

**Himachal Pradesh  
Public Service Commission**

No.4-21/2023-PSC (R-III)

Dated: 21.12.2024

Syllabus for Paper-II i.e. Descriptive Type Subject Aptitude Test (SAT) for the recruitment to the post of Secretary, Class-I (on contract basis) in H.P. State Agriculture Marketing Board under the Department of Agriculture, H.P. The SAT shall be of 03 hours duration having 120 marks. The SAT paper shall have two parts, i.e. Part-I and Part-II covering following topics of B.Sc. (Agriculture/ Horticulture) / MBA level.

**PART-I (60 MARKS)**

**1. FUNDAMENTALS OF SOIL SCIENCE:-**

- Soil as a natural body,
- Soil Colour, Soil Structure, Soil Texture, Plasticity,
- Soil Moisture, Soil Air, Soil Temperature, Soil Water,
- Soil colloids, Soil organic matter, Ion exchange,
- Pedogenic Process.
- Soil Testing and Fertilizer Recommendation
- Management of Problem Soils

**2. FUNDAMENTALS OF GENETICS:-**

- Cell reproduction, Mitosis, Meiosis,
- Mendelian Principles of heredity,
- Chromosomal theory of inheritance,
- Multiple alleles,
- Linkage and crossing over,
- Sex linked inheritance,
- Cytoplasmic Inheritance
- Mutation and their classification.

**3. FUNDAMENTALS OF ENTOMOLOGY:-**

- History of Entomology in India,
- Structure and function of cuticle and moulting and body segmentation,
- Structure and modification of antennae, mouth parts, legs, wings and genitalia,
- Metamorphosis,
- Types of larvae and pupae,
- Structure and functions of digestive, circulatory, excretory, respiratory, sensory, nervous and reproductive system.

**4. FARM POWER AND MACHINERY:-**

- I.C engines, two stroke and four stroke engines,
- Cooling and lubrication systems, Power transmission system,
- Primary and secondary tillage implement,
- Sowing and transplanting equipment: seed drills,
- Harvesting equipments.

**5. FUNDAMENTALS OF HORTICULTURE:-**

- Scope and importance,
- Classification of horticultural crops,
- Management of orchard,
- Methods of training and pruning,
- Irrigation methods,
- Unfruitfulness,
- Fertilizer application in horticultural crops.

**6. FUNDAMENTALS OF PLANT PATHOLOGY:-**

- Objective, Scope & historical background of Plant Pathology,
- Classification of plant diseases,
- Survival and dispersal of plant pathogens,
- Principles and methods of plant disease management,
- Parasitic causes of plant diseases (fungi, Bacteria, viruses, phytoplasma, algae and protozoa).

**7. CONVENTIONAL FARMING**

- Use of modern farm equipments, Fertilizer, Irrigation and Plant Protection Chemicals
- Precision Farming
- Use of GIS and GPS in decision support for farms

**8. ORGANIC FARMING:-**

- Introduction and concept,
- Integrated diseases and pest management,
- Weed management.

**9. FUNDAMENTALS OF PLANT BREEDING:-**

- Genetics in relations to plant breeding,
- Breeding for resistance of biotic and Abiotic stresses,
- Mutation breeding,
- Polyploidy breeding,
- Clonal selection and hybridization,

- Heterosis.

### **10. ENVIRONMENTAL STUDIES AND DISASTER MANAGEMENT:-**

- Environmental Studies: Definition, Scope and Importance,
- Natural Resources, Forest Resources, Water Resources,
- Mineral Resources, Food Resources, Energy Resources, Land Resources,
- Ecosystems-concept of an ecosystem, Structure and function of an ecosystem,
- Biodiversity and its conservation,
- Environmental Pollution (Soil, water, air, noise), Solid Waste management,
- Social issues, Environmental ethics, Wasteland reclamation,
- Environment Protection Act, Air (Prevention and Control of pollution) Act, Water (Prevention and Control of Pollution) Act,
- Issues involved in enforcement of environmental legislation, Public awareness,
- Environment and human health, Women and Child welfare,
- Natural Disasters, Man Made Disasters, Disaster Management.

### **PART-II (60 MARKS)**

#### **1. FUNDAMENTALS OF MANAGEMENT AND ORGANIZATIONAL BEHAVIOUR:-**

Management: Concept, Nature, Importance; Management: Art and Science, Management Vs. Administration, Management Skills, levels of Management. Taylor and Scientific Management, Fayol's Administrative Management, Hawthorne Experiments and Human Relations, Introduction to Functions of Management: Planning: Nature, Scope, Objectives and Significance, Types of Planning, Process of Planning. Organizing: Concept, Organisation Theories, Forms of Organisational, Structure, Departmentation, Span of Control, Delegation of Authority, Authority & Responsibility, Organizational Design, Staffing: Concept, System Approach, Manpower Planning, Job Design, Recruitment & Selection, Training & Development, Performance Appraisal Directing: Concept, Direction and Supervision, Job Enrichment & Morale Building Controlling: Concept, Process, Types of Control. Introduction of OB: Concept, Nature, Characteristics, Conceptual Foundations and Importance, Models of Organizational Behaviour. Perception and Attribution: Concept, Nature, Process, Importance, Management and Behavioural Applications of Perception. Personality: Concept, Nature, Types and Theories of Personality Shaping, Personality Attitude and Job, Satisfaction. Learning: Concept and Theories of Learning. Conflict: Concept, Sources, Types, Process, Group Dynamics: Definition, Stages of Group Development, Group Cohesiveness, Formal and Informal Groups, Group Processes and Decision Making, Dysfunctional Groups, Motivation: Theories of Motivation, Leadership: Styles of leadership Skill Development.

2. **MANAGERIAL ECONOMICS:-** Nature, Scope and Importance of Managerial Economics, Relationship of Managerial Economics with Decision Making, Distinction between Micro and Macroeconomics, Individual Demand, Market Demand, Kinds of

Demand, Determinants of Demand, Demand Functions, Functions, Demand Schedule and Law of Demand. Elasticity of Demand: Concept, Types, Measurement and importance. Demand Forecasting: Sources of Data-Expert Opinions, Surveys and Market Experiments; Time Series Analysis-Trend Projection; Barometric, Forecasting- Leading Indicators, Composite and diffusion Indices Concept and types, Returns to Factor and Returns to Scale, Law of Variable Proportions. Cost concepts and Analysis: Concept of Cost, Short run and Long-run Cost Curves, Relationships among various costs, Break-even Analysis. Revenue Curves: Concept and Types, Pricing in various markets: Perfect Competition, Monopoly, Monopolistic, competition Oligopoly. Conceptual Framework, Measures of National Income, Methods of Measurement, Limitations of National Income. Inflation: Meaning, Types, Theories, Causes, Effects and Control, balance of Payments Monetary and Fiscal Policies.

### **3. ACCOUNTING FOR MANAGERS:-**

Overview of Accounting, Users of Accounting, Accounting Concepts Conventions, Book keeping and Accounting, Principles of Accounting, Accounting Equation, Overview to Depreciation (straight line and diminishing method), Accounting Standards: International Accounting Principles and Standards, Mechanics of Accounting: Double entry system of Accounting, Journalizing of transactions; Ledger posting and Trial Balance, Preparation of final accounts, Profit & Loss, Account, and Balance Sheet. Financial statement: Ratio Analysis- solvency ratios, Profitability ratios, activity ratios, liquidity ratios, Market capitalization ratios; Common Size Statement; Comparative Balance Sheet and Trend Analysis of manufacturing, Service & banking organizations, Funds Flow Statement: Meaning, Concept of Gross and Net Working Capital, Preparation of Schedule of Changes in Working Capital, Preparation of Funds Flow Statement and its analysis; Cash Flow Statement: Various cash and non-cash transactions, flow of cash, difference between cash flow and fund flow, preparation of Cash Flow Statement and its analysis Cost: Meaning, Concept and Classification, Elements of Cost, Cost Sheet, Nature & Importance, Material Costing. Methods of Valuation of Material issue, Concept and material control and its techniques. Marginal Costing- Profit – Volume Ratio, Break Even Point, Margin of Safety, Application of Break- even Analysis. Standard costing & Break even Analysis, Budgetary Control, Meaning, aims, Nature, Scope, Objectives and functions and decision of financial management, Sources of finance, Working Capital Management-Significance Classification, Factors affecting working capital requirement.

### **4. MARKETING MANAGEMENT:-**

Introduction to Marketing: Introduction: Concept, Nature, Scope and Importance of Marketing; Marketing Concept and its Evolution; Market Analysis and Selection: Marketing environment-Macro and Micro Components and their Impact on Marketing Decisions. Introduction to various forms of Marketing Mix. Concept of Market Segmentation, Bases for Market Segmentation, Types of Market Segmentation, Effective Segmentation Criteria, Evaluating & Selecting, Concept of Targeting, Concept of Target Market, Positioning and

Differentiation Strategies, Concept of Positioning. Meaning of Marketing Research, Scope; Marketing Research Process. Marketing Organization and Control: Organizing and Controlling Marketing Operations Product Decisions: Concept of a Product; Classification of Products; Major Product Decisions; Product Mix; Branding; Packaging and Labelling; Product Life Cycle – Strategic Implications; New Product Development and Consumer Adoption Process. Pricing Decisions: Factors Affecting Price Determination; Pricing Policies and Strategies; Discounts and rebates, Promotion Decisions: Communication Process; Promotion Mix – Advertising, Personal Selling, Sales Promotion, Publicity and Public Relations; Determining Advertising Budget; Media selection; Advertising effectiveness; Sales Promotion–Tools and Techniques. Distribution Channels: Distribution Channels and Physical Distribution Decisions: Nature, Functions, and Distribution Intermediaries; Retailing, Emerging trends in Retailing. and Wholesaling, Social, Ethical and Legal Aspects of Marketing; Marketing of Services; International Marketing; Green Marketing; Cyber Marketing; Relationship.

## **5. FINANCIAL MANAGEMENT:-**

Concept of Financial management-Meaning and definitions, Scope of Financial Management, finance functions, Financial Goals of a firm, Agency problem, Emerging role of finance manager in India Meaning of Capital Budgeting, significance, principles, capital budgeting proposals, methods of appraising Proposals, Payback period, ARR, IRR, MIRR, NPV, Profitability Index, APV Method, Capital Rationing, Sources of Funds: Short term sources, long term sources, Venture Capital: features, stages and types of venture capital. Factors influencing capital structure, Benefit to Owners – EBIT –EPS Analysis, Point of Indifference, Financial Break-even Point, Cost of Capital-Methods of computing cost of capital: Cost of Equity Capital, Cost of Preferred Capital, Cost of Debt Capital, Cost of internally generated funds, Weighted Average Cost of Capital (Theory and Problems), Leverages-Types and Measurement Concept of working capital, factors determining working capital, Sources of working capital, estimating working capital needs, Managing cash, marketable securities, debtors and inventory, Dividend Decisions, Meaning, Theory of relevance on Theory of Irrelevance. Walter's Model, Gordon's Model (Theory and Problems) Types of dividends, Bonus Shares, Stock Splits.

## **6. HUMAN RESOURCE MANAGEMENT:-**

Human Resource Philosophy – Changing environments of HRM – Using HRM to attain competitive advantage – Trends in HRM – Organization of HR departments – Line and staff functions – Role of HR Managers-Contemporary issues and practices in HRM, Changing concept of HRM in India and in the globe. Nature of job Analysis, job design, Job evaluation, Human resource planning, Demand forecasting, HR supply forecasting, Need for and factors influencing HRP, Career planning, Promotion, transfer, demotion and separation; Employee hiring-Nature of Recruitment, Sources of recruitment-internal and external, Employee selection, process of employee selection. Orientation & Training: Orienting the employees,

Nature and importance of Training, Methods of training, TNA, Nature of HRD program, Methods of management development and Executive development programs, Development beyond training, Contemporary HRD practices, Methods, Problem and solutions - The appraisal interviews - Performance appraisal in practice. Managing careers: Career planning and development - Managing promotions, demotion, transfers and separation, Industry Relations, Employer, Employee, Rights of an Employee at Work Place, HR Policy- Meaning and Its Importance. Legal Issues Related to HR in the Organization. Compensation Act, 1923-The Workmen's Compensation Act, 1923- Introduction, Main Features of the Act, Definitions, Provisions under the Act.

## **7. BUSINESS RESEARCH METHODS:-**

Business Research: Meaning, Objectives, Purpose, types, scope and significance of research in business and industry. Criteria for Good research, Ethics in research. Research Process - Steps in research, identification and formulation of research problem, extensive literature review, Research gap, statement of the problem, need for the study, types of research, Deductive and inductive logic. Formulation of Research Problem and Hypothesis: Identifying and formulating research problem, Setting of research objectives, Doing review of literature. Hypothesis- Meaning, Purpose, Sources, characteristics of hypotheses, types of hypotheses, Formulation of hypothesis, Data Collection concepts: Sample design, steps in sampling process, sampling methods - probability Sampling and non- probability sampling, sampling error, Criteria for good sample, determining sample size (infinite and finite), Meaning of Primary and Secondary data, Primary data collection methods - observations, survey, interview and Questionnaire, Qualitative Techniques of data collection, Questionnaire design: Meaning Process of designing questionnaire. Secondary data Sources-advantages and disadvantages. Measurement and Scaling Techniques: Types of Scales: Nominal scale, Ordinal scale, Interval scale, Ratio scale. Attitude measurement scale -Likert's Scale, Semantic Differential Scale, Thurstonescale, Multi-Dimensional Scaling. Case Study as per the chapter needs, Data Analysis: Data processing-Editing, coding, tabulation, normality and validity test, pictorial and graphical presentation of Data, Parametricandnon-parametrictest, Chi-square, t-test, ANOVA, Correlation and Regression. Report Writing and Presentation of Results: Types of report-Research proposal, research report. Format of a report- Layout, Precautions. Citation and referencing, Research presentation, Introduction and Application to Business Analytics: Evolution of Business Analytics, Business Analytics Process, Business Analytics Architecture and Framework. Analytics in Business Support Functions, Analytics in Industries-Sports Analytics, Social Media Analytics, Social Networking Analytics.

## **8. STRATEGIC MANAGEMENT:-**

Understanding Strategy and strategic Management: Strategic Management process, strategic decision making, levels of strategy, Defining strategic intent: vision, Mission Goals and objectives, Characteristics of a good mission statement, External environment analysis: strategically relevant components of external environment, Industry analysis- Porter's five

forces model, Strategic group mapping, industry, key success factors, external factor evaluation matrix, environmental scanning techniques: ETOP and COWS analysis etc., Internal environment analysis: Resource based view of an organization, Value chain analysis, Competitive advantage and Core competency, internal factor evaluation matrix, Business level strategies; Porter's framework of competitive strategies: Cost leadership, Differentiation and focused strategies, corporate level strategies : Growth strategies- horizontal and vertical integration; strategic outsourcing, related and un-related diversification, international entry options, harvesting and retrenchment strategies, Portfolio Strategies: BCG model, GE business Planning matrix, Shell's directional policy matrix, Growth of the firm: internal development, merges & acquisition and strategic alliances, restructuring strategies regarding growth of firm, Corporate Restructuring: Types, synergy, location and timing tactics, Strategy Implementation: strategy-structure fit, developing and modifying organizational structure leadership and organization culture, strategy evaluation and control: nature of strategy evaluation, strategy evaluation framework, the balanced score card, benchmarking.

9. Use of GIS in developing a robust Supply Chain and decision making.

*Sd/-*

**Section Officer (R-III)**

**H. P. Public Service Commission**