Syllabus for the Exam of Patwari to be Conducted by HPRCA

Part-A (Syllabus upto 10+2)

I. SOCIAL SCIENCE

1. HISTORY

i. Indian History:-

(a) Ancient Indian History –

The earliest Societies-Hunting & gathering as a way of life, its implications; introduction to stone tools and their use; Prehistory and Human Civilization: Palaeolithic Age, Mesolithic Age and Neolithic Age; The Copper age, The Bronze Age and The Iron Age; The Indus Valley Civilization: Principal archaeological sites, urban planning, external and internal trade, artistic achievements, industries and crafts, social stratification. Pre-Vedic and Vedic Culture; Religious Movements; Mauryan Empire; The Shakas, The Kushanas, The Satavahanas; Sangam Age : - The Cholas, The Pandya, The Cheras; The Guptas Age; The Post-Guptas Age : The Harshavardhana.

(b) History of Medieval India : -

Turkish invasion in India: -Muhammad bin Qasim, Mahmud of Ghazni, and Muhammad Ghori; The Delhi Sultanate : - The Mamluk (Slave), Khilji, Tughlaq, Sayyad, and Lodi dynasties; Religious Movements: -Sufi movement, Chishti order; The Bhakti Movement: -Shankara, Ramanujacharya, Madhvacharya, Namdev, Gnyaneshwar, Kabir, Guru Nanak, Ravidas, Tulsidas, Surdas, Mirabai and Chaitanya; Mughal Empire; Maratha Empire; Rise of Sikh Empire.

(c) History of Modern India: -

Arrival of European Companies in India**;** Governor Generals of Bengal; Viceroys of India; Provincial Autonomous States of India and their conflicts with European trading companies; Economic impact of British rule in India; Land settlement during British rule; Revolt of 1857; Social and Religious Reform Movements; National Freedom Movement : - Indian National Congress, Partition of Bengal, Swadeshi and Swaraj, Muslim League, Partition in Congress, Lucknow Pact, Home Rule League, Champaran

Movement, Montague August Declaration, Kheda Satyagraha, Ahmadabad Satyagraha, Rowlett Act, Jallianwala Bagh Massacre, The Khilafat Movement, Non-Cooperation Movement, Swaraj party, Simon Commission, Nehru Report, Zinna Formula, Bardoli Satyagraha, Congress Lahore Session, Dandi March and eleven Demands of Gandhiji, Civil Disobedience Movement, Round-table Conferences, Gandhi-Irvin Pact, Communal Award, Poona Pact, Revolutionary Nationalist Movements of Bhagat Singh, Chandrashekhar Azad, and Subhas Chandra Bose etc., Provincial elections in British India, August Proposal, Demand for a Separate Pakistan, Kripps Mission, Quit India Movement, C. Rajgopalachari Formula, Wavell Plan, Shimla Conference, Cabinet Mission, Mountbatten Plan; Constitutional Development in India: - Regulating Act 1773, Pitt's India Act 1784, Charter Act of 1793, Charter Act of 1813, Charter Act of 1833, Charter Act of 1853, Government of India Act 1858, Indian Councils Act 1861, Indian Councils Act 1892, Indian Councils Act, 1909 – Morley-Minto Reforms, Government of India Act 1935, Cripps Mission – 1942, Cabinet Mission – 1946, Indian Independence Act – 1947.

ii. **European History:-**

French Revolution, Industrial Revolution, Unification of Germany, Unification of Italy, First-World War, League of Nations, Russian revolution and Socialism, Fascism in Italy, Nazism in Germany, Second-world War, United Nations Organization.

2. GEOGRAPHY.

India – Size and Location, India & the world, India's neighbours,; Physical Features of India: majors Physiographic divisions- Himalayan, mountains, northern plains, peninsular plateau Indian desert, coastal plains, Islands; Drainage: concept, drainage system in India, The Himalayan Rivers- Ganga & Brahmaputra River system, the Peninsular Rivers- Narmada Basin, Tapti Basin, Godavari Basin, Mahanadi basin, Krishna basin, Kaveri basin; Climate: Concept, Climatic Controls, Factors influencing India's climate – Latitude, Altitude, Pressure and Winds (excluding Jet Streams and Western Cyclonic Disturbances and related figures),The Seasons – Cold Weather Season, Hot Weather Season, advancing Monsoon, Retreating/Post Monsoons, Distribution of Rainfall, Monsoon as a Unifying Bond; Natural Vegetation - Types of Vegetation – Tropical Evergreen Forests, Tropical Deciduous Forests, Thorn Forests and Shrubs, Mountain Forests, Mangrove Forests, and Wildlife; Population- Population Size and Distribution – India's Population Size and Distribution by Numbers, India's Population Distribution by Density, Population Growth and Processes of Population Change. India's physical environment, resources, and economy: Resources and Development, Forest

and Wildlife Resources, Water Resources, Agriculture, Minerals and Energy Resources, Manufacturing Industries, Lifelines of the National Economy, multipurpose river projects

Universe and Solar System; Lithosphere and Rocks; Rocks and their types; Volcano; Earthquake; Landforms (Mountains, Plateaus, and Plains);

Agriculture and Food Crops; cropping pattern; Forests and Types of Forests; Minerals; Sources of Power/Energy; Industries and Occupations; Transport and Communication; rain water harvesting; land use pattern in India; land degradation and conservation measures; Types of farming: primitive, subsistence, intensive subsistence, commercial.

3. ECONOMICS

Development- what development promises; different people, different goals, income & other goals; national development; how to compare different countries or states: income and other criteria, public facilities; sustainability of development.

Sectors of the Indian economy- sectors of economic activities; primary, secondary and tertiary sectors in India; division of sectors as organized and unorganized sectors in terms of ownership: public and private sectors.

Money and Credit-: Money as a medium of exchange; Modern forms of Money; Loan activities of Banks; Two different Credit situations; Terms of Credit; Formal Sector Credit in India, Self Help Groups for the Poor.

Globalization and the Indian Economy: Production across countries; Interlinking production across countries; Foreign Trade and integration of markets; Globalization; Factors that have enabled Globalization; World Trade Organization; Impact of Globalization in India; The Struggle for a fair Globalization.

Understanding Economic Development: Sectors of the Indian Economy, Money and Credit, Globalization and The Indian Economy, Consumer Rights; food security in India; challenges of poverty.

4. POLITICAL SCIENCE

What is Democracy? Why Democracy? : feature & broader meaning; Constitutional Design: democratic constitution in South Africa ; guiding values of the Indian Constitution & its need; Electoral Politics: our system of election, what makes elections in India democratic; Working of Institutions: how major policy decision taken, Parliament, Political executive, the Judiciary

; Democratic Rights: life without rights, rights in a democracy, rights in Indian Constitution, expanding scope of rights.

Constituent assembly; Preamble of Indian Constitution; Fundamental Rights and Duties; Directive Principles of state policy; Parliament and its two houses; Prime Minister and Council of Ministers; Judiciary at National Level, State and local level; President, Appointment and Powers; Vice-President Appointment and Powers; State Legislative Assemblies; Chief Minister; Chief Minister, Council of Ministers and Powers; Governor, Appointment and Powers; Citizenship; Centre state relations; Emergency provisions; Major Constitutional Amendments. (From 1951 onwards); Budget; Election commission of India; Local self-governments:- Panchayats and Municipalities; Political parties ; Finance Commission; Comptroller and Auditor General of India; Attorney General of India; Anti- defection Law; Official language; Central Bureau of Investigation (CBI); Caste; Patriarchy; Planned Economy; Social Movements.

Democratic Politics: Power Sharing-Belgium & Sri Lanka, majoritarianism in Sri Lanka, Accommodation in Belgium, why power sharing is desirable, forms of power sharing , Federalism- what is federalism, what makes India a Federal country, how is federalism practiced, decentralization in India , Gender, Religion and Caste: gender & politics- , Political Parties, Outcomes of Democracy**.**

II. MATHEMATICS

Number Systems / Knowing Our Numbers / Real Numbers: Place value, face value; Indian & International numeration systems; Reading, writing, comparing large numbers; Representation on number line; Estimation and rounding of numbers; Natural numbers, whole numbers, integers: definitions and properties; Prime and composite numbers; factors and multiples; Divisibility tests (2,3,4,5,6,8,9,10,11); HCF and LCM (prime factorization, division method) ; Rational numbers: representation, operations, decimal expansion; Irrational numbers (V2, V3, etc.); classification of real numbers; Laws of exponents (integral & fractional); Fundamental Theorem of Arithmetic; Converting between fractions, decimals, and percentages; Squares and square roots and their properties; Finding cubes, cube roots and related concepts

Whole Numbers, Integers, and Number Operations: Operations on whole numbers and integers ; Properties: commutative, associative, distributive;

Rules of signs for integers; absolute value; Patterns in whole numbers; Word problems on integers and operations.

Fractions, Decimals, and Percentages Types of fractions and simplification; Equivalent fractions; conversion between forms; Operations on fractions and decimals; Percentage: percent as fraction/decimal, increase/decrease; Applications: discount, profit & loss, simple interest (intro).

Basic Algebra - **Expressions, Factors, and Identities**: Variables, constants, terms, coefficients, expressions; Writing expressions from statements; Simplifying expressions; Algebraic identities and applications; Factorisation methods (common factor, grouping, identities)

Polynomials: Definition, degree, and coefficients; Zero polynomial; zeroes and relationship with coefficients; Remainder and Factor Theorems; Division algorithm for polynomials; Factorization and application problems.

Linear Equations and Linear Equations in Two Variables :One-variable linear equations and word problems; Two-variable equations: general form and solutions ; Graphical representation of linear equations; Graphical method of solution of a pair of linear equations ; Solving pairs by substitution, elimination method ; Consistent/inconsistent/dependent systems ; Applications: age, ratio, and mixture problems.

Quadratic Equations: Standard form and meaning of coefficients; Solution by factorisation, completing square, quadratic formula; Discriminant and nature of roots; Relation between roots and coefficients.

Arithmetic Progression (AP): Definition and common difference; nth term and sum of n terms formulae; Word problems on sequences.

Ratio, Proportion, and Variation: Ratio and proportion basics; Continued, direct, and inverse proportion; Percentage conversions and mixture problems.

Basic Geometry: **Points, Lines, and Angles** : Point, line, ray, segment, plane, intersection; Types of angles and their measures ; Adjacent, vertically opposite, linear pair angles ; Parallel lines and transversal: angle relationships and properties ; Intersecting and non intersecting lines ; Line parallel to same line; Euclid's definition, axioms and postulates.

Triangles - Congruence, Similarity, and Properties :Types of triangles by sides and angles; Similar figure, similarity of triangles, criteria for similarities of triangles; Congruence criteria: SSS, SAS, ASA, AAS, RHS; Properties of

isosceles and equilateral triangles; Triangle inequality theorem ; Similarity criteria: AA, SSS, SAS ; Areas of similar triangles; Pythagoras theorem and its converse ; Medians, altitudes, bisectors, perpendiculars.

Quadrilaterals and Polygons: Types and properties: parallelogram, rectangle, rhombus, square, trapezium ; Conditions for a quadrilateral to be a parallelogram ; Diagonal properties ; Midpoint theorem; Cyclic quadrilaterals; Angle sum and exterior angle of polygon.

Circles and areas related to circles: Circle terminology: chord, arc, sector, segment, tangent; Angle subtended by a chord at the centre; Equal chords and perpendiculars from the centre ; Tangent properties; lengths of tangents from an external point ; Cyclic quadrilaterals and their angle properties ; Circumference and area of a circle; Sector and segment: area and perimeter.

Constructions (Compass and Straightedge): Bisecting lines and angles; Drawing perpendiculars and parallels; Constructing triangles (SSS, SAS, ASA, RHS); Constructing similar triangles

Measurement (Area and Perimeter of Plane Figures): Perimeter and area of square, rectangle, parallelogram, triangle, trapezium ; Area of a triangle by base-height and Heron's formula; Area of rhombus or kite (diagonals method); Area of polygons (regular and irregular) by decomposition ; Area of combined plane figures (including circle sectors/segments).

Surface Areas and Volumes (Solids): Concept of surface area and volume; Cube, cuboid: formulas and applications; Cylinder, cone, sphere, hemisphere; Combined solids and conversion (melting/recasting).

Coordinate Geometry: Cartesian plane and coordinates; Plotting points in four quadrants; Distance formula; Section formula (internal division); Area of a triangle by coordinates.

Introduction to Trigonometry: Trigonometric ratios: sin, cos, tan (in right triangles) ; Reciprocal ratios: cosec, sec, cot ; Trigonometric identities ; Complementary angle relationships ; Trigonometric ratio of angles (0°, 30°, 45°, 60°, 90°); Simple proofs of identities.

Applications of Trigonometry (Heights & Distances): Angle of elevation and depression; Word problems involving right triangles and heights/distances.

Statistics - Data Handling: Data collection and representation; Frequency distribution (grouped and ungrouped); Graphical representation: bar graph,

histogram, frequency polygon; Mean, median, mode (discrete & grouped data); Cumulative frequency and quartiles; Interpretation of data.

Probability: Experimental and theoretical probability; Probability as ratio of favourable to total outcomes; Simple problems on coins, dice, and cards ; Complementary events.

Work & Time; Mensuration; Exponent of Power; Direct & Inverse proportion; Factorization; Time and Distance.

III. SCIENCE

Components of food:-- What do different food items contain? Test for starch, protein and fats. What do various nutrients do for our body? Balanced diet, Deficiency diseases.

Sorting materials into groups:-- Objects around us, Properties of materials (Appearance, Hardness, Soluble, Insoluble) . Objects may float or sink in water, Transparency.

Separation of substances:-- Methods of separation (Hand picking. Winnowing, sieving, sedimentation, decantation and filtration) ,Evaporation.

Getting to know plants:-- (Herbs, shrubs and trees), Stem, leaves, Root, Flower.

Body movements:-- Human body and its movements, Ball and socket joints, Pivot joints, Hinge joints. Fixed joints, Skeleton, Gait of animals (Earthworm, snail, Cockroach, birds, Fish). How do snakes move?

The living organisms, characteristics, and habitat:--Organisms and the surroundings, where they live, Habitat and adaptation , A journey through different habitats, Some terrestrial habitats ,Some aquatic habitats, Characteristics of organisms.

Motion and measurement of distances:--Story of transport, How wide is this desk? Some measurements, Standard units of measurements, Correct measurement of length, Measuring the length of a curved line, Moving things around us, Types of motion.

Lights, shadows, and reflections: -- Transparent, Opaque and translucent objects, What exactly are shadows? Pin hole camera, Mirrors and reflections.

Electricity and circuits:-- Electric cell, A bulb connected to an electric cell, An electric circuit, Electric switch., Electric conductors and insulators.

Fun with magnets:--How magnets were discovered?, Magnetic and non magnetic materials, Poles of magnet, Finding directions, Make your own magnet, Attraction and repulsion between magnets, A few cautions.

Air around us:-- Is air present everywhere around us? What is air made up of? How does oxygen become available to animals and plants living in water and soil? How is the oxygen in the atmosphere replaced?

Nutrition in plants:-- Mode of nutrition in plants (Photosynthesis and other modes) , How nutrients are replenished in the soil.

Nutrition in animals:-- Different ways of taking food, Digestion in human , grass eating animals, amoeba.

Heat:-- Hot and cold, Measuring temperature, Transfer of heat, Kinds of clothes we wear in summer and winter.

Acids, Bases and Salts:-- Acids and Bases, Natural indicators around us (litmus, turmeric ,china rose), Neutralization (In everyday life Indigestion, ant bite, soil treatment , factory waste).

Physical and Chemical Changes:-- Physical change, Chemical change, Rusting of iron, Crystallization.

Respiration in Organisms:-- Why do we respire? , Breathing, How do we breathe? , What do we breathe out? , Breathing in other animals (Cockroach, Earthworm), Breathing under water, Do plants also respire?

Reproduction in Plants:--Seed Dispersal

Motion and Time:-- Slow or Fast, Speed, Measurement of time, Measuring speed, Distance- Time Graph

Electric Current and its Effects:-- Symbols of Electric Components, Heating Effect of Electric Current, Magnetic Effect of Electric Current, Electromagnet, Electric Bell.

Light:-- Light travels along a Straight Line, Reflection of Light, Spherical Mirrors , Lenses, Sunlight- White or coloured?

Forests: Our Lifeline, Waste Water Story, Water our lifeline, What is sewage, Water freshens Up- An Eventful Journey, Waste water Treatment Plant, Better Housekeeping Practices, Sanitation and Disease, Alternative Arrangement for Sewage Disposal, Sanitation at public places.

Crop Production and Management:-- Agricultural Practices (Preparation of soil, Sowing, Adding manure and Fertilisers, Irrigation, Protecting from weeds, Harvesting, Storage).

Microorganisms: Friend and Foe:-- Microorganisms, Where do microorganisms live? , Microorganisms and us, Friendly microorganisms, Harmful microorganisms, Food preservation, Nitrogen fixation, Nitrogen cycle.

Coal and Petroleum:-- Natural resources (Exhaustible and Inexhaustible) , Story of Coal, Petroleum, Refining of petroleum, natural gas.

Combustion and Flame:-- What is combustion?, How do we control fire ? , Types of combustion, Flame, Structure of a flame, What is the fuel? , Fuel efficiency, burning of fuel leads to harmful products (Global warming, Acid rain, Incomplete combustion, Deforestation).

Conservation of Plants and Animals:--Deforestation , its causes and consequences, Conservation of forest and wildlife, National Park, Wildlife Sanctuary, Biosphere Reserve, Flora and fauna, Endemic species, Red Data book, Migration, Recycling of paper, Reforestation.

Reproduction in Animals:-- Modes of reproduction, (Sexual and Asexual), Story of Dolly, the clone, Oviparous and viviparous animals, Metamorphosis, IVF

Reaching the age of Adolescence:-- Adolescence and puberty, Changes at puberty, Secondary Sexual characters, Role of hormones, Reproductive phase of life in humans, How is the sex of baby determined? , Reproductive health, Say no to drugs.

Force and Pressure:-- Forces are due to an interaction, Exploring forces, Contact forces (Muscular , friction) ,Non contact forces (Magnetic, electrostatic, gravitational), Pressure exerted by liquids and gasses, Atmospheric pressure.

Friction:-- Factors affecting friction, Friction : A necessary Evil, Increasing and reducing friction, Fluid friction, Static, sliding and rotating friction.

Sound: Production of sound, Sound needs a medium for propagation, Song produced by Humans, Human ear, Amplitude, time period and frequency of a vibration, Loudness and pitch, Audible and inaudible sounds, Noise and music, noise pollution. Harms of noise pollution, Measures to limit noise pollution, Hearing impairment.

Chemical Effects of Electric Current:-- Do liquids conduct electricity? , Electroplating.

Some Natural Phenomena:-- Lightning, The sparks that the Greeks knew about, Charging by rubbing, Types of charges and their interaction, Transfer of charge, The story of Lightning, Lightning safety. Earthquake, Protection against earthquake.

Light:-- What makes things visible?, Laws of reflection, Regular and Diffused reflection, Reflected light can be reflected again, Multiple images, Kaleidoscope, sunlight, white or coloured , what is inside our eyes , Care of the eyes, Visually impaired persons can read and write, What is the Braille system?.

Matter in Our Surroundings: States and properties of matter; Elements, compounds, mixtures, and solutions; Atoms and Molecules: Laws of chemical combination, chemical formulae, and atomic masses; Structure of the Atom: Subatomic particles, atomic models, and isotopes;

The Fundamental Unit of Life: Cell structure, organelles, and cell division; Tissues: Plant and animal tissues and their functions; Improvement in Food Resources: Crop and animal farming methods for better yield and quality.

Motion: Distance, displacement, speed, velocity, and graphs of motion; Force and Laws of Motion: Newton's laws, inertia, and momentum; Gravitation: Universal Law of Gravitation, mass, weight, and Archimedes' Principle; Work and Energy: Work, kinetic energy, potential energy, and the Law of Conservation of Energy; Sound: Production, propagation, characteristics, and reflection of sound

Chemical Reactions and Equations, Acids, Bases, and Salts, Metals and Non-Metals, Carbon and Its Compounds; Life Processes, Control and Coordination, Reproduction in Organisms, Heredity and Evolution, Light – Reflection and Refraction, The Human Eye and the Colourful World , Electricity, Magnetic Effects of Electric Current, our environment.

IV. ENGLISH

Reading Comprehension, Word Power, The Sentence, Subject And Predicates , Articles, Number, Gender, Punctuation, Comprehension, Noun, Pronoun, Verb, Finite and Non-finite Verb, Adverb, Adjective, Preposition, Conjunction, Interjection , Error Correction, Sentence Rearrangement, Vocabulary, Antonym, Synonym, Tenses, Subject-Verb Agreement , Idioms, Modal, Active Voice & , Passive Voice, Change the narration-Direct and Indirect , Phrases and a Clauses , One word substitution, Transformation of Sentences.

V. हिन्दी

भाषा–व्याकरण एवं लिपि का परिचय; वर्ण विचार एवं आक्षरिक खण्ड; शब्द विचार (क) परिभाषा के आधार पर (तत्सम्, तद्भव, देशज, विदेशी), रचना के आधार पर, प्रयोग के आधार पर, अर्थ के आधार पर।

(ख) विकारी– संज्ञा, सर्वनाम, क्रिया, विशेषण; अविकारी– क्रिया– विशेषण, सम्बन्ध बोधक, समुच्चय बोधक, विस्मयादि बोधक ; पद परिचय ; शब्द शक्तियां ; शब्द रूपान्तर– लिंग, वचन, कारक, काल, वाच्य ; संधि; समास; उपसर्ग; प्रत्यय ; वाक्य विचार, अर्थ विचार (पर्याय, विलोम, वाक्यांश के लिए एक शब्द, समानार्थी); विराम चिह्न ; शुद्धिकरण (शब्द शुद्धि, वाक्य शुद्धि) ; मुहावरे एवं लोकोक्तियां; अलंकार।

VI. Computers/ Information Technology

Computer organization: Fundamental of Computer; Components of Computer; Operating System; Troubleshooting & Utilities. **Networking & Internet:** Computer networking; Internet & its terminology; Cyber threats & cyber security**. Office automation tools:** Word processing; Spread sheet; Presentation. **e-Governance , MIS.**

Part-B (General Awareness)

General Knowledge including General knowledge of Himachal Pradesh; Current Affairs; Everyday Science; Logical Reasoning; Hindi(Matric standard); English(Matric standard)