.

Theoretical Frameworks for Comparative Literature: intertextuality, adaptation, interconnectedness and cosmopolitanism.

Multilingualism, Translation Studies, and the politics of language in literary production.

Section XH2.4: Critical Theories and Intellectual Traditions

Theoretical Paradigms, Socio-Cultural Movements shaping Literary Studies: Structuralism, Marxism, Feminism, Existentialism, Poststructuralism, Modernism, Postmodernism, New Historicism, Postcolonialism, Posthumanism, etc.

Interdisciplinary fields: Cultural Studies; Film and Media studies, Memory and Trauma studies, Dalit and Subaltern Studies, Environmental, Medical and Digital humanities, etc.

Indian Literary and Aesthetic Traditions: Classical poetics (Rasa, Dhvani, Vakrokti, Alamkara, Riti, Aucitya) and other indigenous frameworks for literary interpretation.

Section XH2.5: Contemporary Literary Cultures and Research Methodologies

Major literary awards and prizes; literary festivals; literary associations and networks.

Research in literary studies: archival research, ethnographic methods, textual analysis, discourse analysis, AI-assisted and multimodal approaches.

Structuring research arguments, academic integrity, plagiarism checking, citation ethics, and engagement with scholarly discourse.

XH3: Linguistics

Section XH3.1: Language and Linguistics (Fundamental Concepts)

This section covers the fundamental concepts of what language is and how linguists study it.

What is Language? Understanding language in its spoken, written, and signed forms; Difference between description and prescription.

Language and Culture: Exploring the connection between language and a community's cultural heritage; social/personal identities; linguistic determinism/relativity.

The Science of Language: Treating language as an object of scientific study, looking at its basic units and unique properties (design features); levels of adequacy of grammars; principles of creativity and productivity.

Knowledge vs. Use: Difference between a speaker's subconscious knowledge of grammar (*competence*) and their actual use of language in real-world situations (*performance*).

History of Linguistics: Major schools of thought in linguistics (European, American traditions, as well as the Indian Grammatical Tradition).

Section XH3.2: Levels of Grammatical Analysis (The primary components of grammar)

A. Phonetics and Phonology (Sounds):

Speech Production and Perception: Producing sounds using the vocal tract; articulation; phonation; acoustic properties of sounds; perceptual cues; auditory system.

Sound Systems: How languages organize sounds into a system; IPA; finding the abstract sound units (*phonemes*), analyzing their distribution (*allophones*, complementary vs. contrastive distribution); tonal, segmental and suprasegmental phonological processes and their representation (including distinctive features).

Modern Theories: Key ideas from theories (linear and non-linear approaches) like autosegmental phonology, generative phonology, lexical phonology, prosodic morphology, and optimality theory.

B. Morphology (Words):

Building Blocks: Identifying the smallest units of meaning (*morphemes*) and their variations (*allomorphs*); morpheme types.

Word Formation: The difference between grammatical changes to words (*inflection*) and creating new words (*derivation* and other processes of lexeme building); constraints on word formation; lexical and structural ambiguity; the morphology-phonology interface.

The Mental Dictionary: How words and the rules to create them are stored in the mind (*mental lexicon*).

Modern Theories: Key ideas from theories like distributed morphology, lexicalist vs paradigm based approaches, construction morphology.

C. Syntax (Sentences):

Sentence Structure: Understanding the basic units of syntax like words, phrases, and clauses, and the rules for combining them (e.g., *Phrase Structure Rules*, *X-bar Theory*); syntactic processes and representations; diagnostics of structure; sub-modules of syntax such as theta theory, case theory, binding, argument structure; valency alternations etc.; syntax-morphology and syntax-phonology interfaces; structural and semantic ambiguity.

Major Theories: The core principles of key syntactic theories, like generative grammar (including the Minimalist Programme), LFG, and HPSG.

Universal Grammar: The concept that all human languages share an underlying blueprint (*Universal Grammar*), which addresses the language acquisition problem; tacit knowledge vs. explicit knowledge; core grammar vs. peripheral grammar.

Syntactic Analysis: Analyzing common syntactic phenomena across languages.

D. Semantics and Pragmatics (Meaning):

Literal Meaning (Semantics): How word meanings combine to form sentence meaning (*compositionality*); truth conditions; basic logic (propositions, quantifiers); lexical semantics (e.g., *synonymy*, *antonymy*); propositional semantics (*paraphrase*, *entailment*, *contradiction* etc.); syntax-semantics and semantics-pragmatics interfaces.

Meaning in Context (Pragmatics): Contextual use of language including *speech* acts; implied meanings based on conversational rules (Grice's Maxims and *implicatures*), and assumed knowledge (*presuppositions*); deictic and indexical elements; discourse analysis.

Section XH3.3: Historical Linguistics (Language Change)

Sound Changes over time: Sound laws (e.g., Grimm's Law, Verner's Law).

Grammar and Meaning Change: How grammars change (grammaticalization) and how word meanings shift over time.

Reconstruction: Comparative reconstruction of ancestral languages.

Language Contact including borrowing.

Section XH3.4: Sociolinguistics (Language and Society)

Language Variation: How language varies based on social factors (e.g., creating *sociolects* or *dialects*); language contact and migration (including dialect geography); the formation of pidgins and creoles; linguistic variables and their co-variation along linguistic/social dimensions; communicative competence.

Bi- and Multilingualism: The study of phenomena like *code-switching* and *code-mixing*; mother tongue and other tongues.

Language and Policy: The role of language in society, including official language policies (especially in India); language endangerment (EGIDS), language loss, and revitalization; language maintenance and language documentation; minority and majority languages.

Section XH3.5: Typology and Universals (Language Classification)

Classifying Languages: Grouping languages by their structural type (e.g., *agglutinative*, *isolating*, *fusional*) and by their family trees (*genetic classification*).

Language Universals: Identifying features or patterns that are common to all or most languages (e.g., Greenberg's universals on word order).

South Asian Languages: The key areal features of the major language families found in South Asia (*Indo-Aryan*, *Dravidian*, *Austro-Asiatic*, *Tibeto-Burman* etc.); constitutional provisions for languages.

Section XH3.6: Methods of Analysis (How to Do Linguistics)

Data Collection: Methods for gathering linguistic data, such as fieldwork or experiments; elicitation techniques from speakers; sampling.

Data Analysis: Using both quantitative (basic statistical) and qualitative methods to analyze data.

Ethics: The ethical responsibilities involved in working with languages and their speakers.

Corpora: Development; annotation; types; analysis.

Section XH3.7:	Applied Linguistics (Linguistics in the Real World)
	Psycholinguistics: The psychology of language; acquisition, production and comprehension of speech in real-time; language and the brain; bi- and multi-lingualism; language and cognition (e.g. the relationships between language, mind, and experience). Computational Linguistics: Basic computational ideas of modelling and processing; corpora; parsing; LLMs; basic computational applications for speech recognition, morphological analysis or sentiment analysis etc. Second Language Acquisition (SLA) and Language Teaching: Principles and practices of language teaching; methods and assessment; learning vs acquisition; cognitive resources. Clinical Linguistics: assessments and evidence-based therapies; language disorders (both developmental and acquired).

XH4: Philosophy**Section XH4.1: Classical Indian Philosophy**

Orthodox Systems: Sāṅkhya – Puruṣa, Prakṛti, Guṇas, Satkāryavāda, Mokṣa (Kaivalya), Pramāṇas and Theory of Error. Yoga – Pramāṇas, Theory of Error, Īśvara, Citta, Kleśa, Aṣṭāṅga-yoga, Kaivalya (Mokṣa). Nyāya – Pramāṇas, Hetvābhāsa, Īśvara, Asatkāryavāda, Theory of Error, Navya-Nyāya. Vaiśeṣika – Parataḥpramāṇya, Padārthas (categories), Theory of Atomism (paramāṇuvāda). Mīmāṃsā – Dharma, Apūrva, Mokṣa, Pramāṇas (both in Kumārila and Prabhākara), Anyathākhyāti. Vedānta – Advaita (Adhyāsa, Brahman, Īśvara, Ātman, Jīva, Mokṣa, Viśiṣṭādvaita (Tattva-traya, Mokṣa, and Refutation of Māyāvāda), Dvaita, Dvaitādvaita, Śuddhādvaita, Pramāṇa in Advaita and Viśiṣṭādvaita.

Heterodox Systems: Cārvāka – Pramāṇa, Indian materialism and Hedonism. Jainism – Pramāṇas, Syādvāda, Anekāntavāda, Padārthas (categories), Jīva and Ajīva, Mokṣa, Mahāvratas, Aṇuvratas. Buddhism – Ti-piṭaka, Sarvāstivāda, Sautrāntika, Mādhyamika, Yogācāra-Vijñānavāda, Pañca-skandha, Anityavāda, Anātmavāda, Doctrine of Momentariness, Doctrine of Dependent Origination, Pramāṇas, Doctrine of Two Truths, Doctrine of Tri-kāya, Śaḍ-pāramitās, Brahmavihāras, Pāñcaśīla, and Bodhisattva Ideal, and Upāyakauśalya.

Upaniṣads, Bhagavadgītā, and Dharmaśāstras: Philosophy of the Upaniṣads – Pure Monism, Brahman and Ātman, Pañca-kōśa, Parā-vidyā and Aparā-vidyā, Meaning of Dharma, Rta, Puruṣārtha, Śreyas and Preyas, Varṇāśramadharma, Svadharma and Sādhāraṇa Dharma, Ṛna, Yajña, Karma-yoga, Sthitaprajña, Lokasaṃgraha, and Law of Karma.

Kāśmīra Śaivism, Śaivasiddhānta, Vīra Śaivism, Śāktism and Vaiṣṇavism: Kāśmīra Śaivism – Pratyābhijñā school, Śiva and Śakti, and Conception of Kriyā. Śaivasiddhānta – God (pati) and Divine Power (śakti), Proofs for God's Existence, Bondage and Liberation. Philosophical basis of Vīra Śaivism, Śāktism, and Vaiṣṇavism.

Section XH4.2: Contemporary Indian Philosophy

Swami Vivekananda: Practical Vedānta, Nature of Religion, Destiny of the Soul – Realisation of Immortality. Sri Aurobindo: Evolution, Mind and Supermind, Integral Yoga. Iqbal: Self, God, Man and Superman, Intellect and Intuition. Tagore: Religion of man, ideas on education, Concept of Nationalism. K. C. Bhattacharyya: *Svaraj* in ideas, Concept of Philosophy, subject as Freedom, the doctrine of *Māyā*. Radhakrishnan: Intellect and intuition, the Idealist view of life, concept of Universal Religion, Hindu view of life. J. Krishnamurti: Conception of thought, Freedom from the known, analysis of self, Choiceless awareness. Gandhi: Notion of Truth, Non-violence, *satyagraha*, *swaraj*, critique of modern civilization (*Hind Swaraj*). Ambedkar: Basic Features of Indian Constitution; Untouchability, Democracy. Daya Krishna: Three Myths about Indian Philosophy.

Section XH4.3: Classical and Modern Western Philosophy

Metaphysics: Pre-Socratic Philosophy of Thales, Anaxagoras, Anaximenes, Ionians, Pythagoras, Parmenides, Heraclitus, and Democritus. Plato and Aristotle: The question of Being (Ousia), Being as Idea in Plato's *Phaedo*, *Republic* and the *Sophist*, Being as the synthesis of Matter [*hyle*] and Form [*morphe*] in Aristotle's *Metaphysics* and *Physics*. Problem of evil and existence of God in St. Augustine, St. Anselm, and St. Thomas Aquinas. Metaphysics in Modern Philosophy: Substance, Mind-Body Dualism, Attribute, Parallelism, Pre-established harmony, the existence of God, Problem of Solipsism, Self and Personal Identity, Rejection of Metaphysics, Phenomena and Noumena, Transcendental Deduction of Categories, Being and Becoming, Absolute Idealism.

Epistemology: Plato and Aristotle's Theory of Knowledge, *Doxa*, *Episteme*, and *Sophia*, Method of Dialectics, Theoretical and Practical Reason, Theory of Causation. Descartes' Method of Doubt, *Cogito ergo sum*, Innate Ideas and its refutation, Principle of Non-contradiction, Sufficient Reason, and Identity of Indiscernibles. Locke's Three Grades of Knowledge, Berkeley's Critique of Abstract Ideas, Hume's Impressions and Ideas, Induction and Causality. Kant's Copernican Revolution, Forms of Sensibility, Possibility of Synthetic *a priori* Judgments. Hegel's Dialectics, Spirit, and Absolute Idealism. The Gettier Problem and major responses to it.

Ethics: Egoism, Altruism, Universalism, Subjectivism, Cultural Relativism, Super-naturalism, Ethical realism and anti-realism, Ethical Cognitivism and Non-cognitivism, Intuitionism. Concepts of Good, Right, Justice, Duty,

Obligation, Cardinal Virtues, *Eudaemonism*. Kant's moral theory, Postulates of Morality, Good will, Categorical Imperative, Duty, Means and ends, Maxims. Utilitarianism: Principle of Utility, Problem of Sanction and Justification of Morality, Moral theories of Bentham, J. S. Mill. Care Ethics. Theories of Punishment. Professional Ethics: Corporate Governance and Social Responsibility. Environmental Ethics: Nature as means or end, land ethic (Aldo Leopold), Deep Ecology (Arne Naess), Animal Rights (Peter Singer). Principles of Bioethics: Autonomy, Beneficence, Non-maleficence and Justice; Doctor-patient relationship, Euthanasia.

Social and Political Philosophy: Plato's theory of Justice and State, Aristotle's definition of State and Political Naturalism. Classical Liberalism and Social Contract Theory (Hobbes, Rousseau, Locke). Marx's Dialectical Materialism, Alienation, and critique of Capitalism. Rawls' Veil of Ignorance, Principles of Justice. Civic virtue, Libertarianism (Robert Nozick), Feminist Political Theory (Simone de Beauvoir, Judith Butler), Multiculturalism (Charles Taylor), Capability Approach.

Logic: Truth and Validity, Nature of Propositions, Categorical Syllogism, Laws of Thought. Classification of Propositions, Square of Opposition, Truth-Functions and Propositional Logic, Quantification, and Rules of Quantification. Symbolic Logic: Use of symbols, Truth Table for testing the validity of arguments, Differences between Deductive and Inductive Logic, Causality and Mill's Method.

Section XH4.4:

Contemporary Western Philosophy

Frege's Sense and Reference. Logical Positivism's Verification theory of meaning, Elimination of Metaphysics. Moore's Distinction between Sense and Reference, Defense of common-sense, Proof of an External World. Russell's Logical Atomism, Definite Descriptions, Refutation of Idealism. Wittgenstein on Language and Reality, the Picture Theory, critique of private language, Meaning and Use, Forms of life. Gilbert Ryle on Systematically Misleading Expressions, critique of Cartesian dualism. W.V.O. Quine's Two Dogmas of Empiricism. P.F. Strawson's concept of Person. Husserl's Phenomenological Method, Philosophy as a rigorous science, Intentionality, Phenomenological Reduction, Inter-subjectivity. Heidegger's concept of Being (*Dasein*), Being in the world. Sartre's Types of Being, Concept of Freedom, Bad-faith. Merleau-Ponty on Perception, Embodied Consciousness. William James's Pragmatic Theories of Meaning and Truth, Varieties of Religious experience. John Dewey on Pragmatist Epistemology with focus on Inquiry, Fallibilism and Experience, Education. Nietzsche on the Critique of Enlightenment, Will to Power, Genealogy of Morals, Idea of Overman. Richard Rorty's Critique of Representationalism. Habermas: Communicative Rationality.

XH5: Psychology

Section XH5.1: Research Methods and Statistics

Approaches to Research: Philosophical worldviews & criteria involved in approach. Research design: Quantitative, Qualitative, and Mixed methods.

Designing Research: Research problems, Purpose statement, Variables and Operational Definitions, Hypothesis, Sampling.

Nature of Quantitative & Qualitative Research: Interview, Self-completion questionnaires (Survey), Observation, Experiment, Quasi-experiment, Field studies, Focus groups discussions, Narratives, Case studies, Ethnography.

Ethics in conducting and reporting research.

Statistics in Psychology: Measures of Central Tendency and Dispersion. Normal Probability Curve. Parametric and Non-parametric tests, Effect size and Power analysis.

Correlational Analysis: Correlation [Product Moment, Rank Order], Partial correlation, multiple correlation. Special Correlation Methods: Biserial, Point biserial, tetrachoric, phi coefficient. Regression: Simple linear regression, Multiple regression. Factor analysis: Assumptions, Methods, Rotation and Interpretation.

Experimental Designs: Factorial Design, Randomized Block Designs, Repeated Measures Design, Single-subject designs, Cohort studies, Statistics for experimental design: ANOVA, MANOVA, ANCOVA.

Section XH5.2: Psychometrics

Foundations of Psychological measurement; Basic components: Scales and items' construction and analysis of items: Intelligence test items, Performance tests, Ability & Aptitude test, Personality questionnaires. Method of test construction. Standardization of measures: Reliability, Validity, Norms. Application of assessment and measurements in Tests. Applications of psychological testing in various settings-educations, counselling and guidance, clinical, organizational and developmental.

Section XH5.3: Biological and Evolutionary Basis of Behaviour

Heredity and behaviour, Evolution and natural selection, Nervous system, Structures of the brain and their functions. Neurons: Structure, functions, types, neural impulse, synaptic transmission. Neurotransmitters. Hemispheric lateralization, The endocrine system types and functions. Biological basis of Motivation: Hunger, Thirst, Sleep and Sex. Biological basis of emotion: The Limbic system. Biological basis of Memory. Hormonal regulation of behaviour. Methods of Physiological.

Psychology: Invasive methods – Anatomical methods, degeneration techniques, lesion techniques, chemical methods, microelectrode studies, Non-invasive methods – EEG, Scanning methods, Muscular and Glandular system: Genetics and behaviour: Chromosomal anomalies; Nature-Nurture controversy [Twin studies and adoption studies].

Section XH5.4: Perception, Learning, Memory and Forgetting

Sensation, sensory thresholds and sensory adaptations, Vision, hearing, touch and pain, smell and taste, kinesthesia and vestibular sense. Perception: Role of attention; organizing principles of perception, Gestalt perception, depth perception and illusions. Theories of learning: Classical conditioning, operant conditioning, social learning theory, cognitive learning. Memory: encoding, storage, retrieval, Information processing theories of memory, retrieval in long term memory, reconstructive nature of long-term memory. Forgetting: encoding failure, interference theory, memory trace decay theory.

Section XH5.5:	Cognition
Thinking, Intelligence and Language: Basic elements of thought: Concepts, Propositions, Imagery. Current paradigms of cognitive psychology: Information processing approach, ecological approach. Problem solving: Methods of problem solving, Strategies and obstacles, Role of Metacognitive processing. Decision-making: Choosing among alternatives, Intelligence: Theories of intelligence (Spearman; Thurstone; Jensen; Cattell; Gardner; Stenberg) and Emotional Intelligence; Measuring intelligence, Individual differences in Intelligence; Role of heredity and environment, Difference between Intelligence, Aptitude and Creativity.	
Section XH5.6:	Personality
Theories of personality: Psychoanalytic, Behaviourist, Social, Cognitive, Humanism, Trait and Type theories. Biology of personality. Assessment of personality.	
Section XH5.7:	Motivation, Emotion and Stress and Coping
Approaches to understanding motivation: Instinct, Drive-reduction, Arousal, Incentive, Humanistic, Achievement motivation, Intrinsic motivation, Aggression, Curiosity and Exploration. Emotions: Nature of emotions; Theories of emotions. Definition of stress, what are stressors, cognitive factors in stress. Factors in stress reaction: General adaptation syndrome, Effect of stress. Coping with stress: Problem-focused coping and Emotion-focused coping.	
Section XH5.8:	Social Psychology
Social perception: Attribution, Impression formation, Social categorization, Implicit personality theory. Social influence: Conformity, Compliance and obedience, Attitudes, Beliefs and Values. Evaluating the social world, Attitude formation, Attitude change and persuasion, Cognitive dissonance, Prejudice, Discrimination, Aggression, Power and prosocial behaviour, Belief systems and value patterns. Group dynamics, Theories of intergroup relations and conflicts.	
Section XH5.9:	Development Across the Life Span
Nature versus nurture in human development, Prenatal development: Chromosomes, Genes and DNA. Physical, cognitive and psychosocial development in infancy, childhood, adolescence and adulthood. Moral development. Theories of aging.	
Section XH5.10:	Clinical Psychology and Organizational Behavior
Psychological disorders, Conceptions of mental disorders, Assessment and diagnosis, DSM and Other tools. Psychotherapies: Psychodynamic, Phenomenological/Experiential therapy, Behaviour therapy, Cognitive therapy, Rational emotive behavior therapy (REBT), Meditation, Biological therapy. Organizational Behavior, Organizational demographic and cultural diversity, Organizational Culture, Making decisions in organization, Power and Politics, Leadership theories, Leadership styles and effectiveness, Positive organizational behavior, Performance management by reward and punishment	
Section XH5.11:	Applications of Psychology
Applications of theories of Motivation and Learning in School, Factors in educational achievement, Counselling and Guidance in Schools. Application of theories of motivation, learning, emotions, perceptions in Group dynamics and Organizational setup. Issues of Personal space, Crowding, and Territoriality. Intervention for Mental health and Wellbeing.	

XH6: Sociology**Section XH6.1: Sociological Theory**

Classical Sociological Traditions: Emile Durkheim (Social Solidarity, Social Facts, Religion, Functionalism, Suicide, Anomie, Division of Labour, Law; Max Weber (Types of authority, Social action, Protestant ethic and the spirit of capitalism, Bureaucracy, Ideal type, Methodology); Karl Marx: Class and class conflict, dialectical and historical materialism, capitalism, surplus value, alienation).

Structural-Functionalism and Structuralism: Bronislaw Malinowski; A.R. Radcliffe- Brown, Talcott Parsons (AGIL, Systems approach), Robert K. Merton (Middle range theory, reference groups, latent and manifest function), Claude Levi Strauss (Myths, Structuralism).

Hermeneutic and Interpretative Traditions: G.H. Mead, Alfred Schutz (Phenomenology); Harold Garfinkel (Ethnomethodology); Erving Goffman (Symbolic interaction, dramaturgy); Clifford Geertz (Culture, thick description).

Recent theoretical developments, Post-Modernism and Post-Structuralism: Pierre Bourdieu, Michel Foucault, Jurgen Habermas, Anthony Giddens, Frankfurt School.

Conflict Theory: Ralf Dahrendorf, Lewis Coser, Louis Althusser.

Indian Thinkers: M.K. Gandhi, B.R. Ambedkar, Radha Kamal Mukherjee, G. S. Ghurye, M.N. Srinivas, Irawati Karve, A. R. Desai, Andre Beteille.

Section XH6.2: Research Methodology and Methods

Conceptualizing Social Reality: Philosophy of Science (Karl Popper & Thomas Kuhn); Scientific Method and Epistemology in Social Science; Hermeneutic Traditions; Etic and Emic approaches; Inductive and Deductive methods; Objectivity and Reflexivity in Social Science; Ethics and Politics of research.

Research Design: Reading Social Science Research, Data and Documents; Fact, Concept and Theory; Hypotheses, Research Questions, Objectives.

Quantitative and Qualitative Methods: Ethnography; Survey Method; Historical Method; Comparative Method; Statistical Methods.

Research Techniques: Sampling; Questionnaire and Schedule; Statistical Analysis; Observation, Interview and Case study; Interpretation, Data Analysis and Report Writing.

Section XH6.3: Sociological Concepts

Sociological Concepts: Social Structure; Culture; Network; Status and Role; Identity; Community; Socialization; Diaspora; Values, Norms and Rules; Personhood, Habitus and Agency; Bureaucracy, Power and Authority; Self and society.

Social Institutions: Marriage, Family and Kinship; Economy; Polity; Religion; Education; Law and Customs.

Social Stratification: Social Difference, Hierarchy, Inequality and Marginalization: Caste and Class; Status and Power; Gender, Sexuality and Disability; Race, Tribe and Ethnicity.

Social Change: Evolution and Diffusion; Modernization and Development; Social Transformations and Globalization; Social Mobility –Sanskritization, Westernization, Educational and Occupational change.

Section XH6.4:	Agrarian Sociology and Rural Transformation
Rural and Peasant Society; Caste- Tribe Distinction and Continuum; Agrarian Social Structure and Emergent Class Relations; Land Ownership and Agrarian Relations; Decline of Agrarian Economy, De-Peasantization and Agrarian Change; Agrarian Unrest and Peasant Movements; Feudalism, Mode of production debate; Land reforms; Panchayati Raj; Rural development programmes and community development; Green revolution and agricultural change; Peasants and farmers movements.	
Section XH6.5:	Family, Marriage and Kinship; Theoretical Approaches
Structural- Functionalist, Alliance and Cultural; Gender Relations and Power Dynamics; Inheritance, Succession and Authority; Gender, Sexuality and Reproduction; Children, Youth and Elderly; Emotions and Family; Emergent Forms of Family; Changing Marriage Practices; Changing Care and Support Systems; Family Laws; Domestic Violence and Crime against Women; Honour Killing.	
Section XH6.6:	Indian Society/Sociology of India
Colonial, Nationalist, Indological perspectives (G.S. Ghurye); Structural-Functional approach (M.N. Srinivas); Dialectical approach (A.R. Desai); Subaltern studies (R. Guha); Non Brahmin perspectives (Phule, Dr. Babasaheb Ambedkar); Feminist perspectives (Leela Dube, Sharmila Rege); Social Institutions – Family, Kinship, Household, Village and Urban Settings; Social Stratification – Caste, Class, Tribe and Gender; Tradition and Modernity (M.N. Srinivas, Yogendra Singh, Dipankar Gupta); Peasants and agrarian sociology (Andre Beteille, A.R. Desai, D.N. Dhanagare); Social Movement (T.K. Oommen), Village studies; Communalism and Secularism.	
Section XH6.7:	Social Movements
Introduction to Social Movements: Nature, Definitions, Characteristics; Social Movement and Social Change; Types of social movements (Reform, Rebellion, Revival, Revolution, Insurrection, Counter Movement). Theories of Social Movements: Structural–functional; Marxist; Resource Mobilization Theory; New Social Movements. Social Movement in India with Specific Reference to Social Basis, Leadership, Ideology and Actions: Peasant movement; Labour movement; Dalit movement; Women’s movement, Environmental movement. Social Movements, Civil Society and Globalization: Social movement and its relationship with state and civil society; Social movements and impact of globalization: Debates; Issues of citizenship.	
Section XH6.8:	Sociology of Development
Perspectives on the Study of Development: Definitions and Indices; Liberal (Modernization theory), Marxist, and Neo-Marxist Perspectives (Dependency theory, World Systems) The Micro-Politics of Development: Transforming Communities: Maps and Models; Knowledge and Power in Development; Re-inventing Development: Subaltern Movements; Post- colonial development; Decentralization and devolution; Participatory approaches. Development and its critique: Post-development perspectives (Escobar); Alternative development paradigms; Feminist critique; Human development, development induced dispossession.	