SCHEME AND SYLLABUS FOR THE POST OF ASSISTANT .DIRECTOR OF MARKETING IN A.P. MARKETING SERVICE

(P.G. standard)

SCHEME

Part-A: Written (Objective type) Examination				
Paper-1	General Studies & Mental ability	150 Marks	150 Questions	150 Minutes
Paper-2	Subject (Economics OR Maths OR Statistics OR Commerce OR Agriculture)	300 Marks	150 Questions	150 Minutes
Part-B: Oral Test (Interview)		50 Marks		

SYLLABUS

GENERAL STUDIES AND MENTAL ABILITY

1. General Science – Contemporary developments in Science and Technology and their implications including matters of every day observation and experience, as may be expected of a well-educated person who has not made a special study of any scientific discipline.

2. Current events of national and international importance.

3. History of India – emphasis will be on broad general understanding of the subject in its social, economic, cultural and political aspects with a focus on AP Indian National Movement.

4. World Geography and Geography of India with a focus on AP.

5. Indian polity and Economy – including the country's political system- rural development – Planning and economic reforms in India.

6. Mental ability – reasoning and inferences.

CONCERNED SUBJECTS

COMMERCE

ACCOUNTING AND FINANCE

Part-1: Accounting, Auditing and Taxation:

Accounting as a Financial and Management information system-Impact of behavioral sciences – Accounting Standards and conventions.

Methods of accounting of changing price levels with particular reference to current purchasing power (CPP) accounting Advanced problems of company accounting – Amalgamation absorption and reconstruction of companies-Accounting of holding Companies valuation of shares and goodwill-Human Resources Accounting.

Nature and functions of Cost Accounting-Classification of costs-techniques of segregating semi-variable costs into fixed and variable components-job costing-FIFO and weighted average methods of calculating equivalent units of production-Marginal costing Cost-Volume profit relationship their Algebraic formulae and graphical representation shut down points Reconciliation of cost and financial accounts-Techniques of cost control and cost reduction-Budgetary control-Flexible Budgets standard costing and variance analysis – Responsibility accounting-Bases of charging over-heads and their inherent fallacy-costing for pricing decisions.

Income Tax Act, 1961 (as amended up-to-date) – Definitions – charge of Income Tax – Exemptions – Provisions relating to Heads of Income – Depreciation and savings deductions – Simple problems of computation of Income of an individual (under the various heads) and assessable income-tax planning Income-Tax authorities.

Auditing – Definition – Significance – Different types of Audit Programming the audit work – Vouching – Valuation and verification of all types of assets and liabilities – Audit of limited companies – Appointment, Status, Rights, Duties and Liabilities of an Auditor – Auditors report Investigation.

Part-II: Business Finance and Financial Institutions:

Financial Management – Definition and Scope – Corporate Finance – its goals capital structure theories – Capital budgeting (including problems) – Techniques – Rules of the thumbs and Discounted cash flow approaches – incorporating uncertainty in investment decisions – Designing and optimal capital structure – Weighted average cost of capital – Modighani and Miller models (including problems) – Short-term, Intermediate and Long-term finance and the sources of raising them – Norms and guidelines regarding debt – equity ratios – Dividend theories and dividend policies in practice – Determinants of an optional dividend policy – working capital management (including problems) – Structure of working capital and the variable of affecting the level of difference of components – Cash flow approach of fore-casting working capital needs – Credit management and credit policy – Consideration of tax in relation to financial planning and cash flow statements – Profiles of working capital in Indian industries – Statement of changes in financial position (including problems).

Indian money market – Constituents and their deficiencies – Reserve Bank of India – Functions – An assessment of its monetary and credit policies – Commercial Banks – Role and their functioning – Narasimham Committee Recommendations – Indian Capital Market – Constituents functions and working of All India term financial institutions such as IDBI, IFCI, ICICI, UTI – Stock Exchanges – Functions and their regulation by agencies like SBBI.

OGNAISATION THEORY AND INDUSTRIAL RELATIONS:

Part-1: Organisation Theory:

Nature and Concept of Organisation – Approaches to the study of organisation theory – Formal and informal organisations – Functions and limitations – Principles of organisation – Organisation goals and its different types.

Organisational structure – Authority – Power and influence – Delegation – Centralisation and decentralisation – Line staff functional Matrix – Project and Bureaucratic structures. Decision making process and limits to rationality – Simon March approach.

Motivation – Theoretical and empirical foundations of Maslow, Mc. Gregor, Herzberg, Likert, Vroom, Porter and Lawler models – morale and productivity – Leadership – Theories and styles – Communication in organisations.

Conflicts and its management in organisation – Management of change – Resistance to change and Methods to overcome – Organisational change, adaptation, growth and development – Organisational control and effectiveness – Organisational culture and its significance

Part-II: Industrial Relations:

Industrial Relations – Nature and Scope – Industrial Labour in India – Theories of Trade Unionism – Trade Union movement in India, its growth and structure – outside leadership – union Management conflict and co-operation – collective bargaining – approaches, conditions, limitations and its effectiness in Indian conditions workers education and other problems – workers participation in Management, philosophy, rationale, present day state of affairs.

Industrial Disputes – Definition – Preventive measures & settlement machinery in India – Absenteeism and labour turnover in Indian Industries – Wage concepts – Wage differentials and wage policy in India – Labour welfare measures – Indian Labour conference International Labour organisation and India.

ECONOMICS

1. Methodology in Economics. The framework of an economy. National Income Accounting – Estimation of National Income.

2. Economic Choice: Consumer behaviour, producer behaviour, market forms and distribution

3. Determination of income and employment: Investment decisions. Macro economic models of income, distribution and growth.

4. Banking: Supply of money and near money; Central Banking – Objectives, instruments of credit policy in a developing economy.

5. Public Finance: Principles of taxation and Public expenditure – Functional Finance – Budgetery and Fiscal policy in a developing economy – Public debt and its effects on economy.

6. International trade: Tariffs, exchange rates – convertibility – Balance of Payments – Monetary and Banking Institutions.

7. The Indian economy: Guiding principles of Indian economic policy – Planned growth and distributive justice. Eradication of poverty. Institutional framework of the Indian economy – Federal structure of the Government – Agricultural and Industrial Sector. National Income of India, its Sectorial and regional distribution.
    Magnitude and incidence of poverty (rural & urban)

8. Agriculture: Agricultural policy; Land Reforms – Technological change – Relationship with the industrial sector.

9. Industry: Industrial policy – Public and Private sector – Regional distribution of Industry – Industrial Infrastructure – Aspects of economic liberalisation.

10. Pricing policies of Agricultural and Industrial outputs – Administered prices – Procurement and Public Distribution.

11. Budgetary trends and Fiscal policy.

12. Monetary and credit trends and policies – Banking and non-banking financial institutions.

13. Foreign trade and Balance of payments (Before and after economic reforms)

14. Indian Planning: Objectives, strategy, experience and problems.

15. Andhra Pradesh Economy: Structure of the A.P. economy – State Income - its sectorial and regional distribution and extent of poverty – Regional imbalances State of agriculture – Agricultural inputs and technology – Subsidies – State of industry – Infrastructure – Industrial sickness – State finances and budgetary policy – World Bank Aid and state economy.

AGRICULTURE

Importance of agriculture in national economy, Agriculture development in India, Agro-climatic Zones of India and A.P. Major constraints in limiting to crop production, Ecology and relevance to Man-Management of national resources; Environmental variables and agro-ecosystem; Weather aberrations and their effect on crops, Environmental pollution – air water and soil – its effect on crops, animals and humans.

Cropping patterns in different agro-climatic zones of A.P. – concepts of multiple cropping, multistory, relay and intercropping – Farming systems – Planning of components and productivity. Sustainable agriculture and organic farming – relevance in modern agriculture – Principles and potentials to attain sustainability, Package of practices for production of important\ cereals, pulses, oilseeds, fibres, sugar and commercial crops grown in A.P.

Weeds-their characteristics, and dissemination, Crop-weed association and allelopathy, weed management in different crops.

Dry land agriculture and its problems- management of land and water in dry climate. Soil erosion-types, Soil conservation, watershed management – objectives and approaches.

Crop water requirements – methods of assessment – water use efficiency- water management practices in important field and horticultural crops of A.P. Drainage - water logging, methods of field drainage.

Importance of social, farm and agro forestry. Choice of tree species, Principles of general silviculture.

Soil and its components – Process and factors of soil formation, soil classification, land capability classification, Aerial photography and remote sensing and their application in agriculture. Essential plant nutrients and other beneficial elements in soil, their occurrences, factors affecting their distribution, functions and nutrient cycling in soil. Symbiotic and non-symbiotic nitrogen fixation. Principles of soil fertility and its evaluation for judicious fertilizer use integrated nutrient management.

Farm management – importance, economic principles, farm planning and budgeting, farm business analysis and farm efficiency measures, Agricultural marketing institutions – commercial agricultural and agri-business management. International trade – nature and scope – GATT/WTO.

Concept, meaning, principles, scope and importance of Agriculture extension, Models of organizing Agriculture extension. Rural development and poverty alleviation programmes. Training to Extension workers, farmers, farm women and youth, Agricultural extension management.

Physical and chemical basis of heredity, chromosomal structure, genes/operan concept; Mendelion laws of inheritance, cytoplasmic inheritance, Linkage and crossing over, Genetic mechanisms of sex determination, Inheritance of Quantitative characters, Mutations – spontaneous and induced.

Biodiversity and centres of origin of cultivated crops, Assessment of variability – additive, dominance and epistasis.

Application of the Principles of plant breeding to the improvement of major field crops, methods of breeding self and cross-pollinated crops. Introduction, Selection, Hybridization, Heterosis and its exploitation. Male stability and self incompatibility, utilization of mutation and polyploidy in breeding, Breeding for biotic and abiotic stresses.

Seed technology and importance – seed quality concepts, Hybrid seed production in important crops, Seed certification standards, intellectual property rights, patency and plant breeders rights.

Importance of plant physiology in Agriculture, Physiological basis of crop yield; Structure and function of cell organells; Photosynthesis, respiration and transpiration; structure and functions of proteins, nuclic acids, crop water relations, Role of macro and micro nutrients and their deficiency symptoms.

Plant biotechnology – Achievements and potentialities. Genetic engineering and production of transgenic plants.

Growth and development, photo periodism and vernalization, Hormones, plant growth regulators and their role in agriculture.

Role of fruits and vegetables in human nutrition and national economy; Climatic requirements and cultivation practices for major fruits, vegetables and plantation crops; Green house production of flowers and vegetable crops; Handling and marketing problems of fruits and vegetables; Principal methods of preservation of fruits and vegetables; Important fruit and vegetable products. Ornamental and landscape gardening – types of ornamental gardens, Design and layout of lawns and gardens.

Pests and diseases of field, vegetable, orchard and plantation crops and their management; Causes and classification of plant diseases. Principles of plant disease management – avoidance, exclusion, eradication, immunization and protection; Biological control of pests and diseases. Integrated management of pests and diseases; Pesticides – classification and their formulations; Recent methods of pest/disease control. Stored grain pests and their preventive and curative measures.

MATHEMATICS

Algebra:

Groups – subgroups – normal subgroups – quotient groups – homomorphism and isomorphism theorems – cyclic groups – permutation groups – Cayleay's theorem.

Rings – subrings – integral domain – fields – ideals quotient ring – maximal and prime ideals – Euclidean rings – polynomial rings – Unique factorization domains – principal ideal domains.

Linear Algebra:

Vector spaces – subspaces – linear independence and dependence – Bases and dimension – Finite – dimensional vector spaces and their properties.

Linear transformations – Rank and nullity of a linear transformation – Cayley – Hamilton theorem – Matrix of a linear transformation – eigen values and eigen vectors – Canonical forms.

Inner product spaces – Orthonormal basis – Quadratic forms.

Differential equations:

Order and degree of a differential equation – Formation of a differential equation – Differential equations of first order and first degree – Linear differential equations with constant and variable coefficients – Total differential equations.

Formation of partial differential equations – Equations of first order – Charpit's methods.

Geometry:

General equation of second degree in two variables – Tracing of conics.
Plane, straight lines in space – sphere – Cone.
Curves in space – curvature – Torsion – Seret – Frenet formulae.

Real Analysis:

Real number system R – Open and closed sets in R- Compact sets – sequences in R and their convergence – Series of real numbers – Tests of convergence – absolute and conditional convergence – rearrangements of series.

Limits and continuity of a real valued function properties of continuous functions – Differentiation – Mean value theorems – Applications.

Riemann integration – conditions for Reimann integrability – improper integrals.

Complex Analysis:

Complex numbers and their geometric representation – limits and continuity of functions of a Complex variable – Analytic functions – Couchy Riemann equations – Complex integration – Canchy's theorem – Canchy's integral formula – Power series – Taylor's and Laurent's series – Types of singularities – Calculus of residues and application to evaluation of definite integrals.

Vector calculus:

Differentiation of a vector valued function – Gradient of a scalar function – Divergence and curl of a vector function in Cartesian and polar coordinates.

Green's theorem – Gauss and Stoke's theorems and their applications to evaluation of double and triple integrals.

a) Transform Calculus: Laplace Transforms – Inverse Laplace transforms – solving differential equations using Laplace transforms.
Fourier and Hankel transforms.

b) Numerical Analysis: transcendental and Polynomial equations – Regula Falsi method – Newton Raphson method Interpolation – numerical differentiation – numerical intergration – Runga Kutta method.

c) Number Theory: Fundamental theorem of arithmetic – congruences and their applications – Fermat's and Wilson's theorems – solution of linear congruences – Chinese remainder theorem.

d) Linear Programming: Formation of linear programming problem – Graphical solution – Dual problem – simplex method – Transportation problem.

STATISTICS

Probability and Distributions

Sample space and events, Probability space, Statistical independence, Random variable, Discrete and continuous random variables. Probability density and distribution functions, marginal and conditional distribution, functions of random variables, expectation and moments, conditional expectation, correlation co-efficient, convergence in probability, almost sure, Markov, Chebychev and Kolmoorov inequalities, Borel Centelli lemma, weak and strong Laws of large numbers, probability generating and characteristic functions; Uniqueness and continuity theorems. Lindeberg Levy Central limit theorem. Standard discrete and continuous probability distributions, their interrelations including limiting cases. Exact Sampling distributions – t, F and Chi-square, Distributions of order statistics.

Statistical Inference

Properties of estimates, consistency, unbiasedness, efficiency, sufficiency and completeness, Cramer-Rao bound, Minimum variance unbiased estimation, Rao-Black well and Lehmann-Sehffe's theorems methods of estimation by moments, maximum likelihood and minimum Chi-square. Properties of maximum likelihood estimators, confidence interval for of standards distributions.

Simple and composite hypotheses, statistical tests, critical region, two kinds of error, power function unbiased tests, most powerful and uniformly most powerful tests, Neyman-pearson, Lemma, Optimal tests for simple hypotheses concerning one parameter, monotone likelihood ratio property and its use in constructing UMP test, likelihood ratio criterion and its asymptotic distribution, chi-square and Kolmogorv tests for goodness of fit. Run test for randomness, Sign test for Location, Wilcoxon-Mann-Whitney test and Kol mogor – Simirnov test for the two sample problem and tests of independence based on sparmants next correction Distribution-free confidence intervals for quantiles and confidence bands for ditribution functions.

Notions of a sequential test, Walds SPRT, its CC and ASN functions, with applications to standard distributions.

Multivariate Analysis

Theory of least squares, Gauss-Markoff theory, normal equations, least square estimates and their precision, Tests of significance and intervals – estimates based on least square theory. Regression Analysis, linear regression, estimates and tests about correlation and regression coefficient, curvi-linear regression, and orthogonal polynomials, test for linearity of regression-Multivariate normal distribution, multiple regression, multiple and partial correlations and tests for them. Mahalanobis D^2 and Hotelling T^2 statistics and their applications (derivations of distribution of D^2 and T^2 excluded). Fisher's discriminant analyses.

Sampling Theory

Nature and scope of sampling, simple random sampling, sampling from finite population with a without replacement, estimation of the standard errors, sampling with equal probabilities, PPS sampling, Stratified random sampling, systematic sampling, two-stage and multistage sampling, multiphase and cluster sampling schemes.

Estimation of population total and mean, use of biased and unbiased estimates, Standard errors of estimates, cost and variance functions, ratio and regression estimates and their relative efficiency, planning and organization of sample survey with special reference to recent large scale surveys conducted in India.

Design of Experiments

Analysis of variance of one way, two-way and three-way classified data with and without interactions. Principles of experimental designs, CRD, RBD, LSD, Missing-plot technique, Factorial experiments, 2^n and 3^n designs. General theory of total and partial confounding and fractional replication. Analysis of split-plot, BIBD and PBIBD.

Industrial Statistics

Concept and importance of quality control, different types of control charts, X,R,P & C charts; cumulative-sum control charts.

Sampling inspection Vs 100 per cent inspection. Concepts of producer's risk and consumer's risk. Single, double, multiple and sequential sampling plans for attributes; OC, ASN curves, Rectifying sampling plans, AOQ and ATI curves; sampling plans for variables.

Definition of Reliability, Life distribution, failure rate and bath-tub failure curve; exponential and Weibull models. Reliability of series, Parallel and K out of n systems.

Operations Research

Homogenous discrete-time Markov chains, transition probability matrix, classification of states; stationary distribution, Birth and death process. Elements of quitting theory, M/M/1 and M/M/K queues; G/M/1 and M/G/1 - queues.

The structure and formulation of linear programming problem. The simplex method, two phase simplex method and charne's method with Artificial variables. Transportation and Assignment problems.

Introduction to computers and elements of Fortran IV Programming, Formats for input and output statements, specification and logical statements and sub-routines. Application to some simple statistical problems.

Sd/- Secretary
01/07/2008