B.Sc. (Semester–I)

ENGLISH COMPULSORY

TERM-1

1. Tales of Life (Stories at Sr. 1,2,3,5)
2. Prose for Young Learners (Essays at Sr. 1,2,3,5)
3. English Grammar in use (Units 1-25)
4. Paragraph Writing

TERM-2

1. Tales of Life (Story no.6)
2. Prose for Young Learners (Essay No. 6)
3. English Grammar in use (Units 25-48)

Submitted by
NT
Asst. Prof. in English

B.Sc. (Semester–I)

Mudhli Punjabi
ਮੁੱਢਲੀ ਪੰਜਾਬੀ

ਪਹਿਲੀ ਟਰਮ

ਪੈਤੀ ਅੱਖਰੀ, ਅੱਖਰ ਕ੍ਰਮ, ਪੈਰ ਬਿੰਦੀ ਵਾਲੇ ਵਰਣ ਅਤੇ ਪੈਰ ਵਿਚ ਪੈਣ ਵਾਲੇ ਵਰਣ ਅਤੇ ਮਾਤ੍ਰਵਾਂ (ਮੁੱਢਲੀ ਜਾਣ-ਪਛਾਣ)
ਲਗਾਖਰ (ਬਿੰਦੀ, ਟਿੱਪੀ, ਅੱਧਕ) : ਪਛਾਣ ਅਤੇ ਵਰਤੋ
ਨਿੱਤ ਵਰਤੋ ਦੀ ਪੰਜਾਬੀ ਸ਼ਬਦਾਵਲੀ : ਬਾਜ਼ਾਰ, ਵਪਾਰ, ਰਿਸ਼ਤੇ-ਨਾਤੇ, ਖੇਤੀ ਅਤੇ ਹੋਰ ਧੰਦਿਆਂ ਆਦਿ ਨਾਲ ਸੰਬੰਧਤ।
ਹਫ਼ਤੇ ਦੇ ਸੱਤ ਦਿਨਾਂ ਦੇ ਨਾਂ, ਬਾਰ੍ਹਾਂ ਮਹੀਨਿਆਂ ਦੇ ਨਾਂ, ਰੁੱਤਾਂ ਦੇ ਨਾਂ, ਇਕ ਤੋ ਸੌ ਤਕ ਗਿਣਤੀ ਸ਼ਬਦਾਂ ਵਿਚ

ਦੂਸਰੀ ਟਰਮ

ਪੰਜਾਬੀ ਸ਼ਬਦ-ਬਣਤਰ : ਮੁੱਢਲੀ ਜਾਣ-ਪਛਾਣ
(ਸਾਧਾਰਨ ਸ਼ਬਦ, ਸੰਯੁਕਤ ਸ਼ਬਦ, ਮਿਸ਼ਰਤ ਸ਼ਬਦ, ਮੂਲ ਸ਼ਬਦ, ਅਗੇਤਰ ਅਤੇ ਪਿਛੇਤਰ)

Submitted by
Dr. Baljinder Kaur
Asst. Prof. in Punjabi

B.Sc. (Semester–I)

Punjabi (Compulsory)
ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)

ਪਹਿਲੀ ਟਰਮ

ਦੋ ਰੰਗ (ਲੇਖਕ ਦਾ ਜੀਵਨ ਤੇ ਰਚਨਾ –ਵਸਤੂ)

ਸੰਸਾਰ ਦੀਆਂ ਪ੍ਰਸਿੱਧ ਹਸਤੀਆਂ (ਜੀਵਨੀ ਨੰ: 1 ਤੋ 7 ਤੱਕ)
(ਵਿਸ਼ਾ–ਵਸਤੂਸਾਰਨਾਇਕ ਿਬੰਬ)

ਵਿਆਕਰਣ:
ਪੈਰ੍ਹਾ ਰਚਨਾ (ਤਿੰਨ ਵਿਚੋ ਇਕ)
ਪੈਰ੍ਹਾ ਪੜ੍ਹ ਕੇ ਪ੍ਰਸ਼ਨਾਂ ਦੇ ਉੱਤਰ।
ਭਾਸ਼ਾ ਵੰਨਗੀਆਂ : ਭਾਸ਼ਾ ਦਾ ਟਕਸਾਲੀ ਰੂਪ, ਭਾਸ਼ਾ ਅਤੇ ਉਪ–ਭਾਸ਼ਾ ਵਿਚ ਅੰਤਰ, ਪੰਜਾਬੀ ਉਪਭਾਸ਼ਾਵਾਂ ਦੇ ਪਛਾਣ–ਚਿੰਨ੍ਹ।

ਦੂਸਰੀ ਟਰਮ

ਦੋ ਰੰਗ (ਲੇਖਕ ਦਾ ਜੀਵਨ ਤੇ ਰਚਨਾ –ਵਸਤੂ)

ਸੰਸਾਰ ਦੀਆਂ ਪ੍ਰਸਿੱਧ ਹਸਤੀਆਂ (ਜੀਵਨੀ ਨੰ: 8,9ਤੱਕ)

ਵਿਆਕਰਣ:
ਪੰਜਾਬੀ ਭਾਸ਼ਾ : ਨਿਕਾਸ ਤੇ ਵਿਕਾਸ

Submitted by
Dr. Baljinder Kaur
Asst. Prof. in Punjabi

B.Sc. (Semester–I)

ECONOMICS
MICROECONOMICS

TERM-1

Introductory: Definition of Economics, Adam Smith, Marshall, Robbins, Nature and Scope of Microeconomics. Basic Concepts: Human wants, Utility and Satisifaction, Basic Economic Problems.

Demand Function; Supply Function, Price Determination, Slope and Elasticity (Concepts), Elasticity of Demand – Price, Income and Cross. Measurement of price elasticity of demand. Utility Analysis, Indifference Curve Analysis and Revealed Preference Analysis (Meaning and Equilibrium).

Theory of Production and Costs: Concept of Production Function. Laws of Returns to Scale and Law of Variable Proportions.

Cost: Traditional and Modern Costs Theory, Concepts and Costs curves in the short and in the long run. Revenue Curves and their relationship with elasticity of demand.

Market forms: Perfect Competition; Assumptions, Price and output determination of firm and Industry in Short run and Long run.

TERM-2

Monopoly: Assumptions, Equilibrium. Monopolistic Competition: Assumptions, Product differentiation, Selling costs, Excess capacity. Marginal Productivity Theory; Factor Pricing (with reference to labour) under Perfect Competition and Imperfect Competition, Modern Theory of Distribution. Rent: Concept; Ricardian Theory and Modern Theory of Rent. Interest: Concept of interest; classical theory, lonable funds theory. Profit: Concept of profit; Risk and uncertainity theories.

Submitted by
Dr. Moninder Kaur
Asst. Prof. in Economics

B.Sc. (Semester–I)

MATHEMATICS-I
Algerbra

TERM-1

1. Rank of a Matrix
2. Vector Space
3. Linear Equations
4. Eigen Values and Cayley- Hamilton Theorem
5. Quadratic Forms
6. Relation Between roots and coefficients.

TERM-2

1. Transformation of equations
2. Symmetric functions and Sum of integral power of roots.
3. Solution of cubic and biquadratic equations.
4. Decarte's rule of signs.

Submitted by
Honey
Asst. Prof. in Mathematics

B.Sc. (Semester–I)

MATHEMATICS-II
CALCULUS AND TRIGONOMETRY

TERM-1

1. Derivatives of Hyperbolic and inverse Hyperbolic Functions.
2. Successive Differentiation
3. Taylor's and Maclaurin's Theorem
4. Indeterminate forms
5. Introduction to De Moivre's Theorem
6. De Moivre's Theorem
7. Applications of De Moivre's Theorem

TERM-2

1. Properties of Real Numbers and Bounds.
2. Limit, continuity and uniform continuity.
3. Functions of a complex Variable.
4. Summation of Trigonometric Series.

Submitted by
Neetu Vinod, Honey
Asst. Prof. in Mathematics

B.Sc. (Semester–I)

QUANTITATIVE TECHNIQUES–I

TERM-1

- **Solution of Linear Equations:** Solution of Simultaneous Linear Equations (upto two variable cases), Application of Linear Equation in Economics; Solution of Quadratic Equations. Series: Arithmetic Progression Series, Geometric Progression Series and their applications in economics.
- Elements of Analytical Geometry, Difference between a constant and a variable.
- Elements of set theory, union, intersection, difference, symmetric difference, complementation, Venn diagrams.

TERM-2

- Concept of functions, classifications of functions, graph of linear and quadratic functions (Economic applications).
- Limit and continuity
- Concepts of combination and permutation,
- Derivatives (Excluding Trigonometric and Inverse Functions): Rules of derivatives; functions of functions rule; derivatives of implicit functions, parametric functions, exponential functions, logarithmic functions (Application in Economics).

Submitted by
Ravneet Arora, Shalini
Asst. Prof. in Economics

B.Sc. (Semester–I)

COMPUTER SCIENCE

TERM-1

1. Introduction to computer and its uses: milestones in hardware and software. Batch oriented/Online/real time application.

2. Computer as a system: basic concepts: stored programs, functional units and their inter–relation: communication with the computer.

3. Input/Output devices: Key–tape/diskette devices, light pen mouse and joystick, source data automation (MICR, OMR, and OCR), screen assisted data entry; portable/hand held terminals for data collection, vision input system.

4. Printed output: Serial, line, page, printers; plotters, visual output; voice response units.

5. Introduction to Windows based operating system and Desktop icons

6. MS–Office: Introduction to Word, Introduction to Parts of Word Window (Title Bar, Menu Bar, Tool Bar, The Ruler, Status Area), Page Setup, Creating New Documents, Saving Documents, Opening an Existing documents, insert a second document into an open document, Editing and formatting in document, Headers and Footers, Spell Checking, Printing document, Creating a Table Using the Table Menu and table formatting, Borders and Shading, Templates and Wizards, Mail Merge

TERM-2

1. Data storage devices and media: primary storage: storage addressed, and capacity, type of memory: secondary storage; magnetic tape – data representation and R/W: magnetic disc, fixed & removable, data representation and R/W, floppy disc drives, Winchester disc drive, conventional disc drives, Data organization, Compact Disc.

2. MS Power Point: Introduction to MS Power point, Power point elements, Templates, Wizards, Views, Exploring Power Point Menu, Working with Dialog Boxes, Adding Text, Adding Title, Moving Text Area, Resizing Text Boxes, Adding Art, Starting a New Slide, Starting Slide Show, Saving presentation; Printing Slides, Views (View slide sorter view, notes view, outlines view) Formatting and enhancing text formatting, Creating Graphs (Displaying slide show and adding multi–media)

Submitted by
Kawaljit Kaur, NT2
Asst. Prof. in Computer Science

B.Sc. (Semester–I)

Drug Abuse: Problem, Management and Prevention

PROBLEM OF DRUG ABUSE

TERM-1

Meaning of Drug Abuse:
Meaning, Nature and Extent of Drug Abuse in India and Punjab.
Consequences of Drug Abuse for:
Individual: Education, Employment, Income.
Family : Violence.
Society : Crime.
Nation : Law and Order problem.
Management of Drug Abuse:
Medical Management: Medication for treatment and to reduce withdrawal effects.

TERM-2
Psychiatric Management: Counselling, Behavioural and Cognitive therapy.
Social Management: Family, Group therapy and Environmental Intervention.

Submitted by
Rupinder Kaur
Asst. Prof. in Environmental Studies

B.Sc. (Semester–III)

ENGLISH COMPULSORY

TERM-1

English Grammar in Use (Units 98–125)

Making Connections (Unit -1)

Moments in Time (Poems 1-5)

TERM-2

English Grammar in Use (Units 126–145)

Making Connections (Unit -2)

Moments in Time (Poem no. 6)

Submitted by:
Deepika Khanna
Asst. Prof. in English

B.Sc. (Semester–III)

PUNJABI (COMPULSORY)
ਪੰਜਾਬੀ (ਲਾਜ਼ਮੀ)

ਪਹਿਲੀ ਟਰਮ

1. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਵਾਰਤਕ (ਸੰਪਾ ਡਾ, ਗੁਰਬਚਨ ਸਿੰਘ ਤਾਲਿਬ, ਪੰਜਾਬੀ ਸਾਹਿਤ ਪ੍ਰਕਾਸ਼ਕ, ਅੰਮ੍ਰਿਤਸਰ)
   (ਸਾਰ, ਵਿਸ਼ਾ-ਵਸਤੂ ਤੇ ਕਲਾ- ਪੱਖ)
2. ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਇਕਾਂਗੀ (ਇਕਾਂਗੀ ਸੰਗ੍ਰਹਿ)

੧.	ਸੁਹਾਗ	ਆਈ.ਸੀ.ਨੰਦਾ
੨.	ਨਵਾਂ ਚਾਨਣ	ਹਰਚਰਨ ਸਿੰਘ
੩.	ਅੰਨ੍ਹੇ ਨਿਸ਼ਾਨਚੀ	ਅਜਮੇਰ ਔਲਖ
੪.	ਅਰਮਾਨ	ਜਤਿੰਦਰ ਬਰਾੜ
੫.	ਚਾਬੀਆਂ	ਆਤਮਜੀਤ ਸਿੰਘ

3. ਸੰਖੇਪ ਰਚਨਾ (ਪ੍ਰੈਸੀ)
4. ਦਿੱਤੇ ਪੈਰੇ ਵਿੱਚੋ ਅਸ਼ੁੱਧ ਸ਼ਬਦ ਜੋੜਾਂ ਨੂੰ ਸ਼ੁੱਧ ਕਰਨਾ
5. ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਬੋਧ
   ਭਾਵੰਸ਼, ਸ਼ਬਦ, ਵਾਕੰਸ਼

ਦੂਜੀ ਟਰਮ

1. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਵਾਰਤਕ
   ਵਤਨ ਦਾ ਪਿਆਰ, ਮਨ ਦੀ ਮੌਜ, ਬੁੱਲੇ ਸ਼ਾਹ ਦੀ ਕਾਵਿ ਕਲਾ, ਸੜਕ ਪਾਰ ਕਰਦਾ ਬੁਢਾਪਾ
   (ਸਾਰ, ਵਿਸ਼ਾ-ਵਸਤੂ ਤੇ ਕਲਾ- ਪੱਖ)
2. ਚੋਣਵੇਂ ਪੰਜਾਬੀ ਇਕਾਂਗੀ (ਇਕਾਂਗੀ ਸੰਗ੍ਰਹਿ)
   ਮਿਟੀ ਦਾ ਬਾਵਾ ਪਾਲੀ ਭੁਪਿੰਦਰ
3. ਸੰਖੇਪ ਰਚਨਾ
4. ਪੰਜਾਬੀ ਭਾਸ਼ਾ ਬੋਧ
   ਉਪਵਾਕ, ਵਾਕ

Submitted by:
Maninder Kaur
Asst. Prof. in Punjabi

B.Sc. (Semester–III)

ECONOMICS
MACRO ECONOMICS

TERM-1

Distinction between Micro and Macro Economics; Determination of Income and Employment :

Classical and Keynesian models; Say's Law of Market and aggregate demand and aggregate supply.

Consumption functions; average (short-run and long run) and marginal propensity to consume; static and dynamic multipliers.

Investment: Meaning, Demand schedules and factors affecting investment decision. Marginal

Efficiency of Capital. Accelerator, multiplier-accelerator interaction.

Inflation: Concept, Causes and cures. Inflation-unemployment Trade-off (only Phillips' contribution).

Macroeconomic Policies: Fiscal policy – meaning, objectives and instruments.

Monetary policy – meaning, objectives and instruments.

TERM-2

Trade cycles-meaning, characteristics and phases. Samuelson and Hicks Models of trade cycles.

Money: Its functions and role. Money and Capital Markets (Introductory). Quantity Theory of Money. Fisher's and Cambridge's equations. Liquidity preference theory.

Banking: Definitions of banks. Credit creation and credit control.

Submitted by
Jasimeen Kaur
Asst. Prof. in Economics

B.Sc. (Semester–III)

MATHEMATICS-I
ANALYSIS

TERM-1

1. Riemann Integration
2. Improper Integrals
3. Beta and Gamma Functions
4. Sequences

TERM-1

1. Infinite Series

Submitted by:
NT
Asst. Prof. in Mathematics

B.Sc. (Semester–III)

MATHEMATICS-II
ANALYTICAL GEOMETRY

TERM-1

1. Change of origin
2. Pair of straight lines
3. Parabola
4. Sphere
5. Intersection of three planes
6. Change of axis.

TERM-2

1. Ellipse
2. Hyperbola
3. The General equation of second degree

Submitted by:
Honey, NT
Asst. Prof. in Mathematics

B.Sc. (Semester–III)

QUANTITATIVE TECHNIQUES–III

TERM-1

Differentiation: Maxima and Minima of Functions, Partial derivatives, Higher order partial Derivatives.
Matrices: Definition, Types, Addition, Subtraction and Multiplication of Matrices, Scaler Multiplication, Transposition, Determinants and their Properties, Minors and Co-factors, Rank of a Matrix, Inverse of a Matrix, Crammer's Rule for Solution of Simultaneous system of equations. Applications of matrices in economics.
Linear Programming: Formulation of problem, Assumptions, Graphical solution, Simplex Method. Use of Artificial Variables, Dual Simplex method.

TERM-2

Integration (Excluding Trigonometric and Inverse Functions): Indefinite Integrals; Integration by Partial Fractions; Integration by substitution; Integration by parts; Definite Integrals. Application of Integration in Consumer Surplus and Producer Surplus.

Input-Output Analysis: Basic concepts, Input-Output tables for closed and open economies, Leontief Basic Input-Output Model, Simple Applications of Input-Output Analysis.

Submitted by:
VijayLaxmi
Asst. Prof. in Mathematics

Shalini
Asst. Prof. in Economics

B.Sc. (Semester–III)

COMPUTER SCIENCE
COMPUTER ORIENTED NUMERICAL AND STATISTICAL METHODS

TERM-1

Introduction:
1 Numerical methods, Numerical methods versus numerical analysis, Errors and Measures of Errors.
2 Non-linear Equations, Iterative Solutions, Multiple roots and other difficulties, Interpolation
methods, Methods of bisection, False position Method, Newton Raphson-method.
3 Simultaneous Solution of Equations, Gauss Elimination Method Gauss Jordan method. Gauss
Siedel Method, Matrix Inversion Method.

Numerical differentiation by Polynomial Fit Statistical Techniques
1 Measure of Central Tendency, Preparing frequency distribution table, Mean Arithmetic, Mean geometric, Mean harmonic, Mean median Mode.
2 Measure of dispersion, Skewness and Kurtosis Range, Mean deviation, Standard deviation, co-efficient of variation, Moments Skewness Kurtosis.

TERM-2

Interpolation and Curve Fitting, Lagrangian Polynomials, Newtons Methods: Forward Difference Method, Backward Difference Method Divided Difference Method.
5 Numerical Integration and Different Tryaperzoidal Rule, Simpson's 1/3 Rule Simpson's 3/8 Rule.

1. Correlation Bivariate Distribution Multivariate distribution.
2. Regression B.C., Linear Regression, Multiple Regression.
3. Trend Analysis least square fit linear trend, Non-linear trend
Y=axb
Y=abx
Y=acx
Polynomial fit: Y=a+alX+ea^2x2+a^nxn+n

Submitted by
Divya Gupta
Asst. Prof. in Computer Science

B.Sc. (Semester–V)

ENGLISH COMPULSORY

TERM-1

1. Poems of Nature and culture (S.No.1,3,4,6,7,8,10,14,15,16,18,19)
2. Full reading of the Play ALL MY SONS
3. Report Writing
4. Resume Writing

TERM-2

1. Poems of Nature and culture (S.No.20,21,22,23)
2. Business Letters
3. Application Writing

Submitted by:
NT
Asst. Prof. in English

B.Sc. (Semester–V)

PUNJABI (COMPULSORY)
ਲਾਜ਼ਮੀ ਪੰਜਾਬੀ

ਪਹਿਲੀ ਟਰਮ

1. ਚੋਣਵੀਆਂ ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ

ਨਿਯੂ ਯੀਅਰ, ਥਕੇਵਾਂ, ਸੈਂਰੀ, ਅਰਜਨ ਛੇੜ ਗਡੀਰਨਾ, ਹਰਖ ਸੋਗ, ਖੂਹ ਖਾਤੇ,
(ਵਿਸ਼ਾ ਵਸ਼ਤੂ ਲੇਖਕ ਦਾ ਜੀਵਨ ਤੇ ਰਚਨਾ/ਸਾਰ/ਪਾਤਰ ਚਿਤਰਨ (ਦੋ ਵਿਚੋ ਇਕ)

2. ਨਾਵਲ : ਏਹੁ ਹਮਾਰਾ ਜੀਵਣਾ (ਦਲੀਪ ਕੌਰ ਟਿਵਾਣਾ)
(ਸਾਰ/ ਵਿਸ਼ਾ ਵਸਤੂ/ਪਾਤਰ ਚਿਤਰਨ (ਦੋ ਵਿਚੋ ਇਕ)

3. ਵਿਆਕਰਣ: (ਓ) ਧੁਨੀ ਵਿਓਂਤ
(ਅ) ਕਾਰਕ ਤੇ ਕਾਰਕੀ ਸੰਬੰਧ

4. ਪੈਰਾਂ ਰਚਨਾ,ਅੰਗਰੇਜ਼ੀ ਪੈਰੇ ਦਾ ਪੰਜਾਬੀ ਵਿਚ ਅਨੁਵਾਦ।

ਦੂਜੀ ਟਰਮ

1. ਚੋਣਵੀਆਂ ਪੰਜਾਬੀ ਕਹਾਣੀਆਂ

ਏਕਲਵਯ, ਹਜ਼ਾਰ ਕਹਾਣੀਆਂ ਦਾ ਬਾਪ, ਰਾਹੂ ਕੇਤੁ, ਸ਼ੀਸ਼ਾ (ਵਿਸ਼ਾ ਵਸਤੂ, ਸਾਰ, ਪਾਤਰ ਚਿਤਰਨ,
ਲੇਖਕ ਦਾ ਜੀਵਨ ਤੇ ਰਚਨਾ)

2. ਵਿਆਕਰਣ: ਵਾਕਾਤਮਕ ਜੁਗਤਾ : ਮੇਲ ਤੇ ਅਧਿਕਾਰ

ਪਰਾਂ ਰਚਨਾ, ਅੰਗਰੇਜ਼ੀ ਪੈਰੇ ਦਾ ਪੰਜਾਬੀ ਵਿਚ ਅਨੁਵਾਦ।

Submitted by:
Harpreet Kaur
Asst. Prof. in Punjabi

B.Sc. (Semester–V)

ECONOMICS OF DEVELOPMENT

TERM-1

Economic Development: Meaning and Measurement, Economic and Non-Economic Factors,
Nature of Underdevelopment, Characteristics of Undeveloped Countries. Human Development
Index, Concept of Sustainable Development.

Dualism: Social and Technological Dualism, Lewis Model of Unlimited Supply of Labour, Problems of Unemployment and Disguised Unemployment.

Capital Formation – Meaning and Sources. Choice of Technique, Role of Planning in Under Developed Countries, Need, Objective, Strategy, Types and Problems of Planning.

Models of Growth: Classical, Marxian and Schumpeter's,

TERM-2

Models of Growth: Harrod-Domar and Solow's Growth Models.
Rostow's Stage Theory, Strategies of Economic Development-Balanced vs. Unbalanced Growth;
Theory of Big Push; Libenstrein's Critical Minimum Efforts Thesis, Export Promotion and Import Substitution.

Submitted by:
Jaismeen Kaur
Asst. Prof. in Economics

B.Sc. (Semester–V)

MATHEMATICS
PAPER–I: DYNAMICS

TERM-1
Rectilinear motion in a starlight line with uniform acceleration, Newton's laws of motion. Motion of two particles connected by a string. Motion along a smooth inclined plane. Variable acceleration. Simple Harmonic Motion. Curvilinear motion of particle in a plane, Definition of velocity and acceleration, projectiles

TERM-2
Oscillations: Free Vibrations, Simple Pendulum, Conical Pendulum. Work, Power and Energy: Kinetic and Potential energy, Conservative forces. Theorem of conservation of energy. Work done against gravity.

Submitted by:
Neetu Vinod
Asst. Prof. in Mathematics

B.Sc. (Semester–V)

MATHEMATICS
PAPER–II: NUMBER THEORY

TERM-1

The division algorithm, The greatest common divisor, least common multiple, The Euclidean alogrithm, The Diophantine equation $ax + by = c$ Prime numbers and their distribution, The fundamental theorem of arithmetic, Basic properties of congruences, Linear congruences, Special divisibility tests. Chinese remainder theorem, The Fermat's theorem, Wilson's theorem functions, Mobius Inversion formula, Greatest integer function

TERM-2

Euler's Phi function, Euler's theorem, some properties of the Phi Function.

Submitted by:
Honey
Asst. Prof. in Mathematics

B.Sc. (Semester–V)

QUANTITATIVE TECHNIQUES–V

TERM-1

Statistical Inference: Point & Interval Estimation; Properties of a Good Estimator, Maximum Likelihood Method of Estimation, its applications for Binomial, Poisson and Normal distributions. Basic Concepts of Null and Alternative Hypotheses, Types of Errors; One Tailed and Two Tailed Tests, Power of Test, Critical Region.

Tests of significance based on normal deviate (Z), T, Chi square and F statistics.

Analysis of Variance: Introduction, Assumptions, Techniques of Analyzing Variance, Analysis of Variance of one-way and two-way classified data.

TERM-2

Sampling Distributions: Derivation of properties of Z, T, Chi Square and F distributions.

Submitted by:
Harpreet Kaur Uppal
Asst. Prof. in Economics

B.Sc. (Semester–V)

COMPUTER SCIENCE
DATA BASE MANAGEMENT SYSTEM & ORACLE

TERM-1

Introduction to database management system, components of DBMS, ER. Diagrams, Data Description Language, Data Manipulation Language, SQL.
Data Models, Hierarchical Model, Network Model and Relational Model, Relational Databases.
Relational Algebra and Calculus Normalisation.
Database Security, Protection, Integrity, Recovery, Concurrency, Control, Decomposition.
Distributed Databases, Knowledge Base/Expert Systems and Object Oriented Databases.

TERM-2

Introduction to PL/SQL.
Cursors – Implicit & Explicit.
Procedures, Functions & Packages.
Database Triggers. Introduction to Oracle 10 SQL – DDL, DML, DCL.
Join methods & Sub query, Union, Intersection
Built in Functions, View Security amongst users, Sequences, indexing object Features of Oracle 10.

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