BANGALORE UNIVERSITY

THREE YEAR UNDERGRADUATE PROGRAMME

(Courses effective from Academic Year 2014-15)

SYLLABUS OF COURSES TO BE OFFERED

Foundation Course: **Environment and Public Health**

Overview

The physical environment in which people live is an important determinant of health. At certain levels of exposure, contaminants in our air, water, food and soil can cause a variety of adverse health effects. Environmental health is a component of the public health system and is committed to protecting the health of the public and enhancing quality of life by assessing, correcting, controlling, and preventing those factors in the environment that can adversely affect human health. The prevention of injury, disease and death that may result from interactions of people with their environment is the goal of the environmental health program. Responsible citizens owe it to our government to keep the environment pristine as much as possible. Our per capita energy consumption also has to match the energy demands for sustainable development. The curriculum aims at providing solutions to some of the grand challenges facing the nation.

Objectives and Expected outcome

- Awareness of public health hazards posed by our environment, including physical features such as global warming, chemical features such as automobile emissions, contaminants in drinking water, and biological features such as putrefying organic matter.
- Impact of governmental policies and urbanization on degradation of the environment.
- Education, public- private partnership, corporate social responsibility (CSR) and change in management as way forward towards improving the Public Health thresholds.
- Educating the students on environmental policies with respect to water, air, forest and wildlife of the country.

Every Semester, teaching will be spread over 16 weeks including two weeks for review.

BANGALORE UNIVERSITY

FOUNDATION COURSE CBSS SYLLABUS FOR ALL UNDER GRADUATE PROGRAMME

EPH: ENVIRONMENT AND PUBLIC HEALTH

General Course: UG
Course Structure: CBSS
Course: Foundation Course
Code Course Title: EPH :**Environment and Public health**

Scheme of Examination and Credits
Foundation Course (I.II.III and IV Sem)

Paper No	Title of the paper	Type of paper	Hour/ week	Duration of exam in hrs	Exam Marks	IA Marks	Total Marks	Credits
EPH	**Environment and Public health**	**T**	**3**	**3**	**70**	**30**	**100**	**1**
	Total marks and credits for I Sem						**100**	**1**

Scheme of Internal Assessment

Marks assigned	30
Tests	10
Assignments/Field work	15
Attendance	05

The internal assessment marks shall be based on tests, assignments/field work and attendance

CBSS SYLLABUS FOR ENVIRONMENT AND PUBLIC HEALTH

1 Credits/Week= 3hrs/Week, 40hrs/semester 70 Marks

Unit I - Linkages between Environment and Health Hours

Understanding linkages between Environment and Public Health: Effect of quality of air, water and soil on health. Perspective on Individual health: Nutritional, socio-cultural and developmental aspects, Dietary diversity for good health; Human developmental indices for public health.

06

Unit II - Climate Change and Implications on Public Health

Global warming - Agricultural practices (chemical agriculture) and Industrial technologies (use of non-biodegradable materials like plastics, aerosols, refrigerants, pesticides); Manifestations of Climate change on Public Health- Burning of Fossil fuels , automobile emissions and Acid rain.

08

Unit III – Diseases in Contemporary Society

Definition- need for good health- factors affecting health. Types of diseases - deficiency, infection, pollution diseases- allergies , respiratory, cardiovascular, and cancer Personal hygiene- food - balanced diet. Food habits and cleanliness, food adulterants, avoiding smoking, drugs and alcohol.

Communicable diseases: Mode of transmission -epidemic and endemic diseases. Management of hygiene in public places - Railway stations, Bus stands and other public places. Infectious diseases: Role of sanitation and poverty case studies on TB, diarrhea, malaria, viral diseases .Non-communicable diseases: Role of Lifestyle and built environment. Diabetes and Hypertension.

10

Unit IV - Perspectives and Interventions in Public Health

Epidemiological perspectives — Disease burden and surveillance; Alternative systems of medicine - Ayurveda, Yoga, Unani, Siddha and Homeopathy (AYUSH); Universal Immunization Programme (UIP); Reproductive health-Youth Unite for Victory on AIDS (YUVA) programme of Government of India. Occupational health hazards-physical-chemical and biological. Occupational diseases- prevention and control.

08

Unit V - Environmental Management Policies and Practices

Municipal solid waste management: Definition, sources, characterization collection and transportation and disposal methods. Solid waste management system in urban and rural areas. Municipal Solid waste rules.

Policies and practices with respect to Environmental Protection Act, Forest Conservation Act, Wild life protection Act, Water and Air Act, Industrial, Biomedical and E waste disposal rules.

08

Assignment /Field Work

- Examining local cuisines for dietary diversity.
- Examining National Health Survey data e.g. National Family Health Survey, Annual Health surveys.
- Survey of Immunization coverage in a particular area.
- To establish if there is a relation between GDP and life expectancies/Health parameters.
- Survey of Respiratory allergies.
- Examining household/institutional/market/neighborhood wastes and their disposal mechanism.
- Survey of households along the Arkavathi and Cauvery River for life expectancy and common ailments and diseases.
- Determine the extent of use of paper and suggest means of reducing the use of paper and paper products.
- Documentation of festival/fasting and mapping of agro-ecological cycles.
- Definitions of poverty - Governmental policies on poverty mitigation - facts and fiction.
- Health indicators vis- a-vis income groups.
- Deforestation and flooding - myth or fact?
- Smoking and Lung Cancer
- Estimation of water-demands of a city/town.
- Adapting water-harvesting technology - survey, sustainability.

- Quantitative relation between bio-resource and consumer products - bathing soap, paper, furniture & construction as related to trees.
- Differential access to water - demand and actual access.
- Transport losses in water supply.
- Storage losses in food grain.
- Study of sewage treatment plants.
- Social perspective - child-health and small scale industries.
- Document infant immunization.
- Studying effective programme implementation - Reproductive health.
- Opportunities of physical activities in neighborhood - Study of built environment - Land-use pattern in Urban Settlements.
- Air quality in Delhi.
- Changing transport means in Delhi - CNG.
- Rituals and environmental pollution e.g. water, noise, air.
- Dialogue with doctors and paramedics.
- Methods of consultation of doctors.
- Population pressure/growth and resource degradation.
- Nutritional disorders/deficiencies in different populations groups-surveys.
- Compose and enact street plays. Create posters/ audio-video materials/ greeting cards highlighting environmental issues.
- Collecting information on medicinal plants.
- Collecting information from elders and other prominent persons.
- Occupational hazards and health issues.
- Water-borne diseases - exacerbation by irrigation projects.
- Alternate medicines - use of therapies for different diseases categories.
- Lifestyle diseases.
- Pollutants in air/water/soil and their effect on health.
- FDI in specific manufacturing Industries and local health problems.
- Differential pricing policy of petroleum products and environmental pollution - case studies.
- Wildlife Protection Act - case studies.
- Bhopal Gas Tragedy- Science, Laws and Public Health
- Changing Human Development Indices over time – in India/other countries.
- Supply, demand and gap filling –role of ground water

References

1. Indian Academy of Paediatrics. (2011). *Guidebook on Immunization.* mfc bulletin, 45-50.
2. Nandini N, Sunitha N. and Sucharita Tandon, (2007), Environmental Studies, Sapna Book House, Bangalore
3. Michel, Mckinney, Robert and Logan (2007). Environmental Science – Systems & Solutions. Jones & Barlett Publishers, Canada.
4. Minkoff, E., & Baker, P. (2003). *Biology Today: An Issues Approach* (3 ed.).
5. Park, K. (2011). *Preventive and Social Medicine.* Benarsi Das Publications, (pp. 16- 19,24-27).
6. Public Health Nutrition in Developing Countries Part-2). Wood head Publishing India.
7. Sadgopal, M., & Sagar, A. (2007, July-September). Can Public Health open up to the AYUSH Systems and give space for People's views of health and disease?.
8. Sekhsaria, **P.** (2007). Conservation in India and the Need to Think Beyond 'Tiger vs. Tribal'. *Biotropica, 39(5),* 575-577.
9. Tyler Miller and Scott E. Spoolman 'Environmental Science' (2012) 13th edition First Indian Reprint Chapters 14-17 (total pages 108) Cengage Learning, New Delhi. www.cengage.co.
10. UNDP. (2013). The Human Development Report, The Rise of the South: HumanProgress in Diverse World. New York: UNDP, (also available in Hindi),
11. Wani, M., & Kothari, A. (2007, July 15). Protected areas and human rights India: the impact of the official conservation model on local communities. *Policy Matters*, 100-114.

E-resources:

1. www.traditionalmedicine.nic.in
2. www.moef.nic.in
3. www.iucn.org/india/
4. www.who.int
5. www.wwfindia.org
6. www.unep.org

BANGALORE UNIVERSITY

REGULATIONS, SCHEME AND SYLLABUS

For the course

I to VI Semesters

BACHELOR OF COMPUTER APPLICATIONS

(BCA)

(Choice Based Credit System (Semester Scheme) –Y2K14 Scheme)

Revised w.e.f.

Academic Year 2014-2015 and onwards

Regulations, Scheme of study and Examination for BCA Degree Course
Under Choice Based Credit System - Semester System (Y2K14 SCHEME)
(Revised w.e.f. 2014 -2015)

R 1. a) Title of the course: **Bachelor of Computer Applications**

b) Duration of the Course: Durations of the undergraduate programmes shall extend over FOUR semesters (TWO academic years) for the Associate Degree(Advance Diploma), SIX semesters (Three academic years) for the regular Bachelor Degree.

c). Scheme of study:

i) There shall be five theory papers and two practical from first semester to fourth semester.

ii) There will be five theory, two practical and one project in fifth semester. There will be four theory, one practical and one project in sixth semester.

iii) The project work shall be carried out either independently or jointly (maximum of three students)

iv) Medium of Instruction: The medium of instruction shall be English.

d) Scheme of Examination:

At the end of each semester there be University Examination of three hours duration in each of the theory paper/practical.

R. 2. Each semester shall be of 4 months duration

R. 3. Attendance: As per Bangalore University regulations I n force for science degree courses.

R. 4. A Candidate is allowed to carry over all the previous uncleared (failed) theory papers/Practical to subsequent semesters as per Bangalore University regulations in force for science degree courses.

R. 5. The maximum period for completion of the course shall be six years form the date of admission.

R. 6. Eligibility for admission:

a) A candidate who has passed the two years Pre-University Examination conducted by the Pre-University Education Board in Karnataka

b) A candidate who has passed JODC / Three years Diploma in Engineering of Government of Karnataka or any other examination considered as equivalent thereto shall be eligible for admission.

a) Any student who has passed PUC –II Science, Arts or Commerce securing a minimum of 35% OF MARKS

OR

b) Any student who has passed JODC or Diploma in Engg. (of three year duration of Govt. of Karnataka) with minimum of 35% of marks in aggregate in all the semester /years.

R. 7. Admission Procedure:

a) Through Counseling in respective colleges

b) 50% weight age for entrance test in respective colleges

c) 50% weight age for performance at qualifying examination.

d) Merit list shall be prepared based on item No, 7(b) and 7(c)

e) Reservation: As per the notification /Govt. orders form the University /Govt. from time to time.

f) Tuition and other fees: As fixed by the University from time to time

R8. The total number of students to be admitted to the course shall be decided by the University.

R9. Results: Results of candidate shall be declared and the classes awarded as per the procedure followed by the University for B.Sc. Courses.

R10. POWER TO REMOVE DIFFICULTIES

1) If may difficulty arises in giving effect to the provisions of these regulations, the Vice-Chancellor may be order make such provisions not inconsistent with the Act, Statutes, Ordinances or other Regulations, as appears to be necessary to expedient to remove the difficulty.

2) Every order made under this shall be subject to rectification by the appropriate University Authorities.

Title of Papers and Scheme of Study & Examination for BCA (Bachelor of Computer Applications) Under Choice Based Credit System - Semester System (Revised w.e.f. 2014-2015)

Semester	Part	Paper Code	Title of the paper	Hours / Week	Marks			Credits	
					IA	Exam	Total	Subject	Semester
I	Part - 1	BCA101T	Indian Language	4	20	80	100	2	16
		BCA102T	English	4	20	80	100	2	
	Part – 2	BCA103T	Problem Solving Techniques using C	4	30	70	100	2	
		BCA104T	Digital Electronics	4	30	70	100	2	
		BCA105T	Discrete Mathematics	5	50	100	150	3	
		BCA103P	C Programming Lab	3	15	35	50	1	
		BCA104P	Digital Electronics Lab	3	15	35	50	1	
	Part – 3	-	Foundation Course	3	30	70	100	2	
		-	CC & EC		50		50	1	
II	Part – 1	BCA201T	Indian Language	4	20	80	100	2	16
		BCA202T	English	4	20	80	100	2	
	Part - 2	BCA203T	Data structures	4	30	70	100	2	
		BCA204T	Database Management System	4	30	70	100	2	
		BCA205T	Numerical and Statistical Methods	5	50	100	150	3	
		BCA203P	Data Structures Lab	3	15	35	50	1	
		BCA204T	DBMS Lab	3	15	35	50	1	
	Part - 3	-	Foundation Course	3	30	70	100	2	
		-	CC & EC	-	50	-	50	1	
III	Part - 1	BCA301T	Indian Language	4	20	80	100	2	16
		BCA302T	English	4	20	80	100	2	
	Part - 2	BCA303T	Object Oriented Programming using C++	4	30	70	100	2	
		BCA304T	Financial Accounting and Management	4	30	70	100	2	
		BCA305T	Operating System	5	50	100	150	3	
		BCA303P	C++ Lab	3	15	35	50	1	
		BCA304T	Accounting Package Lab	3	15	35	50	1	
	Part - 3	-	Foundation Course	3	30	70	100	2	
		-	CC & EC	-	50	-	50	1	
IV	Part - 1	BCA401T	Indian Language	4	20	80	100	2	16
		BCA402T	English	4	20	80	100	2	
	Part - 2	BCA403T	Visual Programing	4	30	70	100	2	
		BCA404T	Unix Shell programming	4	30	70	100	2	
		BCA405T	Operation Research	5	50	100	150	3	
		BCA403P	Visual Programming Lab	3	15	35	50	1	
		BCA404T	UNIX Lab	3	15	35	50	1	
	Part - 3	-	Skill Development Course	3	30	70	100	2	
			CC & EC	-	50	-	50	1	

Semester	Part	Paper Code	Title of the paper	Hours / Week	Marks			Credits	
					IA	Exam	Total	Subject	Semester
V	Part - 2	BCA501T	Data Communication and Networks	4	50	100	150	3	20
		BCA502T	Software Engineering	4	50	100	150	3	
		BCA503T	Computer Architecture	4	50	100	150	3	
		BCA504T	Java Programming	4	30	70	100	2	
		BCA505T	Microprocessor and Assembly Language	4	30	70	100	2	
		BCA504P	Java Programming Lab	3	15	35	50	1	
		BCA505P	Assembly Language Programming Lab	3	15	35	50	1	
		BCA506P	Project	8	50	100	150	3	
	Part - 3	-	Skill Development Course	3	30	70	100	2	
VI	Part–2	BCA601T	Theory of Computation	4	50	100	150	3	20
		BCA602T	System Programming	4	50	100	150	3	
		BCA603T	Cryptography and Network Security	4	50	100	150	3	
		BCA604T	Web Programming	4	30	70	100	2	
		BCA604P	Web Programming Lab	3	15	35	50	1	
		BCA605P	Project Work	16	100	200	300	6	
	Part – 3	-	Skill Development Course	3	30	70	100	2	

FIRST SEMESTER BCA

BCA101T : INDIAN LANGUAGE

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA102T : ENGLISH

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA103T : PROBLEM SOLVING TECHNIQUES USING C

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to Programming Concepts: Software, Classification of Software, Modular Programming, Structured Programming, Algorithms and Flowcharts with examples. Overview of C Language: History of C, Character set, C tokens, Identifiers, Keywords, Data types, Variables, Constants, Symbolic Constants , Operators in C, Hierarchy of Operators, Expressions, Type Conversions and Library Functions.

[12 Hours]

Unit - II

Managing Input and Output Operation: Formatted and Unformatted I/O Functions, Decision making, branching and looping: Decision Making Statements - if Statement, if–else statement, nesting of if-else statements, else–if ladder, switch statement,?: operator, Looping - while, do-while, for loop, Nested loop, break, continue, and goto statements. Functions: Function Definition, prototyping, types of functions, passing arguments to functions, Nested Functions, Recursive functions.

[12 Hours]

Unit - III

Arrays: Declaring and Initializing, One Dimensional Arrays, Two Dimensional Arrays, Multi Dimensional Arrays - Passing arrays to functions. Strings: Declaring and Initializing strings, Operations on strings, Arrays of strings, passing strings to functions. Storage Classes - Automatic, External, Static and Register Variables.

[12 Hours]

Unit-IV

Structures-Declaring and Initializing, Nested structure, Array of Structure, Passing Structures to functions, Unions, typedef, enum, Bit fields. Pointers – Declarations, Pointer arithmetic, Pointers and functions, Call by value, Call by reference, Pointers and Arrays, Arrays of Pointers, Pointers and Structures. Meaning of static and dynamic memory allocation, Memory allocation functions.

[12 Hours]

Unit-V

Files - File modes, File functions, and File operations, Text and Binary files, Command Line arguments. C Preprocessor directives, Macros – Definition, types of Macros, Creating and implementing user defined header files.

[12 Hours]

TEXT BOOKS

1. E. Balaguruswamy, “Programming In ANSI C”, 4th edition, TMH Publications, 2007
2. Ashok N. Kamthane, “Programming with ANSI and Turbo C”, Pearson Education, 2006

REFERENCES BOOKS

1. Ashok N. Kamthane et. al., "Computer Programming and IT", Pearson Education, 2011
2. Mahapatra, " Thinking In C ", PHI Publications, 1998.
3. Yashwant Kanetkar, "Let Us C", 13th Edition, PHP, 2013.

BCA104T: DIGITAL ELECTRONICS

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to network theorems and AC fundamentals: Ohm's law: Statement, explanation. Kirchhoff's law: Statement & explanation of KCL and KVL. Mesh/loop analysis (up to 2 loops) and node voltage method, Numerical problems. Delta/star and star/Delta transformation: No derivation for Interco version equations, introduction of network, port of network (one port network, two port network), unilateral network, bilateral network, linear network. Need for application of network theorems. (DC Circuits only). Superposition theorem: statement, (only with TWO voltage sources) steps to apply the theorem explanation by considering a simple resistive network and problems. Thevenin's theorem: Statement, (Only with ONE voltage source) Steps to apply the theorem, explanation by considering a simple resistive networking and problems. Norton's theorem: Statement, (Only with ONE voltage source) steps to apply the theorem, explanation by considering a simple resistive network and problems. Maximum power transfer theorem: Statement, explanation of theorem by considering a simple resisting network, expression for maximum power deliver (P L (max) =Vth2/4Rth) (no derivation), graph of Vs Pl, numerical problems and applications. Reciprocity theorem, Statement, explanation using resistive network with dc source and numerical problems. AC Fundamentals: Representation of ac sine wave, instantaneous value, peak value, peak to peak value, average value, r.m.s value cycle, time period, frequency. (No derivations, only mention the expressions) Representation of non sinusoidal waves.

[12 Hours]

Unit - II

Semiconductor Devices: Introduction, atomic structure, energy level, energy band diagram in solids, classification of conductors, insulators and semiconductors. Semiconductor, properties, crystal structure of semiconductor, types – intrinsic and extrinsic semiconductor. Intrinsic semiconductor: Crystal structure (Ge& Si), thermal generated charges (electron and holes) carriers the effect temp on their motion. Extrinsic semiconductor: Doping, donor acceptor impurities, c-type, p-type semiconductor, majority and minority carriers, their currents, concept of immobile ions. Semiconductor devices : PN junction diode, formation of pn junction layer, potential barrier, energy level diagram of pn junction, Biasing of pn junction, behaviour of pn junction under forward and reverse biasing, break down in pn junction, avalanche and zener break down. Diode characteristics; V-I characteristic, forward and reverse bias, diode parameters, bulk resistance, knee voltage, static and dynamic resistance, PIV. Application of diode; As a rectifier, as logic gate, as a switch, etc. Rectifier, types, Half wave Full wave. Half wave rectifier: Circuit, working, wave forms and expression for ripple factor and efficiency (no derivation), advantages & disadvantages. Bridge wave rectifier: Circuit, working, wave forms and expressions for ripple factor and efficiently (no derivation), advantages & disadvantages. Logic families: Scale of integration, Digital IC's, classifications, DTL, TTL, ECL, MOS, CMOS, Mention of features: speed of operation, power dissipation, propagation delay, fan-in, fan-out. [12 Hours]

Unit – III

Number Systems: Introduction to number systems – positional and non-positional, Base /Radix. Decimal number system-Definition, digits, radix/base, Binary number system – Bit Byte, Conversions: Binary to Decimal and Decimal to Binary. Octal number system-Conversion from Octal to Decimal to Octal, Octal to Binary and binary to Octal. Hexadecimal number system –Conversion : Decimal to Hex, Hex to decimal, Hex to Binary, Binary to Hex, Octal to Hex, Hex to Octal, Binary, arithmetic –binary addition, subtraction, multiplication and division (only Integer part). 1's and 2's compliment: 2's complement subtraction. Binary code: BCD numbers, 8421 code, 2421 code- examples and applications. Gray code –Conversions-Gray to binary and Binary to Gray, application of gray code (Mention only). Excess-3 code – self complimenting property and applications. Definition and nature of ASCII code. Introduction to error detection and correction code, parity check. Boolean algebra:-Laws and theorems. AND, OR, NOT Laws, Commutative law, associative law, distributive law, Duality theorem. Demorgan's theorems-Statements, proof using truth tables; Simplification of Boolean expressions using Boolean laws. Definition of product term, sum term, minterm, maxterm, SOP, standard POS and Standard POS. Conversion of Boolean expression to Standard SOP and Standard POS forms. Karnaugh maps-Definition of Karnaugh map, K- map for 2, 3 and 4 variables. Conversion of truth tables into k-map grouping of cells, redundant groups and don't care conditions Karnaugh map technique to solve 3 variable and 4 variable expressions. Simplification of 3 and 4 variable Boolean expression using K-maps (SOP only)

[12 Hours]

Unit - IV

Logic Gates: AND Gate: Definition, symbol truth table, timing diagram, Pin diagram of IC 7408. OR Gate: Definition, symbol, truth table, timing diagram of IC 7432. NOT Gate: Definition symbol, truth table, timing diagram, Pin diagram of IC 7404. NAND Gate: Definition, symbol, truth table, Pin diagram of IC 7400, NOR Gate: Definition, symbol, truth table, timing diagram, Pin diagram of IC 7402. Exclusive OR Gate: Definition, symbol, truth table, timing diagram. Combinational logic circuits: Definition, applications. Half Adder: Symbol, Logic circuits using XOR and basic gates, Truth table, Full Adder: Symbol, Logic circuits using XOR and basic gates, Truth table, Half Subtractor: Symbol, Logic circuits using XOR and basic gates, Truth table. Full Subtractor: Symbol, Logic circuits using XOR and basic gates, Truth table. Adder – Subtractor; Logic circuit, Pin diagram IC 7483, IC 7486. Parallel Adder: 4 –bit parallel binary adder, BCD adder, IC 7483 NAND –NOR implementation of Adders.

[12 Hours]

Unit - V

Sequential Circuits: Importance of clock in digital circuit and introduction to flip flop. Flip –flop-difference between latch and flip-flop. Qualitative study of level and edge triggering. RS latch /unlocked, symbol and truth table. RS flip-flop using NAND gate, symbol, truth table and timing diagram. D flip –flop – Symbol, truth table, Realization of JK flip –flop using NAND gates, working, and timing diagram. Race around condition, present and clear inputs, pin diagram of IC 74112. T flip flop-Logic symbol, JK flip flop as a T flip –flop truth table and timing diagram. Master slave flip flop; Logic circuit, truth table and timing diagram, advantage of M/S flip-flop, pin diagram of IC 7473 IC 7476. Registers: Definition, types of registers-Serial in serial out, serial in parallel out, Parallel in serial out, Parallel in parallel our shift register (Block diagram representation for each), truth table, timing diagram and speed comparison.

[12 Hours]

Text Books:

1) Thomas L.Floyd ,''Digital Fundamentals", Peason Education Inc, New Delhi, 2003

Reference Books:

1) Morris Mano, "Digital Design", 5Th Edition, Prentice Hall, 2013
2) R.P.Jain, "Modern Digital Electronics", 3rd Edition, Tata Mc Graw Hill, 2003.
3) Bignell and Donovan, "Digital Electronics", 5th Edition, Thomson Publication, 2007.

BCA105T: DISCRETE MATHEMATICS

Total Teaching Hours: 65 No of Hours / Week: 05

Unit – I

Sets, Relations and Functions: Sets, Subsets, Equal Sets, Universal Sets, Finite and Infinite Sets, Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set, De-mogan's law, Simple Applications. Relations, Properties of Relations, Equivalence Relation, Function: Domain and Range, Onto, Into, One to One, one to many Functions, Composite and Inverse Functions. Mathematical Logic: Proposition and truth values, Logical Connectives and their truth tables, Converse, Inverse and Contrapositive, Tautology and Contradiction, Logical Equivalence – Standard Theorems, Switching Circuits.

[13 Hours]

Unit - II

Matrices: Review of fundamentals: Definition of matrix, order, Types of matrices: zero, row, column, square, diagonal, scalar, unit, symmetric, skew-symmetric. Determinant: Value of determinant of order 2x2, 3x3, minors, cofactors, adjoint, inverse of a matrix. Solutions of linear equations: Cramers rule and matrix method involving two and three variables. Eigen values and Eigenvectors: Characteristic equation, characteristic roots, characteristic vectors (without any theorems) only 2x2 order. Cayley Hamilton theorem. (Only statement), verification of Cayley Hamilton theorem (only 2x2 matrices), using the same finding the powers of A (A^4, A^5, A^{-1}, A^{-2}), Inverse of a Matrix using Cayley-Hamilton theorem.

[13 Hours]

Unit - III

Logarithms: Definition of Logarithm, Indices leading to Logarithms and vice versa, Laws of Logarithms with proofs, Problems, Common Logarithm: Characteristic and Mantissa, Use of Logarithmic Tables, Problems. Permutation and Combination: Fundamental Principle of Counting, Factorial n, Permutations: Definition, Examples, Derivation of Formula ${}^nP_r$, Permutation when all the objects are not distinct, Problems, Combinations: Definition, examples, Proving ${}^nC_r = {}^nP_r\ r!$, ${}^nC_r = {}^nC_{n-r}$, ${}^nC_r + {}^nC_{r-1} = {}^{n+1}C_r$, Problems based on above formulae.

[13 Hours]

Unit - IV

Groups: Binary operation, Define of group, properties (only statement), problems (both finite and infinite groups), subgroup, theorems (no proof), problems. Vectors: Definition of vector and scalar, vector addition, dot and cross product, projection of a vector on the other (no geometrical meaning), area of parallelogram, area of a triangle, scalar triple product, volume of parallelepiped, co planarity of three vectors, vector triple product.

[13 Hours]

Unit - V

Analytical Geometry in Two Dimensions: Coordinates, Distance formula, Section Formula, Area of the Triangle formula (no derivation), Locus of point. Straight Line: Slope of a line and angle between two lines, Various forms of equations of lines – Derivation and Problems. Equation of family of lines passing through the point of intersection of two lines, Distance of a point from line (only problems).

[13 Hours]

Text Books

1. Grewal, B.S.Higher engineering Mathematings, 36th Edition

Reference Books

1. Satyrs S.S, Engineering Mathematics.
2. Peter V.O'Neil. Advanced Engineering Mathematics, 5th Edition.

BCA103P: C PROGRAMMING LAB

PART – A

1) Write a C Program to find the roots of the given quadratic equation using if-else if statement.
2) Write a menu driven C program using switch-case to find: (a) Sum of the digits of number (b) Factorial of N.
3) Write a C program to find cos (x) using series $\cos(x) = 1 - x^2/2! + x^4/4! - \ldots\ldots\ldots x^n/n!$]
4) Write a Program to find whether a given number is prime number are not
5) Write a C program to arrange the given set of numbers in ascending and descending order.
6) Write a C program to find product of two N x M matrices.
7) Write a C program to calculate NCR= N!/ R! * (N-R)! Using function.
8) Write a C program to display Fibonacci series using recursive function.
9) Write a C program to concatenate two strings using pointers.
10) Write a C program to copy content of one file to another file.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA104P: DIGITAL ELECTRONICS LAB

1. Study of Logic Gates–AND, OR, NOT, NAND, NOR XOR (Using respective ICs)
2. Realization of AND, OR and NOT gates using Universal Gates.

3. Design and Realization of Half Adder/Subtracted using NAND Gates.
4. Design and Realization of Full Adder using Logic Gates.
5. Design and Realization of 4 bit Adder/Subtractor using IC 7483.
6. Design and Realization of BCD Adder using IC 7483.
7. Realization of J-K flip flop using IC 7400 and 7410.
8. Realization of T and D flip flop using IC 7476.
9. Implementation of PIPO Shift Registers using flip flops. (IC 7476).
10. Design and implementation of odd and even parity checker Generator using IC 74180.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

SECOND SEMESTER BCA

BCA201T: INDIAN LANGUAGE

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA202T: ENGLISH

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA203T: DATA STRUCTURES

Total Teaching Hours : 60 No of Hours / Week : 04

Unit-I

Introduction and Overview: Definition, Elementary data organization, Data Structures, data structures operations, Abstract data types, algorithms complexity, time-space tradeoff. Preliminaries: Mathematical notations and functions, Algorithmic notations, control structures, Complexity of algorithms, asymptotic notations for complexity of algorithms. String Processing: Definition, Storing Stings, String as ADT, String operations, word/text processing, Pattern Matching algorithms.

[12 Hours]

Unit-II

Arrays: Definition, Linear arrays, arrays as ADT, Representation of Linear Arrays in Memory, Traversing Linear arrays, Inserting and deleting, Sorting: Bubble sort, Insertion sort, Selection sort, Searching: Linear Search, Binary search, Multidimensional arrays,

Matrices and Sparse matrices.

[12 Hours]

Unit-III

Linked list: Definition, Representation of Singly linked list in memory, Traversing a Singly linked list, Searching a Singly linked list, Memory allocation, Garbage collection, Insertion into a singly linked list, Deletion from a singly liked list; Doubly liked list, Header liked list, Circular linked list.

[12 Hours]

Unit-IV

Stacks – Definition, Array representation of stacks, Linked representation of stacks, Stack as ADT, Arithmetic Expressions: Polish Notation, Application of Stacks, Recursion, Towers of Hanoi, Implementation of recursive procedures by stack. Queues – Definition, Array representation of queue, Linked list representation of queues Types of queue: Simple queue, Circular queue, Double ended queue, Priority queue, Operations on Queues, Applications of queues.

[12 Hours]

Unit-V

Graphs: Graph theory terminology, Sequential representation of Graphs: Adjacency matrix, traversing a Graph. Tree – Definitions, Binary trees, Representing binary trees in memory, Traversing Binary Trees, Binary Search Trees, Searching, Inserting and Deleting in a Binary Search Tree.

[12 Hours]

TEXT BOOKS

1. Seymour Lipschutz, "Data Structures with C", Schaum's outL*ines*, Tata McGraw-Hill, 2011.

REFERENCES BOOKS

1. Mark Allen Weiss, "Data Structures and Algorithm Analysis in C", Second Edition, Pearson Education, 2013.
2. Robert Kruse, C.L.Tondo, Bruce Leung, Shashi Mogalla, "Data Structures and Program Design using C", Pearson Education, 2009.
3. Forouzan, "A Structured Programming Approach using C", 2nd Edition, Cengage Learning India, 2008.

BCA204T : DATA BASE MANAGEMENT SYSTEMS

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: Database and Database Users, Characteristics of the Database Approach, Different people behind DBMS, Implications of Database Approach, Advantages of using DBMS, When not to use a DBMS. Database System Concepts and architecture: Data Models, Schemas, and Instances. DBMS Architecture and Data Independence., Database languages and interfaces. The database system Environment, Classification of DBMS.

[12 Hours]

Unit - II

Data Modelling Using the Entity-Relationship Model: High level conceptual Data Models for Database Design with and example., Entity types, Entity sets, attributes, and Keys, ER Model Concepts, Notation for ER Diagrams, Proper naming of Schema Constructs, Relationship types of degree higher than two. Record Storage and Primary File Organization: Secondary Storage Devices. Buffering of Blocks. Placing file Records on Disk. Operations on Files, File of unordered Records (Heap files), Files of Ordered

Records (Sorted files), Hashing Techniques, and Other Primary file Organization.

[12 Hours]

Unit - III

Functional Dependencies and Normalization for Relational Database: Informal Design Guidelines for Relational schemas, Functional Dependencies, Normal Forms Based on Primary Keys., General Definitions of Second and Third Normal Forms Based on Primary Keys., General Definitions of Second and Third Normal Forms, Boyce-Codd Normal Form. Relational Data Model and Relational Algebra: Relational Model Concepts., relational Model Constraints and relational Database Schema, defining Relations, Update Operations on Relations., Basic Relational Algebra Operations, Additional Relational Operations., Examples of queries in the Relational Algebra., Relational Database design Using ER-to-Relational Mapping.

[12 Hours]

Unit – IV

Relational Database Language: Data definition in SQL, Queries in SQL, Insert, Delete and Update Statements in SQL, Views in SQL, Specifying General Constraints as Assertions, specifying indexes, Embedded SQL. PL /SQL: Introduction.

[12 Hours]

Unit - V

Transaction Processing Concepts: Introduction, Transaction and System Concepts, Desirable properties of transaction, Schedules and Recoverability, Serializability of Schedules, Transaction Support in SQL, Locking Techniques for Concurrency Control, Concurrency Control based on time stamp ordering.

[12 Hours]

Text book:

1. Remez Elmasri and Shamkant B. Navathe, "Fundamentals of Database Systems", 5th Edition, Pearson Education, 2007.

References:

1. Abrahamsi. Silberschatz, Henry. F. Korth, S. Sudarshan, "Database System Concepts" 6th Edition, McGraw Hill, 2012.
2. C.J.Date, "Introduction to database systems", Eight Edition, Addison Wesley, 2003.

BCA205: NUMERICAL AND STATISCAL METHODS

Total Teaching Hours: 65 No of Hours / Week : 05

Unit - I

Floating-point representation and errors-Normalized floating-point forms, Errors in representing numbers, Floating point machine number and machine epsilon, Loss of significance and its avoidance. Roots of equations-locating roots of f(x)=0 Bisection method, Newton's method, Secant method.

[13 Hours]

Unit - II

Interpolation and numerical differentiation-polynomial interpolation, Lagrange and Newton form of interpolating Polynomial, Divided difference and recursive property, Inverse interpolation, First and Second derivative formulae via interpolation Polynomials. Numerical integration-Trapezoidal, Simpson's and adaptive Simpson rules.

[13 Hours]

Unit - III

System of linear equations-Gaussian elimination and back substitution-partial and complete pivoting, Doolittle, Cholesky and Crout LU decomposition methods, Jacobi and

Gauss – Seidel iterative methods. Power (and inverse power) method of obtaining largest (smallest) eigenvalue and corresponding eigenvector. Ordinary differential equations-initial value problem, Picard's, Taylor series, Runge-Kutta first, second and fourth order methods.

[13 Hours]

Unit – IV

Basics concepts and definition of statistics. Mean, Standard deviation, coefficient of Variation, skewness & kurtosis, Carl Pearson Correlation, Rank correlation and illustrated examples. Probability: Basic concept and definition of probability, probability axioms, Laws of Probability, Conditional probability, Bayes theorem , Problems and application.

[13 Hours]

Unit - V

Random variable and Expectation: Discrete and continuous random variables, expectation of random variables, theorems on expectation, illustrative examples. Probability Distribution: Probability function, Probability mass/density function, Discrete Distribution – Bernoulli, Binomial Distribution, Continuous distribution – Normal Distribution, applications and problems.

[13 Hours]

Text Books:

1. M.K.Jain, SRK Iyengar and R.K. Jain Numerical methods for Scientific and Engineering Computation: Wiley Eastern.
2. Ronald E Walpole & Raymond H Meyers : Probability & Statistics for Engineers and Scientists (Second Edition).

References

1. J.Medhi : Statistical Methods New Age Publications.
2. S.C.Gupta and V.K.Kapoor – Elements of Mathematics, Statistics, Sultan Chand and Sons.

BCA203P : DATA STRUCTURES USING C LAB

PART - A

1. Write a menu driven C program to perform the following string operations without using string functions: (i) String Length (ii) String Concatenation (ii) String Reverse
2. Write a C program to search for an element in an array using Binary search
3. Write a C program to sort a list of N elements using Selection Sort Algorithm.
4. Write a C program to construct a singly linked list and perform insertion, deletion and Display operations.
5. Write a C program to demonstrate the working of stack using liked list.
6. Write a C program for Towers of Hanoi problem.
7. Write a C program to find GCD of two numbers using recursion
8. Write a C program to convert infix arithmetic expression to post fix expression.
9. Write a C program to simulate the working of Circular Queue using an array.
10. Write a C program to create and traverse a binary search tree.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write two the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA304P: DATABASE MANAGEMENT SYSTEM LAB
PART - A

1. The STUDENT detail databases has a table with the following attributes. The primary keys are underlined. STUDENT(regno: int, name: string, dob: date, marks: int)

i) Create the above table.

ii) Remove the existing attributes from the table.

iii) Change the date type of regno from integer to string.

iv) Add a new attribute phoneno to the existing table.

v) Enter five tuples into the table.

vi) Display all the tuples in student table.

2. A LIBRARY database has a table with the following attributes.

LIBRARY(bookid:int, title:string, author:string, publication:string, yearpub:int, price:real)

i) Create the above table.

ii) Enter the five tuples into the table

iii) Display all the tuples in student table.

iv) Display the different publishers from the list.

v) Arrange the tuples in the alphabetical order of the book titles.

vi) List the details of all the books whose price ranges between Rs. 100 and Rs. 300

3. The SALARY database of an organization has a table with the following attributes.

EMPSALARY(empcod:int, empnamee:string, dob:date, department:string, salary:real)

i) Create the above table.

ii) Enter the five tuples into the table

iii) Display all the number of employees working in each dapartment.

iv) Find the sum of the salaries of all employees.

v) Find the sum and average of the salaries of employees of a particular department.

vi) Find the least and highest salaries that an employee draws.

4. Consider the insurance database given below. The primary keys are underlined and the data types are specified.

PERSON(driver-id-no: string, name: string, address:strong)

CAR(regno: string, model: string, year: int)

ACCIDENT(report-no: int, date: date, location: String)

OWNS(driver-id-no: string, regno: string)

PARTICIPATED(driver-id-no: string, regno: string, report-no: int, damage-amount: int)

i) Create the above tables by properly specifying the primary keys and the foreign keys

ii) Enter atleast five tuples for each relation.

iii) Demonstrate how you

   a) Update the damage amount for the car with a specific regno in the accident with report no 12 to 25000.

   b) Add a new accident to the database.

iv) Find total number of people who owned cars that were involved in accidents in 2002

v) Find the number of accidents in which cars belonging to a specific model were involved

5. Consider the following database of students enrollment in courses and books adopted for each course.

STUDENT(regno: string, name: string, major: strong, bdate: date)

COURSE(course-no: int cname: string, dept: string)

ENROLL(reg-no: string, course-no: int, sem: int, marks: int)

BOOK-ADOPTION(course-no: int, sem: int, book-isbn: int)

TEXT(book-isbn: int, book-title: string, publisher: string, author: string)

i) Create the above tables by properly specifying the primary keys and the foreign keys

ii) Enter atleast five tuples for each relation.

iii) Demonstrate how you add a new text book to the database and make this book be adopted by some department.

iv) Produce a list of text books (include Course-no, book-isbn, book-title) in the alphabetical order for courses offered by the ‘Compute Science’ department that use more than two books.

v) List any department that has all its adopted books published by a specific publisher.

6. The following tables are maintained by a book dealer

AUTHOR(author-id: int, name: string, city: string, country: string)

PUBLISHER(publisher-id: int name: string, city: string, country: string)

CATLOG(book-id: int, title : string, author-id: int, publisher-id: int, category: int, year: int, price: int)

CATEGORY(category-id: int, description: string)

ORDER-DETAILS(order-no: int, book-id: int, quantity: int)

i) Create above tables by properly specifying the primary keys and the foreign keys.

ii) Enter atleast five tuples for each relation.

iii) Give the details of the authors who have 2 or more books in the catalog and the price of the books is greater than the average price of the books in the catalog and the year of publication is after 2010.

iv) Find the author of the book which has maximum sales.

v) Demonstrate how to increase price of books published by specific publisher by 10%

7. Consider the following database for BANK.

BRANCH(branch-name: string, branch-city: string, assets: real)

ACCOUNT(accno: int, banch-name: string, balance: real)

DEPOSITOR(customer-name: string, accno: int)

CUSTOMER(customer-name: string, customer-street: string, customer-city: string)

LOAN(loan-no: int, branch-name: string, amount: real)

ORROWER(customer-name: string, loan-no: int)

i) Create the above tables by properly specifying the primary keys and foreign keys.

ii) Enter atleast five tuples for each relation.

iii) Find all the customers who have atleast two accounts at the main branch.

iv) Find all customer who have an account at all the branches located in a specific city.

v) Demonstrate how t0 delete all account tuples at every branch located in specific city.

8. Consider the following database for ORDER PROCEESING.

CUSTOMER(cust-no: int, cname: string, city: string)

ORDER(orderno: int, odate: date, ord-amt: real)

ORDER_ITEM(orderno: int, itemno:int, qty: int)

ITEM(itemno: int, unitprice: real)

SHIPMENT(orderno: int, warehouseno: int, ship-date: date)

WAREHOUSE(warehouseno: int, city: string)

i) Create the above tables by properly specifying the primary keys and the foreign keys

ii) Enter atleast five tuples for each relation.

iii) List the order number and ship date for all orders shipped from particular warehouse.

iv) Produce a listing: customer name, no of orders, average order amount

v) List the orders that were not shipped within 30 days of ordering

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 8 Programs has to be prepared).

Note :

a) The candidate has to write two the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.

b) A minimum of 8 Programs has to be done in Part-B and has to be maintained in the Practical Record.

c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

THIRD SEMESTER BCA

BCA301T: INDIAN LANGUAGE

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA302T: ENGLISH

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA303T: OBJECT ORIENTED PROGRAMMING USING C++

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction :Procedure Languages, definition of OOP, Basic concept of OOP, Object Class, Data Abstraction, Data Encapsulation, Data Hiding member functions , Reusability, Inheritance, Creating new Data Types, Polymorphism, Overloading , Dynamic binding and Message passing. C++ Features: The iostream class, C++ Comments, C++ Keywords, Variable declaration, The Const Qualifier. The Endl, Set Waste precision, Manipulators, The scope resolution operator, The new & delete Operations. Functions: Simple Functions, Function declaration, calling the function, function definition, Passing argument to, returning value from function, passing constants, Variables, pass by value , passing structure variables, pass by reference, Default arguments, return statements, return by reference, overloaded functions; Different number of arguments, Different Kinds of argument, inline function.

[12 Hours]

Unit - II

Objects & Classes: Classes & Objects, Class Declaration, Class member; Data Constructions, Destructors, Member functions, Class member visibility, private, public, protected . The scope of the class objects constructions, Default Constructor. Constructor with argument, constructor with default arguments, Dynamic constructor, copy constructor, Overloaded constructor, Objects as arguments returning objects from

functions, class conversion, manipulation private Data members, Destructors classes, object & memory, arrays as class member data: Array of objects, string as class member.

[12 hours]

Unit - III

Operator Overloading : Overloading unary operator: Operator Keyword, Operator arguments, Operator return value, Nameless temporary objects, limitations of increment operator, overloading binary operator, arithmetic operators, comparison operator, arithmetic assignment operator, data conversion; conversion between objects of different classes. Inheritance : Derived Class & Base Class: Specifying the Derived class accessing Base class members, the protected access specifier, Derived class constructor, Overriding member functions, public and private inheritance; Access Combinations, Classes & Structures, Access Specifiers, Level of inheritance; Multilevel inheritance, Hybrid inheritance, Multiple inheritance; member functions in multiple inheritance , constructors in multiple inheritance, Containership; Classes, within classes, Inheritance & Program development.

[12 Hours]

Unit - IV

Virtual functions: Normal member function accessed with pointers, Virtual member functions accessed with pointers, Dynamic binding, pure virtual functions, Friend function; Friends for functional notation, friend classes, the pointer; Accessing Member Data with this, using this for returning values. Templates & Exception Handling: Introduction, Templates, Class Templates, function templates, Member function templates, Template arguments, Exception Handling.

[12 Hours]

Unit V

Streams: The Stream class Hierarchy, Stream classes Header file, string I/O: Writing strings, reading strings, character I/O, Detecting End – of – file. Object I/O; writing an object to disk, reading an object from disk, I/O with multiple objects; the fstream class, The open function, File Pointers; Specifying the position, Specifying the offset. The tellg Function, Disk I/O with Memory Functions; Closing Files, Error Handling, Command Line Arguments.

[12 Hours]

Text books:

1. Lafore Robert, "Object Oriented Programming in Turbo C++", Galgotia Publications, 2012.

Reference:

1. Lippman, "C++ Primer", 3rd Edition, Pearson Education, 2010.
2. E. Balaguruswamy: Object Oriented Programming with C++, Tata McGraw Hill Publications, 2011.
3. Farrell, "Object Oriented Programming Using C++", 1st Edition 2008, Cengage Learning India

BCA304T: ACCOUNTING AND FINANCIAL MANAGEMENT

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: History and Development of Accounting –Meaning Objectives and functions of Accounting-Book–keeping V/s Accounting –Users of accounting data – systems of book-keeping and accounting – branches of accounting –advantages and limitations of accounting. Accounting Concepts and conventions: Meaning need and classification, Accounting standards –meaning, need and classification of Indian

accounting standards. Accounting principles V/s Accounting standards.

[12 Hours]

Unit - II

Financial Accounting Process: Classification of accounting transaction and accounts, rules of debit and credit as per Double Entry System. Journalisation and Ledger position Preparation of different subsidiary books: Purchase Day Book Sales Day Book, Purchase Returns Day Books, Sales Returns Day Book, Cash Book. Bank Reconciliation Statement: Meaning, Need, Definition, preparation of BRS.

[12 Hours]

Unit - III

Accounting for bill of exchange: Meaning, Need, Definition, Partice to Bill of Exchange, Types of Bills. Accounts Procedure: Honour of the Bill, Dishonour of the Bill, Endorsement, Discounting, Renewal, Bills for collection, Retirement of the Bill, Accommodation Bills, Bill Receivable Book and Payable Book. Preparation of Trial Balance: Rectification of errors and journal Proper.

[12 Hours]

Unit - IV

Preparation of Final accounts: Meaning, need and classification, Preparation of Manufacturing, Trading, Profit and loss account and Balance-Sheet of sale –traders and partnership firms.

[12 Hours]

Unit V

Accounting Package like Tally

[12 Hours]

Text Book

1. S.Ramesh, B.S.Chandrashekar, a Text Book of Accountancy.

References

1. V.A.Patil and J.S.Korihalli, Book–Keeping and Accounting, (R. Chand and Co. Delhi).
2. R.S.Singhal, Principles of Accountancy, Nageen Prakash pvt.Ltd, Meerut.
3. B.S.Raman, Accountancy, (United Publishers, Mangalore)

BCA305T: OPERATING SYSTEMS

Total Teaching Hours : 65 No of Hours / Week : 05

Unit - I

Introduction: Batch Systems, Concepts of Multiprogramming and Time Sharing, Parallel, Distributed and real time Systems, Operating System Structures, Components & Services, System calls, System programs, Virtual machines. Process Management: Process Concept, Process Scheduling, Co – Operating process, Threads, Inter process communication, CPU Scheduling Criteria, Scheduling algorithm, Multiple Processor Scheduling, Real time Scheduling, Algorithm evolution.

[13 Hours]

Unit - II

Process Synchronization and deadlocks: The Critical Section Problem, Synchronization hardware, Semaphores, Classical problems of synchronization, Critical regions, monitors, Dead locks – system model, Characterization, Dead lock prevention, avoidance and detection, Recovery from dead lock, Combined approach to deadlock handling.

[13 Hours]

Unit - III

Memory Management: Logical and Physical address space, Swapping, Contiguous allocation, Paging, Segmentation, Segmentation with paging in Mastics and Intel 386, Virtual memory-Demand paging and it's performance, Page replacement algorithms, Allocation of frames, thrashing, page size and other considerations. Demand Segmentation.

[13 Hours]

Unit - IV

File management (Systems, Secondary Storage Structure): File Concepts, Access methods, Directory Structure, Protection and consistency, File system structure, Allocation methods, Free space management, Directory Implementation, Efficiency and Performance, Recovery. Disk Management (Structure, Disk Scheduling Methods): Disk Structure & Scheduling methods, Disk management, Swap – Space management.

[13 Hours]

Unit - V

Protection and Security: Goals of protection, Domain Protection, Access matrix, Security Problem, Authentication, One time password, program threats, System threads.
Case Study of Windows and Linux Operating System

[13 Hours]

Text Books:

1. Abraham Silberschatz and Peter Baer Galvin, "Operating System Concepts", 7th Edition, Pearson Education, 2002.

Reference Books:

1. H.M.Deitel, "Operating Systems", Pearson Learning Solutions, 3rd Edition, 2003.
2. William Stallings, "Operating Systems", 6th Edition, Pearson Education, 2010.
3. Stuart, "Operating systems: Principles, Design and Implementation", 1st Edition 2008, Cengage Learning India

BCA303P : C++ PROGRAMMING LAB

PART-A

1. Write a program to prepare a shopping lists
2. Write a program to perform bank transactions.
3. Write a program to swap numbers using friend function.
4. Write a program to calculate area and circumference of circle using inline function
5. Write a program to perform multiplication of two matrices using operator overloading.
6. Write a program to implement operation on queue.
7. Write a program to create a student report using inheritance technique.
8. Write a Program to find the area and volume of respective figures using function overloading.
9. Write a program to show returning current object, accessing member data of current object and returning values of object using this pointer
10. Write a program to sort elements using template.

PART - B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 8 Programs has to be prepared).

Note :

a) The candidate has to write two the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA304P: ACCOUNTING PACKAGE LAB

FOURTH SEMESTER BCA

BCA401T: INDIAN LANGUAGE

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA402T: ENGLISH

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA403T: VISUAL PROGRAMMING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to Visual Programming: The intergrated Development Environment – menu bar, tool bar, from designer, project explorer , properties window , from layout window , The Visual Programing editor. The form object: Properties , events and methods pf forms ; Properties – Name , Captain , Backcolor, Borderstyle , controlbox , maxbutton , minbutton, moveable, startup position , height, width , left, top, scalemode, window, state ; Events –load ,unload , Clerk, Activate , Deactivate , Resize, methods – Show , hide , cls , Unload ,print , Controls –Properties and events of different controls such as command buttons , labels , textboxes image controls , timer, horizontal and vertical scroll bars , option buttons , check boxes , frames lists and combo boxes. Predefined Dialog Boxes – MsgBox and InputBO

[12 Hours]

Unit - II

Programming: Data types, variables; declaration and scope arithmetic operations, Study of form and code modules, private and public procedures , Main o procedure , Suba and Functions. Mathematical and string Functions; Branching and Looping Statement ; If – Then , if –Then –Else and Nested If Statements; Select Case –different forms; For – Next , While – Wend and Do – Loops statements ; Arrays- declaration . Static and dynamic arrays. Array and Function, menus and toolbars-Creating menus and toolbars, Working with the menu editor , Designing Multiple Document interface forms. Microsoft common controls.

[12 Hours]

Unit - III

OOP methods and properties of an object, class Modules , Encapsultation and Inheritance characteristics Dynamic Link Libraries (DLLs) and Windows API ; Designing Help files ; File handling – Sequential ,Random access and Binary files, Database connectivity – DAO and ADO Tables and Queries, ActiveX Data objects.

[12 Hours]

Unit – IV

Visual C++ Programming: Objects-Classes-VC++Components – Resources-Event Handling – Menus – Dialog Boxes – Importing VBX Controls – Files – MFC File Handling – Document View Architecture – Serialization.

[12 Hours]

Unit – V

Interfacing Other Applications – Multiple Document Interface (MDI) – Splitter Windows – Exception Handling – Debugging – Object Linking and Embedding (OLE) – Database Application – DLL- ODBC.

[12 Hours]

Text Books:

1. Gurumit Singh, "Visual Basic 6", First Edition, Firewall Media, 2007.

Reference Books:

1. Charles Petzold, "Windows Programming", 5th Edition, Microsoft Press, 1999.
2. Steve Holzner, "Visual C++ Programming", Second Edition, PHI, 1994.
3. Go ttfried, "Programming with Visual Basic 6", PHI, 2000.

BCA404T : UNIX PROGRAMMING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: History, salient features, Unix system architecture, Unix command format, Unix internal and external commands, Directory commands, File related commands, Disk related commands, general utilities. Unix File System: Boot inode, super and data block, in-core structure, Directories, conversion of pathname to inode, inode to a new file, Disk block allocation. Process Management: Process state and data structures of a Process, User vs, kernel node, context of a Process, background processes, Process scheduling commands, Process terminating and examining commands.

[12 Hours]

Unit - II

Secondary Storage Management: Formatting, making file system, checking disk space, mountable file system, disk partitioning, file compression. Special Tools and Utilities: Filters, Stream editor SED and AWK, Unix system calls and library functions, Processes, signals and Interrupts, storage and compression facilities.

[12 Hours]

Unix - III

Shell Programming: Vi editor, shell types, shell command line processing, shell script features, executing a shell script, system and user-defined variables, expr command, shell screen interface, read and echo statement, command substitution, escape sequence characters, shell script arguments, positional parameters, test command, file test, string test, numeric test. [12 Hours]

Unit – IV

Conditional Control Structures-if statement, case statement Looping Control Structure-while, until, for, statements. Jumping Control Structures – break, continue, exit. Shell Programs covering the above concepts. [12 Hours]

Unit – V

Unix System Communication: Introduction, write, read, wall commands, sending and handling mails. System Administration: Roles of a System Administrator, File System Maintenance, System Startup and Shutdown, User Management, Backup and Restore, Doemons, Domain Name System DNS, Distributed File System.

[12 Hours]

Text Books:

1. M.G.Venkateshmurthy, "Introduction to UNIX & SHELL Programming", First Edition, Pearson Education, 2004.

Reference Books:

1. Forouzan,"Unix and Shell Programming", 1st Edition,2008 Cengage Learning India
2. UNIX and Shell Programming, Archana Verma, Firewall Media.

BCA405T: OPERATIONS RESEARCH

Total Teaching Hours : 65 No of Hours / Week : 05

Unit - I

Linear Programming Problems: Origin and development of operations research, Linear Programming Problem –formulation of Lenear Programming problem, Graphical solution. Theory of simplex method. Use of artifical variables and their solution.

[13 Hours]

Unit - II

Transportation Problem: Mathematical formulation of transportation problem, Initial basic Feasible solution, North West corner rule, Matrix minima method, Vogel's approximation method, MODI method to find optimal solution.

[13 Hours]

Unit - III

Assignment Problem: Mathematical formulation of an Assignment problem, Assignment algorithm, Hungarian Method to solve Assignment Problem.

[13 Hours]

Unit - IV

Network Analysis: Basic components of Network, Rules for drawing Network diagram Time calculation in Networks. Critical Path Method and PROJECT Evaluation and Review Techniques. Algorithm and flow chart for CPM and PERT.

[13 Hours]

Unit - V

Theory of Games: Two –person Zero –sum Games, the maximin and Minimax principle, Saddle point and value of the Game. Game without saddle points, mixed strategies, solution for 2X2 games, Graphical method Dominance property.

[13 Hours]

Text books:

1. Taha, "Operations Research", 7th edition, Pearson Education, 2007.

References Book:

1. Billey E. Gillett, "Introduction to Operations Research" , Himalaya Publishing House, Delhi, 1979.
2. Hamady A.Taha "Operations Research" , Collin Mac Millan, 1982.

FIFTH SEMESTER BCA

BCA501T: DATA COMMUNICATIONS AND NETWORKS

Total Teaching Hours : 60 No of Hours / Week : 04

Unit – I

Introduction: Communication Network and services, Approaches to Network Design, Network Functions and Network Topology, Message ,packet and circuit Switching , Internet, Packet Switching ; Key factors in Communication Network Evolution ; Layered Architecture and Applications – Examples of Layering , OSI Reference Model, TCP/IP Model Telnet FTP and IP Utilities. Digital Transmission: Digital Representation of Information: Properties of digital transmission: Characterization of Communication Channels Frequency Domain and Time Domain : Fundamental limits in Digital Communication – The Nyquist Signalling rate, The Shannon channel capacity : Line coding , Modems & digital Modulations

[12 Hours]

Unit - II

Transmission Systems: properties of media and digital transmission Systems – Twisted Pair , Coaxial Cable, Optical Fibre, Radio Transmission Intrared Light Error detection and correction – Error detection , Two – dimensional parity checks , Internet checksum , Polynomial code; standardized Polynomial codes , Error detecting capability of a polynomial code, Multiplexing – frequency – Division , Time – Division , SONET; Wavelength Division Multiplexing Circuit switches; Telephone network , signalling Traffic and Overload control in Telephone networks – Concentration, Routing Control, Overload controls Cellular Telephone Networks, Satellite Cellular networks.

[12 Hours]

Unit – III

Peer –to-Peer Protocols:- Peer-to peer Protocols and service models ARQ Protocols stop and wait , Go –back-N Selective Repeat , Transmission efficiency of ARQ Protocols, Other adaptation functions , - Sliding window flow control Timing Recovery in Synchronous Services Reliable Stream Service, Data Link Control, HDLC, PPP ; Statistical Multiplexing.

[12 Hours]

Unit - IV

Local Area Networks and Medium access Control Protocols:- Multiple access communications; Local Area network – LAN Structure, MAC Sublayer, Logical link control layer, Random Access protocols ALOHA , Slotted ALOHA, CSMA, CSMA/CD, Scheduling approaches to medium access control – Reservation Systems, polling , Token passing rings, comparison of Random access & Scheduling access control Comparison of Radom access & SHEDULING MEDIUM access controls; Channelization – FDMA, TDMA, CDMA;

[12 Hours]

Unit - V

LAN Standard –Ethernet and IEF, 802.3 LAN Standard ; Token Ring and IEEE 8025 LAN standard , FDDI, Wireless LAN's and IEEE 802.11 Standards; LAN Bridges – Transparent Bridges , Source Routing Bridges , Mixed – media Bridges. Packet Switching Networks :- Network services & Internal Network Operation; Packet Network Topology; Datagrams & VIRTUAL circuits ; structure of switch/ Router, Connectionless packet switching ; Virtual – Circuit packet switching ; Overview of Routing and congestion in packet networks – Routing algorithms classification , Routing tables,

shortest path routing algorithms, Flooding , Hierarchical routing , Distance vector routing Link state routing , congestion control algorithms. [12 Hours]

Text Books:

1. Stallings, "Data and Computer Communications", 7th Edition,Pearson Education, 2012

Reference Books:

1. Andrew S Tanenbaim, "Computer Networks", 4th Edition, Pearson Education.
2. Behrouz Ferouzan, Introduction to Data Communication & Networking TMH, 1999.
3. Larry &Peterson & Bruce S Davis; Computer networks Second Edition , Morgan Kaufman, 2000.

BCA502T : SOFTWARE ENGINEERING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: Software Products and Software process, Process models: Waterfall modal, Evolutionary Development, Bohemia's Spiral model, Overview of risk management, Process Visibility, Professional responsibility. Computer based System Engineering: Systems and their environment, System Procurement, System Engineering Process, System architecture modelling. Human Factors, System reliability Engineering. Requirements and Specification: The requirement Engineering Process, The Software requirement document, Validation of Evolution of requirements, Viewpoint – oriented & method based analysis , system contexts , Social 7 organizational factors . Data flow , Semantic, Objects, models , Requirement Specification, Non functional requirement.

[12 Hours]

Unit - II

Software Prototyping: Prototyping in software process, Prototyping techniques, User interface prototyping. Software Design: Design Process, Design Strategies, Design Quality , System Structuring control models, Modular decomposition , Domain Specific architecture.

[12 Hours]

Unit - III

Object Oriented& function oriented design: Objects, object Classes and inheritance Object identification, An object oriented design example, Concurrent Objects, Data flow design Structural decomposition, Detailed Design, A Comparison of design Strategies.
User interface design: Design Principles, User System interaction, Information Presentation, User Guidance, Interface Evaluation.

[12 Hours]

Unit - IV

Software Reliability and reusability : Software reliability metrics , Software reliability Specification , Statistical testing ,Reliability Growth modeling, Fault avoidance & tolerance, Exception handling & defensive programming , Software development with reuse, Software' development for reuse , Generator based reuse, Application System Portability.

[12 Hours]

Unit - V

Software Verification and Validation : The testing Process , Test Planning & Strategies, Black Box , Structural, interface testing , Program inspections , Mathematically based verification, Static analysis tools, Clean room software development. Management Issues: Project management, Quality management, Software cost estimation, Software maintenance. [12 Hours]

Text book

1. Ian Sommerville – Software Engineering, 9th Edition, Pearson Education Ltd, 2010.

Reference Books

1. Roger S. Pressman – Software Engineering, A Practitioner's approach, 7th Edition, McGRAW-HILL Publication, 2010.
2. Pankaj Jalote, "An integrated approach to Software Engineering", 3rd Edition, Narosa Publishing House, 2013.

BCA503T: COMPUTER ARCHITECTURE

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

DIGITAL LOGIC CIRCUITS: Logic gates Boolean algebra, map simplification, combinational circuits, flip-flop, sequential circuits. INTEGRATED CIRCUITS AND DIGITAL FUNCTIONS: Digital integrated circuits, IC flip –flops and registers, decoders and multiplexers, binary counters, shift registers, random –access memories (RAM) read –only memories (ROM).

[12 Hours]

Unit - II

DATA REPRESENTATION: Data types, fixed-point representation, floating – point representation, other binary codes, error detection codes.

DATA TRANSFER OPERATIONS: Register Transfer, Memory Transfer and I/O Transfer.

[12 Hours]

Unit – III

BASIC COMPUTER ORGANISATION AND DESIGN: Instruction codes, computer instruction, timing and control, execution and instruction, input-output and interrupt, design of computer.

[12 Hours]

Unit - IV

CENTRAL PROCESSOR ORGANIZATION : Processor bus organization, arithmetic logic unit (ALU) instruction formats, addressing modes, data transfer and manipulation , program control, microprocessor organization.

[12 Hours]

Unit – V

INPUT-OUTPUT ORGANISATION: Peripheral devices . asynchronous data transfer , direct memory access (DMA) ,priority interrupt, input –output processor (IOP).

MEMORY ORGANIZATION : Auxiliary memory, microcomputer memory hierarchy , associative memory , virtual memory, cache memory.

[12 Hours]

Text Books

1. M.Moris Mano , Computer System, Architecture, 2nd Edition Prentice Hall of India.

References

1. Heuring and Jordan, Computer systems design and Architecture , Peason Edition
2. William Stallings , Computer Organisation and Archotecture, Peason Education
3. Floyed , Digital Fundamentals,8th Edition , Peason Education.
4. Andrew S. Temenbauam, Structured Computer Organization , 3rd Edition ; Prentice Hall of India.
5. David Patterson & Hennessy , Computer Organization & Design , Elsevier.

BCA504T: OBJECT ORIENTED PROGRAMMING USING JAVA

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to JAVA: JAVA Evolution: Java History, Java Features, How Java Differs from C and C++, Java and Internet, Java and World Wide Web, Web Browsers, Hardware and Software Requirements, Java Support Systems, Java Environment. Overview of JAVA Language: Introduction, Simple Java program, More of Java Statements, Implementing a Java Program, Java Virtual Machine, Command Line Arguments, Programming Style. Constants, Variables, and Data Types: Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Values to Variables, Scope of Variables, Symbolic Constants, Type Casting, Getting Values of Variables, Standard Default Values, Operators and Expressions: Introduction, Arithmetic Operators, Relational Operators Logical Operators, Assignment Operators, Increment and Decrement Operators, Conditional Operators, Bitwise Operators, Special Operators, Arithmetic Expressions, Evaluation of Expressions, Precedence of Arithmetic Operators, Type Conversion and Associativity, Mathematical Functions. Decision Making and Branching: Introduction, Decision Making with if Statement, Simple if Statement, The if…..else Statement, Nesting of if……Else Statements, The else if Ladder, The Switch Statement, The ?: Operator. Decision Making and Looping: Introduction. The while Statement, The do Statement, The for Statement, Jumps in Loops Labeled Loops.

[12 hours]

Unit -II

Classes, Arrays, Strings and Vectors: Classes, Objects and Methods: Introduction, Defining a Class, Adding Variables, Adding Methods, Creating Objects, Accessing Class Members, Constructors, Methods Overloading, Static Members, Nesting of Methods, Inheritance: Extending a Class Overriding Methods, Final Variables and Methods, Finalizer methods, Abstract Methods and Classes, Visibility Control. Arrays, Strings and Vectors: Arrays, One-dimensional Arrays, Creating an Array, Two -Dimensional Arrays, Creating an Array, Two – dimensional Arrays, Strings, Vectors, Wrapper Classes.

[12 Hours]

Unit - III

Interfaces, Packages, and Multithreaded Programming: Interfaces: Multiple Inheritance: Introduction, Defining Interfaces, Extending Interfaces, Implementing Interfaces, Accessing Interface Variables. Packages: Putting Classes together: Introduction, Java API Packages, Using System Packages, Naming Conventions, Creating Packages, Accessing a Package, Using a Package, Adding a Class to a Package, Hiding Classes. Multithreaded Programming: Introduction, Creating Threads, Extending the Thread Class, Stopping and Blocking a thread, Life Cycle of a thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface.

[12 Hours]

Unit - IV

Managing Exceptions, Applet Programming: Managing Errors and Exception: Introduction, Types of Exception Handling Code, Multiple Catch Statements, Using Finally Statement, Throwing Our Own Exceptions, Using Exceptions for Debugging. Applet Programming: Introduction, How Applets Differ from Applications, Preparing to Write Applets, Building Applet Code, Applet Life Cycle, Creating an Executable applet, Designing a Web Page, Applet Tag, Adding Applet to HTML File, running the Applet, More About HTML Tags, Displaying Numerical Values, Getting Input from the User.

[12 Hours]

Unit - V

Graphics Programming, Input/Output: Graphics programming: Introduction, The Graphics Class, Lines and rectangles, circles, and Ellipses, Drawing Arcs, Drawing Polygons, Lines Graphs, Using Control Loops in Applets, Drawing Bar Charts. Managing Input/Output Files in JAVA: Introduction, Concept of Streams, Stream Classes, Byte Stream Classes, Character Stream Classes, Using Streams, Other Useful I/O Classes, Using the File Class, Input / Output Exceptions, Creation of Files, Reading / Writing Characters, Reading / Writing Bytes, Handling Primitive Data Types, Concatenating and Buffering Files, Interactive Input and output, Other Stream Classes.

[12 Hours]

Text Books:

1. A.Balaguruswamy, "Programming with JAVA", A Primer, TMH, 1999.

Reference Books:

1. Thomas Boutel, "CGI programming in C and Perl", Addison – Wesley, 1996.
2. Jefry Dwight et al, Using CGI, Second Edition, Prentice Hall, India, 1997.
3. Patrick Naughton & Herbert Schildt, JAVA 2: The Complete Reference, THM, 1999.
4. Schildt, "JAVA The Complete Reference", 7th Edition.

BCA505T : MICROPROCESSOR AND ASSEMBLY LAGUAGE

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Architecture and Operation: Introduction to 8085, Microprocessor organization/ architecture & its operation Microprocessor based system, memory interfacing , basic interfacing concepts ,interfacing I/O devices

[12 Hours]

Unit - II

Programming the 8085: Programming model, instruction classification , Instruction format, addressing modes, writing assembly level programs-overview of instruction set, timing diagrams data transfer, Arithmetic, Logic branch operations.

[12 Hours]

Unit - III

Programming techniques- Looping Counting and Indexing , 16 bit arithmetic operations , logic operations Compare and rotate operations . Counters and Time delays , Generation of pulse waveforms. Stacks and subroutines- conditional CALL and RETURN instructions. Advanced subroutine concepts. BCD to Binary and Binary to BCD conversions, BCD to 7 segment conversion , Binary to ASCII and ASCII to Binary code conversion, BCD addition and subtraction , multiplication and division.

[12 Hours]

Unit – IV

Memory Interface: Memory and I/O mapping and interfacing concepts. Interrupts : 8085 vectored interrupts , Restart as Software instructions, additional I/O concepts and processes.

[12 Hours]

Unit – V

Interfacing of peripherals (I/Os) and applications: Interfacing Keyboard (linear and matrix) and 7 segment display including multiplexes, 8279 programmable keyboard /display interface, 8255 PPI , 8259 PIC , DMA and 8257 DMA controller , Serial communication using 8251, D to A converters and interfacing, RS323 serial

communication standards.

[12 Hours]

Text books

1. R.S.Gaonkar – Microprocessor Architectutre , Programming and Application with 8085. Penram Int. 3rd Edn.

References

1. Douglas V.Hall- Microprocessors and digital systems, MH.
2. Kenneth L.Short - Microprocessor and Programmed Logic ‘’, PHI , 2nd Edn.
3. Aditya P. Mathur- Introduction to Microprocessors, 3RD Edn. TMH
4. Antonakos: Introduction to Intel family of Microprosessors Pearson Education
5. Hoffer: Modern Systems Analysis and Design Pearson Eduction Kendall, System Analysis and Design

BCA504P : JAVA PROGRAMMING LAB

PART - A

1. Write a program to find factorial of list of number reading input as command line argument.
2. Write a program to display all prime numbers between two limits.
3. Write a program to sort list of elements in ascending and descending order and show the exception handling.
4. Write a program to implement all string operations.
5. Write a program to find area of geometrical figures using method.
6. Write a program to implement constructor overloading by passing different number of parameter of different types.
7. Write a program to create student report using applet, read the input using text boxes and display the o/p using buttons.
8. Write a program to calculate bonus for different departments using method overriding.
9. Write a program to implement thread, applets and graphics by implementing animation of ball moving.
10. Write a program to implement mouse events and keyboard events.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA505P: ASSEMBLY LANGUAGE PROGRAMMING LAB

PART - A

1. Exchange of two 16-bit numbers.
2. Addition & Subtraction of two 8 –bit HEX numbers.
3. Subtraction of two 16 –bit numbers.
4. Two n-byte Number addition.
5. Block Transfer.
6. 'N' Decimal Number addition.
7. 4-Digit BCD addition.
8. Subtraction of 16 –bit number.
9. Sorting of array in ascending order.
10. Multiplication of 2 digit BCD

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA506P : PROJECT

Students can develop a project in team (maximum three members). They should implement their project in college in any RDBMS package or any language available in the college. The students have to collect data outside practical hours. Project may be taken outside but must be implemented in the college. Internal marks can be awarded by the guide by evaluating the performance of the students during the course of project work. In viva-voce the questions must be directed only on the project work to access the involvement and understanding of the problem by the students.

The project carries 100 marks is distributed as follows:

Demonstration and Presentation	65 Marks
Viva-voce	25 Marks
Project Report	10 Marks

SIXTH SEMESTER BCA

BCA601T : THEORY OF COMPUTATION

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to Finite Automata: The central concepts of Automata theory; Deterministic finite automata; Nondeterministic finite automata. An application of finite automata,

Finite automata with Epsilon transitions.

[12 Hours]

Unit - II

Regular Expressions: Finite Automata and Regular Expressions Applications of Regular Expressions. Regular languages; Proving languages not to be regular languages; Closure properties of regular languages; Decision properties of regular languages; Equivalence and minimization of automata.

[12 Hours]

Unit - III

Context–free grammars: Parse trees; Applications; Ambiguity in grammars and Languages. Definition of the Pushdown automata; the languages of a PDA; Equivalence of PDA's and CFG's.

[12 Hours]

Unit - IV

Deterministic Pushdown Automata:Normal forms for CFGs; The pumping lemma for CFGs; Closure properties of CFLs. Problems that Computers cannot solve.

[12 Hours]

Unit – V

The Turing machine:Programming techniques for Turing Machines. Undecidability, A Language that is not recursively enumerable; An Undecidable problem that is RE; Post's Correspondence problem.

[12 Hours]

Text Book:

1. John E. Hopcroft, Rajeev Motwani, Jeffrey D.Ullman: Introduction to Automata Theory, Languages and Computation, 3rd Edition, Pearson Education, 2011.

Reference Books:

1. John C Martin: Introduction to Languages and Automata Theory, 3rd Edition, Tata McGraw-Hill, 2007.
2. Daniel I.A. Cohen: Introduction to Computer Theory, 2nd Edition, John Wiley & Sons, 2009.
3. Thomas A. Sudkamp: An Introduction to the Theory of Computer Science, Languages and Machines, 3rd Edition,Pearson Education, 2006

BCA602T: SYSTEM PROGRAMMING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Background: Machine Structure, Evolution of the Components of a Programming System, Assembler, Loaders, Macros, Compliers, Formal Systems. Machine Structure, Machine Language and assembly language: General Machine Structure, Machine Language, Assembly Language

[12 Hours]

Unit - II

Assemblers: General Design Procedure, Design of assembler, Statement of Problem, Data structure, Format of databases, algorithm, look for modularity, Table Processing: Searching and Sorting. The Problem, Searching a table, linear Search, binary Search, Sorting, interchange sort, Shell Sort, Bucket Sort, Radix Exchange Sort, address calculation sort, comparison of sorts, hash or random entry searching.

[12 Hours]

Unit - III

MACRO LANGUAGE AND THE MACRO PROCESSOR: Macroinstruction, Features of macro Facility, Macro instruction arguments, conditional macro Expansion, macro calls within macros, macro Instructions defining macros, Implementation, Statement of problem, implementation of a restricted facility, A two pass algorithm. A single pass algorithm, implementation of macro calls within macros. Implementation within an assembles.

[12 Hours]

Unit - IV

LOADERS: Loader schemes, Compile & go, General loading Scheme, absolute loaders, Subroutine Languages, Relocating loaders, Direct linking loaders, other loading Schemes – Binders, linking loaders, Overlays, Dynamic binders. Design of absolute loader, Design of a Direct linking loader Specification of problem, Specification of data structure, format of data bases algorithm.

[12 Hours]

Unit - V

COMPILERS: Statement of problem, Problem1: Recognizing basic Elements, Problem2: Recognizing Syntactic cutis & interpreting meaning, Problem3: Storage Allocation, Problem4: Code Generation. Optimization (machine independent) optimization (machine dependent), Assembly Phase, General Model of complier. PHASES OF COMPILERS: Simple Structure of Compiler, Brief introduction to 7 Phases of Compliers.

[12 Hours]

Text Books:

1. John J. Donowon, System Programming, TATA McGraw-Hill.

Reference Books:

1. Dhamdhere: System programming and Operating System TMH
2. Beck: System Software, 3/e Pearson Education.

BCA603T : CRYPTOGRAPHY AND NETWORK SECURITY

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: Security Goals, Cryptographic Attacks, Services and Mechanism, Techniques. Mathematics of Cryptography: Integer Arithmetic, Modular Arithmetic, Matrices, Linear Congruence.

[12 Hours]

Unit – II

Traditional Symmetric-Key Ciphers: Introduction, Substitution Ciphers, Transpositional Ciphers, Stream and Block Ciphers. Data Encryption Standard (DES): Introduction, DES Structure, DES Analysis, Security of DES, Multiple DES, Examples of Block Ciphers influenced by DES. Advanced Encryption Standard: Introduction, Transformations, Key Expansion, The AES Ciphers, Examples, Analysis of AES.

[12 Hours]

Unit III

Encipherment using Modern Symmetric-Key Ciphers: Use of Modern Block Ciphers, Use of Stream Ciphers, Other Issues. Mathematics of Asymmetric-Key Cryptography: Primes, Primality Testing, Factorization, Chinese Remainder Theorem, Quadratic Congruence, Exponentiation and Logarithm. Asymmetric Key Cryptography: Introduction, RSA Cryptosystem, Rabin Cryptosystem, Elgamal Cryptosystem, Elliptic Curve Cryptosystems.

[12 Hours]

Unit - IV

Cryptography Hash Functions: Introduction, Description of MD Hash Family, Whirlpool, SHA-512. Digital Signature: Comparison, Process, Services, Attacks on Digital Signature, Digital Signature Schemes, Variations and Applications. Key Management: Symmetric-Key Distribution, Kerberos, Symmetric-Key Agreement, Public-Key Distribution, Hijacking.

[12 Hours]

Unit - V

Security at the Application Layer: PGP and S/MIME: Email, PGP, S/MIME. Security at the Transport Layer: SSL and TLS: SSL Architecture, Four Protocols, SSL Message Formats, Transport Layer Security. Security at the Network Layer: IPSec: Two modes, Two security protocols, Security association, security policy, Internet Key exchange, ISAKMP. [12 Hours]

Text Book:

1. Behrouz A. Forouzan, Debdeep Mukhopadhyay: Cryptography and Network Security, 2nd Edition, Special Indian Edition, Tata McGraw-Hill, 2011.

Reference Books:

1. Michael E. Whitman and Herbert J. Mattord: Principles of Information Security, 2nd Edition, Thomson, Cengage Delmar Learning India Pvt., 2012.
2. William Stallings: Network Security Essentials: Applications and Standards, 4th Edition, Pearson Education, 2012.

BCA604T: WEB PROGRAMMING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Fundamentals of Web: Internet, WWW, Web Browsers, and Web Servers, URLs, MIME, HTTP, Security, The Web Programmers Toolbox. XHTML: Origins and evolution of HTML and XHTML, Basic syntax, Standard XHTML document structure, Basic text markup, Images, Hypertext Links, Lists, Tables.

[12 Hours]

Unit - II

HTML and XHTML: Forms, Frames in HTML and XHTML, Syntactic differences between HTML and XHTML. CSS: Introduction, Levels of style sheets, Style specification formats, Selector forms, Property value forms, Font properties, List properties, Color, Alignment of text, The Box model, Background images, The and tags, Conflict resolution.

[12 Hours]

Unit -III

Java Script: Overview of JavaScript; Object orientation and JavaScript; General syntactic characteristics; Primitives, Operations, and expressions; Screen output and keyboard input; Control statements; Object creation and Modification; Arrays; Functions; Constructor; Pattern matching using expressions; Errors in scripts; Examples.

[12 Hours]

Unit - IV

Java Script and HTML Documents: The JavaScript execution environment; The Document Object Model; Element access in JavaScript; Events and event handling; Handling events from the Body elements, Button elements, Text box and Password elements; The DOM 2 event model; The navigator object; DOM tree traversal and modification.

[12 Hours]

Unit - V

Dynamic Documents with JavaScript: Introduction to dynamic documents; Positioning elements; Moving elements; Element visibility; Changing colors and fonts; Dynamic content; Stacking elements; Locating the mouse cursor; Reacting to a mouse click; Slow movement of elements; Dragging and dropping elements. XML: Introduction; Syntax; Document structure; Document Type definitions; Namespaces; XML schemas; Displaying raw XML documents; Displaying XML documents with CSS; XSLT style sheets; XML Processors; Web services.

[12 Hours]

Text Books

1. Robert W Sebesta, "Programming the World Wide Web", 4th Edition, Pearson Education, 2008.

Reference Books

1. M.Deitel, P.J.Deitel, A.B.Goldberg, "Internet & World Wide Web How to program", 3rd Edition, Pearson Education / PHI, 2004.
2. Chris Bates, "Web Programming Building Internet Applications", 3rd Edition, Wiley India, 2006.
3. Xue Bai et al, "The Web Warrior Guide to Web Programming", Thomson, 2003.
4. Sklar, "The Web Warrior Guide to Web Design Technologies", 1st Edition, Cengage Learning India.

BCA604P : WEB PROGRAMMING LAB

PART -A

1. Write a program to find factorial of list of number reading input as command line argument.
2. Write a program to sort list of element in ascending and descending order and show the exception handling.
3. Write a program to implement all string operations.
4. Write a program to find area of geometrical figures using method overloading.
5. Write a program to implement constructor overloading by passing different number of parameter of different types.
6. Write a program to create student report using applet, read the input using text boxes and display the o/p using buttons.
7. Write a program to implement an apply by passing parameter to HTML.
8. Write a program to implement thread, applets and graphics by implementing animation of ball moving.
9. Write a program to implement mouse events.
10. Write a program to implement keyboard events.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.

b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.

c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks

Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA604P : WEB PROGRAMMING LAB

PART - A

1. Create a form having number of elements (Textboxes, Radio buttons, Checkboxes, and so on). Write JavaScript code to count the number of elements in a form
2. Create a HTML form that has number of Textboxes. When the form runs in the Browser fill the textboxes with data. Write JavaScript code that verifies that all textboxes has been filled. If a textboxes has been left empty, popup an alert indicating which textbox has been left empty.
3. Develop a HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluates the expression and Displays the result.
4. Create a page with dynamic effects. Write the code to include layers and basic animation.
5. Write a JavaScript code to find the sum of N natural Numbers. (Use user-defined function)
6. Write a JavaScript code block using arrays and generate the current date in words, this should include the day, month and year.
7. Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.
8. Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.
9. Create a form consists of a two Multiple choice lists and one single choice list

(a) The first multiple choice list, displays the Major dishes available

(b) The second multiple choice list, displays the Starters available.

(c)The single choice list, displays the Soft drinks available.

10. Create a web page using two image files, which switch between one another as the mouse pointer moves over the image. Use the on Mouse Over and on Mouse Out event handlers.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.

b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.

c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA605P : PROJECT WORK

Students should individually develop a project. They should implement their project in college in any RDBMS package or any language available in the college. The project should web based. The students have to collect data outside practical hours. Project may be taken outside but must be implemented in the college. Internal marks can be awarded by the guide by evaluating the performance of the students during the course of project work. In viva-voce the questions must be directed only on the project work to access the involvement and understanding of the problem by the students.

The project carries 200 marks is distributed as follows:

Demonstration and Presentation	130 Marks
Viva-voce	50 Marks
Project Report	20 Marks

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BANGALORE UNIVERSITY

REGULATIONS, SCHEME AND SYLLABUS

For the course

I to VI Semesters

BACHELOR OF COMPUTER APPLICATIONS

(BCA)

(Choice Based Credit System (Semester Scheme) –Y2K14 Scheme)

Revised w.e.f.

Academic Year 2014-2015 and onwards

Regulations, Scheme of study and Examination for BCA Degree Course

Under Choice Based Credit System - Semester System (Y2K14 SCHEME)

(Revised w.e.f. 2014 -2015)

R 1. a) Title of the course: **Bachelor of Computer Applications**

b) Duration of the Course: Durations of the undergraduate programmes shall extend over FOUR semesters (TWO academic years) for the Associate Degree(Advance Diploma), SIX semesters (Three academic years) for the regular Bachelor Degree.

c). Scheme of study:

i) There shall be five theory papers and two practical from first semester to fourth semester.

ii) There will be five theory, two practical and one project in fifth semester. There will be four theory, one practical and one project in sixth semester.

iii) The project work shall be carried out either independently or jointly (maximum of three students)

iv) Medium of Instruction: The medium of instruction shall be English.

d) Scheme of Examination:

At the end of each semester there be University Examination of three hours duration in each of the theory paper/practical.

R. 2. Each semester shall be of 4 months duration

R. 3. Attendance: As per Bangalore University regulations I n force for science degree courses.

R. 4. A Candidate is allowed to carry over all the previous uncleared (failed) theory papers/Practical to subsequent semesters as per Bangalore University regulations in force for science degree courses.

R. 5. The maximum period for completion of the course shall be six years form the date of admission.

R. 6. Eligibility for admission:

a) A candidate who has passed the two years Pre-University Examination conducted by the Pre-University Education Board in Karnataka

b) A candidate who has passed JODC / Three years Diploma in Engineering of Government of Karnataka or any other examination considered as equivalent thereto shall be eligible for admission.

a) Any student who has passed PUC –II Science, Arts or Commerce securing a minimum of 35% OF MARKS

OR

b) Any student who has passed JODC or Diploma in Engg. (of three year duration of Govt. of Karnataka) with minimum of 35% of marks in aggregate in all the semester /years.

R. 7. Admission Procedure:

a) Through Counseling in respective colleges

b) 50% weight age for entrance test in respective colleges

c) 50% weight age for performance at qualifying examination.

d) Merit list shall be prepared based on item No, 7(b) and 7(c)

e) Reservation: As per the notification /Govt. orders form the University /Govt. from time to time.

f) Tuition and other fees: As fixed by the University from time to time

R8. The total number of students to be admitted to the course shall be decided by the University.

R9. Results: Results of candidate shall be declared and the classes awarded as per the procedure followed by the University for B.Sc. Courses.

R10. POWER TO REMOVE DIFFICULTIES

1) If may difficulty arises in giving effect to the provisions of these regulations, the Vice-Chancellor may be order make such provisions not inconsistent with the Act, Statutes, Ordinances or other Regulations, as appears to be necessary to expedient to remove the difficulty.

2) Every order made under this shall be subject to rectification by the appropriate University Authorities.

Title of Papers and Scheme of Study & Examination for BCA (Bachelor of Computer Applications) Under Choice Based Credit System - Semester System (Revised w.e.f. 2014-2015)

Semester	Part	Paper Code	Title of the paper	Hours / Week	Marks			Credits	
					IA	Exam	Total	Subject	Semester
I	Part - 1	BCA101T	Indian Language	4	20	80	100	2	16
		BCA102T	English	4	20	80	100	2	
	Part – 2	BCA103T	Problem Solving Techniques using C	4	30	70	100	2	
		BCA104T	Digital Electronics	4	30	70	100	2	
		BCA105T	Discrete Mathematics	5	50	100	150	3	
		BCA103P	C Programming Lab	3	15	35	50	1	
		BCA104P	Digital Electronics Lab	3	15	35	50	1	
	Part – 3	-	Foundation Course	3	30	70	100	2	
		-	CC & EC		50		50	1	
II	Part – 1	BCA201T	Indian Language	4	20	80	100	2	16
		BCA202T	English	4	20	80	100	2	
	Part - 2	BCA203T	Data structures	4	30	70	100	2	
		BCA204T	Database Management System	4	30	70	100	2	
		BCA205T	Numerical and Statistical Methods	5	50	100	150	3	
		BCA203P	Data Structures Lab	3	15	35	50	1	
		BCA204T	DBMS Lab	3	15	35	50	1	
	Part - 3	-	Foundation Course	3	30	70	100	2	
		-	CC & EC	-	50	-	50	1	
III	Part - 1	BCA301T	Indian Language	4	20	80	100	2	16
		BCA302T	English	4	20	80	100	2	
	Part - 2	BCA303T	Object Oriented Programming using C++	4	30	70	100	2	
		BCA304T	Financial Accounting and Management	4	30	70	100	2	
		BCA305T	Operating System	5	50	100	150	3	
		BCA303P	C++ Lab	3	15	35	50	1	
		BCA304T	Accounting Package Lab	3	15	35	50	1	
	Part - 3	-	Foundation Course	3	30	70	100	2	
		-	CC & EC	-	50	-	50	1	
IV	Part - 1	BCA401T	Indian Language	4	20	80	100	2	16
		BCA402T	English	4	20	80	100	2	
	Part - 2	BCA403T	Visual Programing	4	30	70	100	2	
		BCA404T	Unix Shell programming	4	30	70	100	2	
		BCA405T	Operation Research	5	50	100	150	3	
		BCA403P	Visual Programming Lab	3	15	35	50	1	
		BCA404T	UNIX Lab	3	15	35	50	1	
	Part - 3	-	Skill Development Course	3	30	70	100	2	
			CC & EC	-	50	-	50	1	

Semester	Part	Paper Code	Title of the paper	Hours / Week	Marks			Credits	
					IA	Exam	Total	Subject	Semester
V	Part - 2	BCA501T	Data Communication and Networks	4	50	100	150	3	20
		BCA502T	Software Engineering	4	50	100	150	3	
		BCA503T	Computer Architecture	4	50	100	150	3	
		BCA504T	Java Programming	4	30	70	100	2	
		BCA505T	Microprocessor and Assembly Language	4	30	70	100	2	
		BCA504P	Java Programming Lab	3	15	35	50	1	
		BCA505P	Assembly Language Programming Lab	3	15	35	50	1	
		BCA506P	Project	8	50	100	150	3	
	Part - 3	-	Skill Development Course	3	30	70	100	2	
VI	Part–2	BCA601T	Theory of Computation	4	50	100	150	3	20
		BCA602T	System Programming	4	50	100	150	3	
		BCA603T	Cryptography and Network Security	4	50	100	150	3	
		BCA604T	Web Programming	4	30	70	100	2	
		BCA604P	Web Programming Lab	3	15	35	50	1	
		BCA605P	Project Work	16	100	200	300	6	
	Part – 3	-	Skill Development Course	3	30	70	100	2	

FIRST SEMESTER BCA

BCA101T : INDIAN LANGUAGE

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA102T : ENGLISH

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA103T : PROBLEM SOLVING TECHNIQUES USING C

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to Programming Concepts: Software, Classification of Software, Modular Programming, Structured Programming, Algorithms and Flowcharts with examples. Overview of C Language: History of C, Character set, C tokens, Identifiers, Keywords, Data types, Variables, Constants, Symbolic Constants , Operators in C, Hierarchy of Operators, Expressions, Type Conversions and Library Functions.

[12 Hours]

Unit - II

Managing Input and Output Operation: Formatted and Unformatted I/O Functions, Decision making, branching and looping: Decision Making Statements - if Statement, if–else statement, nesting of if-else statements, else–if ladder, switch statement,?: operator, Looping - while, do-while, for loop, Nested loop, break, continue, and goto statements. Functions: Function Definition, prototyping, types of functions, passing arguments to functions, Nested Functions, Recursive functions.

[12 Hours]

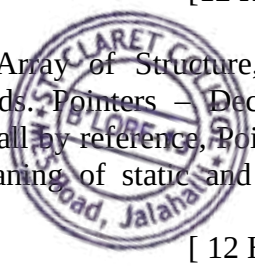
Unit - III

Arrays: Declaring and Initializing, One Dimensional Arrays, Two Dimensional Arrays, Multi Dimensional Arrays - Passing arrays to functions. Strings: Declaring and Initializing strings, Operations on strings, Arrays of strings, passing strings to functions. Storage Classes - Automatic, External, Static and Register Variables.

[12 Hours]

Unit-IV

Structures-Declaring and Initializing, Nested structure, Array of Structure, Passing Structures to functions, Unions, typedef, enum, Bit fields. Pointers – Declarations, Pointer arithmetic, Pointers and functions, Call by value, Call by reference, Pointers and Arrays, Arrays of Pointers, Pointers and Structures. Meaning of static and dynamic memory allocation, Memory allocation functions.



[12 Hours]

Unit-V

Files - File modes, File functions, and File operations, Text and Binary files, Command Line arguments. C Preprocessor directives, Macros – Definition, types of Macros, Creating and implementing user defined header files.

[12 Hours]

TEXT BOOKS

1. E. Balaguruswamy, “Programming In ANSI C”, 4th edition, TMH Publications, 2007
2. Ashok N. Kamthane, “Programming with ANSI and Turbo C”, Pearson Education, 2006

REFERENCES BOOKS

1. Ashok N. Kamthane et. al., "Computer Programming and IT", Pearson Education, 2011
2. Mahapatra, " Thinking In C ", PHI Publications, 1998.
3. Yashwant Kanetkar, "Let Us C", 13th Edition, PHP, 2013.

BCA104T: DIGITAL ELECTRONICS

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to network theorems and AC fundamentals: Ohm's law: Statement, explanation. Kirchhoff's law: Statement & explanation of KCL and KVL. Mesh/loop analysis (up to 2 loops) and node voltage method, Numerical problems. Delta/star and star/Delta transformation: No derivation for Interco version equations, introduction of network, port of network (one port network, two port network), unilateral network, bilateral network, linear network. Need for application of network theorems. (DC Circuits only). Superposition theorem: statement, (only with TWO voltage sources) steps to apply the theorem explanation by considering a simple resistive network and problems. Thevenin's theorem: Statement, (Only with ONE voltage source) Steps to apply the theorem, explanation by considering a simple resistive networking and problems. Norton's theorem: Statement, (Only with ONE voltage source) steps to apply the theorem, explanation by considering a simple resistive network and problems. Maximum power transfer theorem: Statement, explanation of theorem by considering a simple resisting network, expression for maximum power deliver (P L (max) =Vth2/4Rth) (no derivation), graph of Vs Pl, numerical problems and applications. Reciprocity theorem, Statement, explanation using resistive network with dc source and numerical problems. AC Fundamentals: Representation of ac sine wave, instantaneous value, peak value, peak to peak value, average value, r.m.s value cycle, time period, frequency. (No derivations, only mention the expressions) Representation of non sinusoidal waves.

[12 Hours]

Unit - II

Semiconductor Devices: Introduction, atomic structure, energy level, energy band diagram in solids, classification of conductors, insulators and semiconductors. Semiconductor, properties, crystal structure of semiconductor, types – intrinsic and extrinsic semiconductor. Intrinsic semiconductor: Crystal structure (Ge& Si), thermal generated charges (electron and holes) carriers the effect temp on their motion. Extrinsic semiconductor: Doping, donor acceptor impurities, c-type, p-type semiconductor, majority and minority carriers, their currents, concept of immobile ions. Semiconductor devices : PN junction diode, formation of pn junction layer, potential barrier, energy level diagram of pn junction, Biasing of pn junction, behaviour of pn junction under forward and reverse biasing, break down in pn junction, avalanche and zener break down. Diode characteristics; V-I characteristic, forward and reverse bias, diode parameters, bulk resistance, knee voltage, static and dynamic resistance, PIV. Application of diode; As a rectifier, as logic gate, as a switch, etc. Rectifier, types, Half wave Full wave. Half wave rectifier: Circuit, working, wave forms and expression for ripple factor and efficiency (no derivation), advantages & disadvantages. Bridge wave rectifier: Circuit, working, wave forms and expressions for ripple factor and efficiently (no derivation), advantages & disadvantages. Logic families: Scale of integration, Digital IC's, classifications, DTL, TTL, ECL, MOS, CMOS, Mention of features: speed of operation, power dissipation, propagation delay, fan-in, fan-out. [12 Hours]

Unit – III

Number Systems: Introduction to number systems – positional and non-positional, Base /Radix. Decimal number system-Definition, digits, radix/base, Binary number system – Bit Byte, Conversions: Binary to Decimal and Decimal to Binary. Octal number system-Conversion from Octal to Decimal to Octal, Octal to Binary and binary to Octal. Hexadecimal number system –Conversion : Decimal to Hex, Hex to decimal, Hex to Binary, Binary to Hex, Octal to Hex, Hex to Octal, Binary, arithmetic –binary addition, subtraction, multiplication and division (only Integer part). 1's and 2's compliment: 2's complement subtraction. Binary code: BCD numbers, 8421 code, 2421 code- examples and applications. Gray code –Conversions-Gray to binary and Binary to Gray, application of gray code (Mention only). Excess-3 code – self complimenting property and applications. Definition and nature of ASCII code. Introduction to error detection and correction code, parity check. Boolean algebra:-Laws and theorems. AND, OR, NOT Laws, Commutative law, associative law, distributive law, Duality theorem. Demorgan's theorems-Statements, proof using truth tables; Simplification of Boolean expressions using Boolean laws. Definition of product term, sum term, minterm, maxterm, SOP, standard POS and Standard POS. Conversion of Boolean expression to Standard SOP and Standard POS forms. Karnaugh maps-Definition of Karnaugh map, K- map for 2, 3 and 4 variables. Conversion of truth tables into k-map grouping of cells, redundant groups and don't care conditions Karnaugh map technique to solve 3 variable and 4 variable expressions. Simplification of 3 and 4 variable Boolean expression using K-maps (SOP only)

[12 Hours]

Unit - IV

Logic Gates: AND Gate: Definition, symbol truth table, timing diagram, Pin diagram of IC 7408. OR Gate: Definition, symbol, truth table, timing diagram of IC 7432. NOT Gate: Definition symbol, truth table, timing diagram, Pin diagram of IC 7404. NAND Gate: Definition, symbol, truth table, Pin diagram of IC 7400, NOR Gate: Definition, symbol, truth table, timing diagram, Pin diagram of IC 7402. Exclusive OR Gate: Definition, symbol, truth table, timing diagram. Combinational logic circuits: Definition, applications. Half Adder: Symbol, Logic circuits using XOR and basic gates, Truth table, Full Adder: Symbol, Logic circuits using XOR and basic gates, Truth table, Half Subtractor: Symbol, Logic circuits using XOR and basic gates, Truth table. Full Subtractor: Symbol, Logic circuits using XOR and basic gates, Truth table. Adder – Subtractor; Logic circuit, Pin diagram IC 7483, IC 7486. Parallel Adder; 4 –bit parallel binary adder, BCD adder, IC 7483 NAND –NOR implementation of Adders.

[12 Hours]

Unit - V

Sequential Circuits: Importance of clock in digital circuit and introduction to flip flop. Flip –flop-difference between latch and flip-flop. Qualitative study of level and edge triggering. RS latch /unlocked, symbol and truth table. RS flip-flop using NAND gate, symbol, truth table and timing diagram. D flip –flop – Symbol, truth table, Realization of JK flip –flop using NAND gates, working, and timing diagram. Race around condition, present and clear inputs, pin diagram of IC 74112. T flip flop-Logic symbol, JK flip flop as a T flip –flop truth table and timing diagram. Master slave flip flop; Logic circuit, truth table and timing diagram, advantage of M/S flip-flop, pin diagram of IC 7473 IC 7476. Registers: Definition, types of registers-Serial in serial out, serial in parallel out, Parallel in serial out, Parallel in parallel our shift register (Block diagram representation for each), truth table, timing diagram and speed comparison.

[12 Hours]

Text Books:

1) Thomas L.Floyd ,''Digital Fundamentals", Peason Education Inc, New Delhi, 2003

Reference Books:

1) Morris Mano, "Digital Design", 5Th Edition, Prentice Hall, 2013
2) R.P.Jain, "Modern Digital Electronics", 3rd Edition, Tata Mc Graw Hill, 2003.
3) Bignell and Donovan, "Digital Electronics", 5th Edition, Thomson Publication, 2007.

BCA105T: DISCRETE MATHEMATICS

Total Teaching Hours: 65 No of Hours / Week: 05

Unit – I

Sets, Relations and Functions: Sets, Subsets, Equal Sets, Universal Sets, Finite and Infinite Sets, Operation on Sets, Union, Intersection and Complements of Sets, Cartesian Product, Cardinality of Set, De-mogan's law, Simple Applications. Relations, Properties of Relations, Equivalence Relation, Function: Domain and Range, Onto, Into, One to One, one to many Functions, Composite and Inverse Functions. Mathematical Logic: Proposition and truth values, Logical Connectives and their truth tables, Converse, Inverse and Contrapositive, Tautology and Contradiction, Logical Equivalence – Standard Theorems, Switching Circuits.

[13 Hours]

Unit - II

Matrices: Review of fundamentals: Definition of matrix, order, Types of matrices: zero, row, column, square, diagonal, scalar, unit, symmetric, skew-symmetric. Determinant: Value of determinant of order 2x2, 3x3, minors, cofactors, adjoint, inverse of a matrix. Solutions of linear equations: Cramers rule and matrix method involving two and three variables. Eigen values and Eigenvectors: Characteristic equation, characteristic roots, characteristic vectors (without any theorems) only 2x2 order. Cayley Hamilton theorem. (Only statement), verification of Cayley Hamilton theorem (only 2x2 matrices), using the same finding the powers of A (A^4, A^5, A^{-1}, A^{-2}), Inverse of a Matrix using Cayley-Hamilton theorem.

[13 Hours]

Unit - III

Logarithms: Definition of Logarithm, Indices leading to Logarithms and vice versa, Laws of Logarithms with proofs, Problems, Common Logarithm: Characteristic and Mantissa, Use of Logarithmic Tables, Problems. Permutation and Combination: Fundamental Principle of Counting, Factorial n, Permutations: Definition, Examples, Derivation of Formula ${}^nP_r$, Permutation when all the objects are not distinct, Problems, Combinations: Definition, examples, Proving ${}^nC_r = {}^nP_r\ r!$, ${}^nC_r = {}^nC_{n-r}$, ${}^nC_r + {}^nC_{r-1} = {}^{n+1}C_r$, Problems based on above formulae.

[13 Hours]

Unit - IV

Groups: Binary operation, Define of group, properties (only statement), problems (both finite and infinite groups), subgroup, theorems (no proof), problems. Vectors: Definition of vector and scalar, vector addition, dot and cross product, projection of a vector on the other (no geometrical meaning), area of parallelogram, area of a triangle, scalar triple product, volume of parallelepiped, co planarity of three vectors, vector triple product.

[13 Hours]

Unit - V

Analytical Geometry in Two Dimensions: Coordinates, Distance formula, Section Formula, Area of the Triangle formula (no derivation), Locus of point. Straight Line: Slope of a line and angle between two lines, Various forms of equations of lines – Derivation and Problems. Equation of family of lines passing through the point of intersection of two lines, Distance of a point from line (only problems).

[13 Hours]

Text Books

1. Grewal, B.S.Higher engineering Mathematings, 36th Edition

Reference Books

1. Satyrs S.S, Engineering Mathematics.
2. Peter V.O'Neil. Advanced Engineering Mathematics, 5th Edition.

BCA103P: C PROGRAMMING LAB

PART – A

1) Write a C Program to find the roots of the given quadratic equation using if-else if statement.
2) Write a menu driven C program using switch-case to find: (a) Sum of the digits of number (b) Factorial of N.
3) Write a C program to find cos (x) using series $\cos(x) = 1 - x^2/2! + x^4/4! - \ldots\ldots\ldots x^n/n!$]
4) Write a Program to find whether a given number is prime number are not
5) Write a C program to arrange the given set of numbers in ascending and descending order.
6) Write a C program to find product of two N x M matrices.
7) Write a C program to calculate NCR= N!/ R! * (N-R)! Using function.
8) Write a C program to display Fibonacci series using recursive function.
9) Write a C program to concatenate two strings using pointers.
10) Write a C program to copy content of one file to another file.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA104P: DIGITAL ELECTRONICS LAB

1. Study of Logic Gates–AND, OR, NOT, NAND, NOR XOR (Using respective ICs)
2. Realization of AND, OR and NOT gates using Universal Gates.

3. Design and Realization of Half Adder/Subtracted using NAND Gates.
4. Design and Realization of Full Adder using Logic Gates.
5. Design and Realization of 4 bit Adder/Subtractor using IC 7483.
6. Design and Realization of BCD Adder using IC 7483.
7. Realization of J-K flip flop using IC 7400 and 7410.
8. Realization of T and D flip flop using IC 7476.
9. Implementation of PIPO Shift Registers using flip flops. (IC 7476).
10. Design and implementation of odd and even parity checker Generator using IC 74180.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

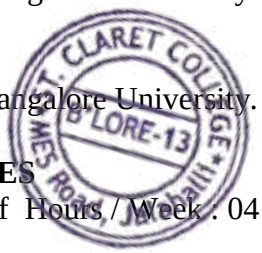
SECOND SEMESTER BCA

BCA201T: INDIAN LANGUAGE

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA202T: ENGLISH

Syllabus as per the one prescribed for science courses of Bangalore University.



BCA203T: DATA STRUCTURES

Total Teaching Hours : 60 No of Hours / Week : 04

Unit-I

Introduction and Overview: Definition, Elementary data organization, Data Structures, data structures operations, Abstract data types, algorithms complexity, time-space tradeoff. Preliminaries: Mathematical notations and functions, Algorithmic notations, control structures, Complexity of algorithms, asymptotic notations for complexity of algorithms. String Processing: Definition, Storing Stings, String as ADT, String operations, word/text processing, Pattern Matching algorithms.

[12 Hours]

Unit-II

Arrays: Definition, Linear arrays, arrays as ADT, Representation of Linear Arrays in Memory, Traversing Linear arrays, Inserting and deleting, Sorting: Bubble sort, Insertion sort, Selection sort, Searching: Linear Search, Binary search, Multidimensional arrays,

Matrices and Sparse matrices.

[12 Hours]

Unit-III

Linked list: Definition, Representation of Singly linked list in memory, Traversing a Singly linked list, Searching a Singly linked list, Memory allocation, Garbage collection, Insertion into a singly linked list, Deletion from a singly liked list; Doubly liked list, Header liked list, Circular linked list.

[12 Hours]

Unit-IV

Stacks – Definition, Array representation of stacks, Linked representation of stacks, Stack as ADT, Arithmetic Expressions: Polish Notation, Application of Stacks, Recursion, Towers of Hanoi, Implementation of recursive procedures by stack. Queues – Definition, Array representation of queue, Linked list representation of queues Types of queue: Simple queue, Circular queue, Double ended queue, Priority queue, Operations on Queues, Applications of queues.

[12 Hours]

Unit-V

Graphs: Graph theory terminology, Sequential representation of Graphs: Adjacency matrix, traversing a Graph. Tree – Definitions, Binary trees, Representing binary trees in memory, Traversing Binary Trees, Binary Search Trees, Searching, Inserting and Deleting in a Binary Search Tree.

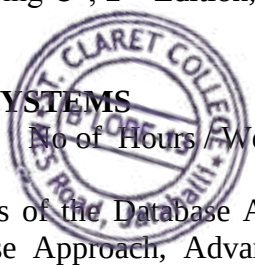
[12 Hours]

TEXT BOOKS

1. Seymour Lipschutz, "Data Structures with C", Schaum's outL*ines*, Tata McGraw-Hill, 2011.

REFERENCES BOOKS

1. Mark Allen Weiss, "Data Structures and Algorithm Analysis in C", Second Edition, Pearson Education, 2013.
2. Robert Kruse, C.L.Tondo, Bruce Leung, Shashi Mogalla, "Data Structures and Program Design using C", Pearson Education, 2009.
3. Forouzan, "A Structured Programming Approach using C", 2nd Edition, Cengage Learning India, 2008.



BCA204T : DATA BASE MANAGEMENT SYSTEMS

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: Database and Database Users, Characteristics of the Database Approach, Different people behind DBMS, Implications of Database Approach, Advantages of using DBMS, When not to use a DBMS. Database System Concepts and architecture: Data Models, Schemas, and Instances. DBMS Architecture and Data Independence., Database languages and interfaces. The database system Environment, Classification of DBMS.

[12 Hours]

Unit - II

Data Modelling Using the Entity-Relationship Model: High level conceptual Data Models for Database Design with and example., Entity types, Entity sets, attributes, and Keys, ER Model Concepts, Notation for ER Diagrams, Proper naming of Schema Constructs, Relationship types of degree higher than two. Record Storage and Primary File Organization: Secondary Storage Devices. Buffering of Blocks. Placing file Records on Disk. Operations on Files, File of unordered Records (Heap files), Files of Ordered

Records (Sorted files), Hashing Techniques, and Other Primary file Organization.

[12 Hours]

Unit - III

Functional Dependencies and Normalization for Relational Database: Informal Design Guidelines for Relational schemas, Functional Dependencies, Normal Forms Based on Primary Keys., General Definitions of Second and Third Normal Forms Based on Primary Keys., General Definitions of Second and Third Normal Forms, Boyce-Codd Normal Form. Relational Data Model and Relational Algebra: Relational Model Concepts., relational Model Constraints and relational Database Schema, defining Relations, Update Operations on Relations., Basic Relational Algebra Operations, Additional Relational Operations., Examples of queries in the Relational Algebra., Relational Database design Using ER-to-Relational Mapping.

[12 Hours]

Unit – IV

Relational Database Language: Data definition in SQL, Queries in SQL, Insert, Delete and Update Statements in SQL, Views in SQL, Specifying General Constraints as Assertions, specifying indexes, Embedded SQL. PL /SQL: Introduction.

[12 Hours]

Unit - V

Transaction Processing Concepts: Introduction, Transaction and System Concepts, Desirable properties of transaction, Schedules and Recoverability, Serializability of Schedules, Transaction Support in SQL, Locking Techniques for Concurrency Control, Concurrency Control based on time stamp ordering.

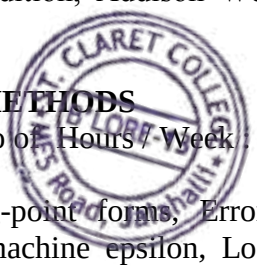
[12 Hours]

Text book:

1. Remez Elmasri and Shamkant B. Navathe, "Fundamentals of Database Systems", 5th Edition, Pearson Education, 2007.

References:

1. Abrahamsi. Silberschatz, Henry. F. Korth, S. Sudarshan, "Database System Concepts" 6th Edition, McGraw Hill, 2012.
2. C.J.Date, "Introduction to database systems", Eight Edition, Addison Wesley, 2003.



BCA205: NUMERICAL AND STATISCAL METHODS

Total Teaching Hours: 65 No of Hours / Week : 05

Unit - I

Floating-point representation and errors-Normalized floating-point forms, Errors in representing numbers, Floating point machine number and machine epsilon, Loss of significance and its avoidance. Roots of equations-locating roots of f(x)=0 Bisection method, Newton's method, Secant method.

[13 Hours]

Unit - II

Interpolation and numerical differentiation-polynomial interpolation, Lagrange and Newton form of interpolating Polynomial, Divided difference and recursive property, Inverse interpolation, First and Second derivative formulae via interpolation Polynomials. Numerical integration-Trapezoidal, Simpson's and adaptive Simpson rules.

[13 Hours]

Unit - III

System of linear equations-Gaussian elimination and back substitution-partial and complete pivoting, Doolittle, Cholesky and Crout LU decomposition methods, Jacobi and

Gauss – Seidel iterative methods. Power (and inverse power) method of obtaining largest (smallest) eigenvalue and corresponding eigenvector. Ordinary differential equations-initial value problem, Picard's, Taylor series, Runge-Kutta first, second and fourth order methods.

[13 Hours]

Unit – IV

Basics concepts and definition of statistics. Mean, Standard deviation, coefficient of Variation, skewness & kurtosis, Carl Pearson Correlation, Rank correlation and illustrated examples. Probability: Basic concept and definition of probability, probability axioms, Laws of Probability, Conditional probability, Bayes theorem , Problems and application.

[13 Hours]

Unit - V

Random variable and Expectation: Discrete and continuous random variables, expectation of random variables, theorems on expectation, illustrative examples. Probability Distribution: Probability function, Probability mass/density function, Discrete Distribution – Bernoulli, Binomial Distribution, Continuous distribution – Normal Distribution, applications and problems.

[13 Hours]

Text Books:

1. M.K.Jain, SRK Iyengar and R.K. Jain Numerical methods for Scientific and Engineering Computation: Wiley Eastern.
2. Ronald E Walpole & Raymond H Meyers : Probability & Statistics for Engineers and Scientists (Second Edition).

References

1. J.Medhi : Statistical Methods New Age Publications.
2. S.C.Gupta and V.K.Kapoor – Elements of Mathematics, Statistics, Sultan Chand and Sons.

BCA203P : DATA STRUCTURES USING C LAB

PART - A

1. Write a menu driven C program to perform the following string operations without using string functions: (i) String Length (ii) String Concatenation (ii) String Reverse
2. Write a C program to search for an element in an array using Binary search
3. Write a C program to sort a list of N elements using Selection Sort Algorithm.
4. Write a C program to construct a singly linked list and perform insertion, deletion and Display operations.
5. Write a C program to demonstrate the working of stack using liked list.
6. Write a C program for Towers of Hanoi problem.
7. Write a C program to find GCD of two numbers using recursion
8. Write a C program to convert infix arithmetic expression to post fix expression.
9. Write a C program to simulate the working of Circular Queue using an array.
10. Write a C program to create and traverse a binary search tree.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write two the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA304P: DATABASE MANAGEMENT SYSTEM LAB
PART - A

1. The STUDENT detail databases has a table with the following attributes. The primary keys are underlined. STUDENT(regno: int, name: string, dob: date, marks: int)

i) Create the above table.

ii) Remove the existing attributes from the table.

iii) Change the date type of regno from integer to string.

iv) Add a new attribute phoneno to the existing table.

v) Enter five tuples into the table.

vi) Display all the tuples in student table.

2. A LIBRARY database has a table with the following attributes.

LIBRARY(bookid:int, title:string, author:string, publication:string, yearpub:int, price:real)

i) Create the above table.

ii) Enter the five tuples into the table

iii) Display all the tuples in student table.

iv) Display the different publishers from the list.

v) Arrange the tuples in the alphabetical order of the book titles.

vi) List the details of all the books whose price ranges between Rs. 100 and Rs. 300

3. The SALARY database of an organization has a table with the following attributes.

EMPSALARY(empcod:int, empnamee:string, dob:date, department:string, salary:real)

i) Create the above table.

ii) Enter the five tuples into the table

iii) Display all the number of employees working in each dapartment.

iv) Find the sum of the salaries of all employees.

v) Find the sum and average of the salaries of employees of a particular department.

vi) Find the least and highest salaries that an employee draws.

4. Consider the insurance database given below. The primary keys are underlined and the data types are specified.

PERSON(driver-id-no: string, name: string, address:strong)

CAR(regno: string, model: string, year: int)

ACCIDENT(report-no: int, date: date, location: String)

OWNS(driver-id-no: string, regno: string)

PARTICIPATED(driver-id-no: string, regno: string, report-no: int, damage-amount: int)

i) Create the above tables by properly specifying the primary keys and the foreign keys

ii) Enter atleast five tuples for each relation.

iii) Demonstrate how you

   a) Update the damage amount for the car with a specific regno in the accident with report no 12 to 25000.

   b) Add a new accident to the database.

iv) Find total number of people who owned cars that were involved in accidents in 2002

v) Find the number of accidents in which cars belonging to a specific model were involved

5. Consider the following database of students enrollment in courses and books adopted for each course.

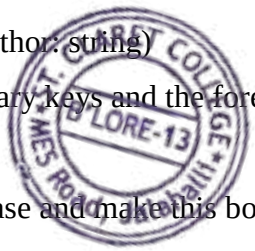
STUDENT(regno: string, name: string, major: strong, bdate: date)

COURSE(course-no: int cname: string, dept: string)

ENROLL(reg-no: string, course-no: int, sem: int, marks: int)

BOOK-ADOPTION(course-no: int, sem: int, book-isbn: int)

TEXT(book-isbn: int, book-title: string, publisher: string, author: string)



i) Create the above tables by properly specifying the primary keys and the foreign keys

ii) Enter atleast five tuples for each relation.

iii) Demonstrate how you add a new text book to the database and make this book be adopted by some department.

iv) Produce a list of text books (include Course-no, book-isbn, book-title) in the alphabetical order for courses offered by the 'Compute Science' department that use more than two books.

v) List any department that has all its adopted books published by a specific publisher.

6. The following tables are maintained by a book dealer

AUTHOR(author-id: int, name: string, city: string, country: string)

PUBLISHER(publisher-id: int name: string, city: string, country: string)

CATLOG(book-id: int, title : string, author-id: int, publisher-id: int, category: int, year: int, price: int)

CATEGORY(category-id: int, description: string)

ORDER-DETAILS(order-no: int, book-id: int, quantity: int)

i) Create above tables by properly specifying the primary keys and the foreign keys.

ii) Enter atleast five tuples for each relation.

iii) Give the details of the authors who have 2 or more books in the catalog and the price of the books is greater than the average price of the books in the catalog and the year of publication is after 2010.

iv) Find the author of the book which has maximum sales.

v) Demonstrate how to increase price of books published by specific publisher by 10%

7. Consider the following database for BANK.

BRANCH(branch-name: string, branch-city: string, assets: real)

ACCOUNT(accno: int, banch-name: string, balance: real)

DEPOSITOR(customer-name: string, accno: int)

CUSTOMER(customer-name: string, customer-street: string, customer-city: string)

LOAN(loan-no: int, branch-name: string, amount: real)

ORROWER(customer-name: string, loan-no: int)

i) Create the above tables by properly specifying the primary keys and foreign keys.

ii) Enter atleast five tuples for each relation.

iii) Find all the customers who have atleast two accounts at the main branch.

iv) Find all customer who have an account at all the branches located in a specific city.

v) Demonstrate how t0 delete all account tuples at every branch located in specific city.

8. Consider the following database for ORDER PROCEESING

CUSTOMER(cust-no: int, cname: string, city: string)

ORDER(orderno: int, odate: date, ord-amt: real)

ORDER_ITEM(orderno: int, itemno:int, qty: int)

ITEM(itemno: int, unitprice: real)

SHIPMENT(orderno: int, warehouseno: int, ship-date: date)

WAREHOUSE(warehouseno: int, city: string)

i) Create the above tables by properly specifying the primary keys and the foreign keys

ii) Enter atleast five tuples for each relation.

iii) List the order number and ship date for all orders shipped from particular warehouse.

iv) Produce a listing: customer name, no of orders, average order amount

v) List the orders that were not shipped within 30 days of ordering

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 8 Programs has to be prepared).

Note :

a) The candidate has to write two the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.

b) A minimum of 8 Programs has to be done in Part-B and has to be maintained in the Practical Record.

c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

THIRD SEMESTER BCA

BCA301T: INDIAN LANGUAGE

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA302T: ENGLISH

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA303T: OBJECT ORIENTED PROGRAMMING USING C++

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction :Procedure Languages, definition of OOP, Basic concept of OOP, Object Class, Data Abstraction, Data Encapsulation, Data Hiding, member functions , Reusability, Inheritance, Creating new Data Types, Polymorphism, Overloading , Dynamic binding and Message passing. C++ Features: The iostream class, C++ Comments, C++ Keywords, Variable declaration, The Const Qualifier, The Endl, Set Waste precision, Manipulators, The scope resolution operator, The new & delete Operations. Functions: Simple Functions, Function declaration, calling the function, function definition, Passing argument to, returning value from function, passing constants, Variables, pass by value , passing structure variables, pass by reference, Default arguments, return statements, return by reference, overloaded functions; Different number of arguments, Different Kinds of argument, inline function.

[12 Hours]

Unit - II

Objects & Classes: Classes & Objects, Class Declaration, Class member; Data Constructions, Destructors, Member functions, Class member visibility, private, public, protected . The scope of the class objects constructions, Default Constructor. Constructor with argument, constructor with default arguments, Dynamic constructor, copy constructor, Overloaded constructor, Objects as arguments returning objects from

functions, class conversion, manipulation private Data members, Destructors classes, object & memory, arrays as class member data: Array of objects, string as class member.

[12 hours]

Unit - III

Operator Overloading : Overloading unary operator: Operator Keyword, Operator arguments, Operator return value, Nameless temporary objects, limitations of increment operator, overloading binary operator, arithmetic operators, comparison operator, arithmetic assignment operator, data conversion; conversion between objects of different classes. Inheritance : Derived Class & Base Class: Specifying the Derived class accessing Base class members, the protected access specifier, Derived class constructor, Overriding member functions, public and private inheritance; Access Combinations, Classes & Structures, Access Specifiers, Level of inheritance; Multilevel inheritance, Hybrid inheritance, Multiple inheritance; member functions in multiple inheritance , constructors in multiple inheritance, Containership; Classes, within classes, Inheritance & Program development.

[12 Hours]

Unit - IV

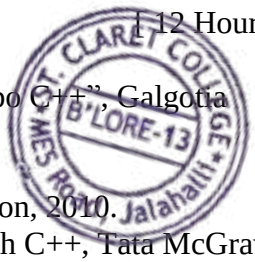
Virtual functions: Normal member function accessed with pointers, Virtual member functions accessed with pointers, Dynamic binding, pure virtual functions, Friend function; Friends for functional notation, friend classes, the pointer; Accessing Member Data with this, using this for returning values. Templates & Exception Handling: Introduction, Templates, Class Templates, function templates, Member function templates, Template arguments, Exception Handling.

[12 Hours]

Unit V

Streams: The Stream class Hierarchy, Stream classes Header file, string I/O: Writing strings, reading strings, character I/O, Detecting End – of – file. Object I/O; writing an object to disk, reading an object from disk, I/O with multiple objects; the fstream class, The open function, File Pointers; Specifying the position, Specifying the offset. The tellg Function, Disk I/O with Memory Functions; Closing Files, Error Handling, Command Line Arguments.

[12 Hours]



Text books:

1. Lafore Robert, "Object Oriented Programming in Turbo C++", Galgotia Publications, 2012.

Reference:

1. Lippman, "C++ Primer", 3rd Edition, Pearson Education, 2010.
2. E. Balaguruswamy: Object Oriented Programming with C++, Tata McGraw Hill Publications, 2011.
3. Farrell, "Object Oriented Programming Using C++", 1st Edition 2008, Cengage Learning India

BCA304T: ACCOUNTING AND FINANCIAL MANAGEMENT

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: History and Development of Accounting –Meaning Objectives and functions of Accounting-Book–keeping V/s Accounting –Users of accounting data – systems of book-keeping and accounting – branches of accounting –advantages and limitations of accounting. Accounting Concepts and conventions: Meaning need and classification, Accounting standards –meaning, need and classification of Indian

accounting standards. Accounting principles V/s Accounting standards.

[12 Hours]

Unit - II

Financial Accounting Process: Classification of accounting transaction and accounts, rules of debit and credit as per Double Entry System. Journalisation and Ledger position Preparation of different subsidiary books: Purchase Day Book Sales Day Book, Purchase Returns Day Books, Sales Returns Day Book, Cash Book. Bank Reconciliation Statement: Meaning, Need, Definition, preparation of BRS.

[12 Hours]

Unit - III

Accounting for bill of exchange: Meaning, Need, Definition, Partice to Bill of Exchange, Types of Bills. Accounts Procedure: Honour of the Bill, Dishonour of the Bill, Endorsement, Discounting, Renewal, Bills for collection, Retirement of the Bill, Accommodation Bills, Bill Receivable Book and Payable Book. Preparation of Trial Balance: Rectification of errors and journal Proper.

[12 Hours]

Unit - IV

Preparation of Final accounts: Meaning, need and classification, Preparation of Manufacturing, Trading, Profit and loss account and Balance-Sheet of sale –traders and partnership firms.

[12 Hours]

Unit V

Accounting Package like Tally

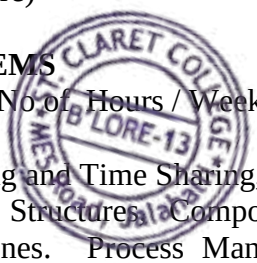
[12 Hours]

Text Book

1. S.Ramesh, B.S.Chandrashekar, a Text Book of Accountancy.

References

1. V.A.Patil and J.S.Korihalli, Book–Keeping and Accounting, (R. Chand and Co. Delhi).
2. R.S.Singhal, Principles of Accountancy, Nageen Prakash pvt.Ltd, Meerut.
3. B.S.Raman, Accountancy, (United Publishers, Mangalore)



BCA305T: OPERATING SYSTEMS

Total Teaching Hours : 65 No of Hours / Week : 05

Unit - I

Introduction: Batch Systems, Concepts of Multiprogramming and Time Sharing, Parallel, Distributed and real time Systems, Operating System Structures, Components & Services, System calls, System programs, Virtual machines. Process Management: Process Concept, Process Scheduling, Co – Operating process, Threads, Inter process communication, CPU Scheduling Criteria, Scheduling algorithm, Multiple Processor Scheduling, Real time Scheduling, Algorithm evolution.

[13 Hours]

Unit - II

Process Synchronization and deadlocks: The Critical Section Problem, Synchronization hardware, Semaphores, Classical problems of synchronization, Critical regions, monitors, Dead locks – system model, Characterization, Dead lock prevention, avoidance and detection, Recovery from dead lock, Combined approach to deadlock handling.

[13 Hours]

Unit - III

Memory Management: Logical and Physical address space, Swapping, Contiguous allocation, Paging, Segmentation, Segmentation with paging in Mastics and Intel 386, Virtual memory-Demand paging and it's performance, Page replacement algorithms, Allocation of frames, thrashing, page size and other considerations. Demand Segmentation.

[13 Hours]

Unit - IV

File management (Systems, Secondary Storage Structure): File Concepts, Access methods, Directory Structure, Protection and consistency, File system structure, Allocation methods, Free space management, Directory Implementation, Efficiency and Performance, Recovery. Disk Management (Structure, Disk Scheduling Methods): Disk Structure & Scheduling methods, Disk management, Swap – Space management.

[13 Hours]

Unit - V

Protection and Security: Goals of protection, Domain Protection, Access matrix, Security Problem, Authentication, One time password, program threats, System threads.
Case Study of Windows and Linux Operating System

[13 Hours]

Text Books:

1. Abraham Silberschatz and Peter Baer Galvin, "Operating System Concepts", 7th Edition, Pearson Education, 2002.

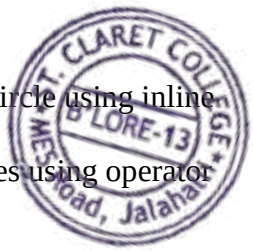
Reference Books:

1. H.M.Deitel, "Operating Systems", Pearson Learning Solutions, 3rd Edition, 2003.
2. William Stallings, "Operating Systems", 6th Edition, Pearson Education, 2010.
3. Stuart, "Operating systems: Principles, Design and Implementation", 1st Edition 2008, Cengage Learning India

BCA303P : C++ PROGRAMMING LAB

PART-A

1. Write a program to prepare a shopping lists
2. Write a program to perform bank transactions.
3. Write a program to swap numbers using friend function.
4. Write a program to calculate area and circumference of circle using inline function
5. Write a program to perform multiplication of two matrices using operator overloading.
6. Write a program to implement operation on queue.
7. Write a program to create a student report using inheritance technique.
8. Write a Program to find the area and volume of respective figures using function overloading.
9. Write a program to show returning current object, accessing member data of current object and returning values of object using this pointer
10. Write a program to sort elements using template.



PART - B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 8 Programs has to be prepared).

Note :

a) The candidate has to write two the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	- **35 Marks**

BCA304P: ACCOUNTING PACKAGE LAB

FOURTH SEMESTER BCA

BCA401T: INDIAN LANGUAGE

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA402T: ENGLISH

Syllabus as per the one prescribed for science courses of Bangalore University.

BCA403T: VISUAL PROGRAMMING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to Visual Programming: The intergrated Development Environment – menu bar, tool bar, from designer, project explorer , properties window , from layout window , The Visual Programing editor. The form object: Properties , events and methods pf forms ; Properties – Name , Captain , Backcolor, Borderstyle , controlbox , maxbutton , minbutton, moveable, startup position , height, width , left, top, scalemode, window, state ; Events –load ,unload , Clerk, Activate , Deactivate , Resize, methods – Show , hide , cls , Unload ,print , Controls –Properties and events of different controls such as command buttons , labels , textboxes image controls , timer, horizontal and vertical scroll bars , option buttons , check boxes , frames lists and combo boxes. Predefined Dialog Boxes – MsgBox and InputBO

[12 Hours]

Unit - II

Programming: Data types, variables; declaration and scope arithmetic operations, Study of form and code modules, private and public procedures , Main o procedure , Suba and Functions. Mathematical and string Functions; Branching and Looping Statement ; If – Then , if –Then –Else and Nested If Statements; Select Case –different forms; For – Next , While – Wend and Do – Loops statements ; Arrays- declaration . Static and dynamic arrays. Array and Function, menus and toolbars-Creating menus and toolbars, Working with the menu editor , Designing Multiple Document interface forms. Microsoft common controls.

[12 Hours]

Unit - III

OOP methods and properties of an object, class Modules , Encapsultation and Inheritance characteristics Dynamic Link Libraries (DLLs) and Windows API ; Designing Help files ; File handling – Sequential ,Random access and Binary files, Database connectivity – DAO and ADO Tables and Queries, ActiveX Data objects.

[12 Hours]

Unit – IV

Visual C++ Programming: Objects-Classes-VC++Components – Resources-Event Handling – Menus – Dialog Boxes – Importing VBX Controls – Files – MFC File Handling – Document View Architecture – Serialization.

[12 Hours]

Unit – V

Interfacing Other Applications – Multiple Document Interface (MDI) – Splitter Windows – Exception Handling – Debugging – Object Linking and Embedding (OLE) – Database Application – DLL- ODBC.

[12 Hours]

Text Books:

1. Gurumit Singh, "Visual Basic 6", First Edition, Firewall Media, 2007.

Reference Books:

1. Charles Petzold, "Windows Programming", 5th Edition, Microsoft Press, 1999.
2. Steve Holzner, "Visual C++ Programming", Second Edition, PHI, 1994.
3. Go ttfried, "Programming with Visual Basic 6", PHI, 2000.

BCA404T : UNIX PROGRAMMING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: History, salient features, Unix system architecture, Unix command format, Unix internal and external commands, Directory commands, File related commands, Disk related commands, general utilities. Unix File System: Boot inode, super and data block, in-core structure, Directories, conversion of pathname to inode, inode to a new file, Disk block allocation. Process Management: Process state and data structures of a Process, User vs, kernel node, context of a Process, background processes, Process scheduling commands, Process terminating and examining commands.

[12 Hours]

Unit - II

Secondary Storage Management: Formatting, making file system, checking disk space, mountable file system, disk partitioning, file compression. Special Tools and Utilities: Filters, Stream editor SED and AWK, Unix system calls and library functions, Processes, signals and Interrupts, storage and compression facilities.

[12 Hours]

Unix - III

Shell Programming: Vi editor, shell types, shell command line processing, shell script features, executing a shell script, system and user-defined variables, expr command, shell screen interface, read and echo statement, command substitution, escape sequence characters, shell script arguments, positional parameters, test command, file test, string test, numeric test. [12 Hours]

Unit – IV

Conditional Control Structures-if statement, case statement Looping Control Structure-while, until, for, statements. Jumping Control Structures – break, continue, exit. Shell Programs covering the above concepts. [12 Hours]

Unit – V

Unix System Communication: Introduction, write, read, wall commands, sending and handling mails. System Administration: Roles of a System Administrator, File System Maintenance, System Startup and Shutdown, User Management, Backup and Restore, Doemons, Domain Name System DNS, Distributed File System.

[12 Hours]

Text Books:

1. M.G.Venkateshmurthy, "Introduction to UNIX & SHELL Programming", First Edition, Pearson Education, 2004.

Reference Books:

1. Forouzan,"Unix and Shell Programming", 1st Edition,2008 Cengage Learning India
2. UNIX and Shell Programming, Archana Verma, Firewall Media.

BCA405T: OPERATIONS RESEARCH

Total Teaching Hours : 65 No of Hours / Week : 05

Unit - I

Linear Programming Problems: Origin and development of operations research, Linear Programming Problem –formulation of Lenear Programming problem, Graphical solution. Theory of simplex method. Use of artifical variables and their solution.

[13 Hours]

Unit - II

Transportation Problem: Mathematical formulation of transportation problem, Initial basic Feasible solution, North West corner rule, Matrix minima method, Vogel's approximation method, MODI method to find optimal solution.

[13 Hours]

Unit - III

Assignment Problem: Mathematical formulation of an Assignment problem, Assignment algorithm, Hungarian Method to solve Assignment Problem.

[13 Hours]

Unit - IV

Network Analysis: Basic components of Network, Rules for drawing Network diagram Time calculation in Networks. Critical Path Method and PROJECT Evaluation and Review Techniques. Algorithm and flow chart for CPM and PERT.

[13 Hours]

Unit - V

Theory of Games: Two –person Zero –sum Games, the maximin and Minimax principle, Saddle point and value of the Game. Game without saddle points, mixed strategies, solution for 2X2 games, Graphical method Dominance property.

[13 Hours]

Text books:

1. Taha, "Operations Research", 7th edition, Pearson Education, 2007.

References Book:

1. Billey E. Gillett, "Introduction to Operations Research" , Himalaya Publishing House, Delhi, 1979.
2. Hamady A.Taha "Operations Research" , Collin Mac Millan, 1982.

FIFTH SEMESTER BCA

BCA501T: DATA COMMUNICATIONS AND NETWORKS

Total Teaching Hours : 60 No of Hours / Week : 04

Unit – I

Introduction: Communication Network and services, Approaches to Network Design, Network Functions and Network Topology, Message ,packet and circuit Switching , Internet, Packet Switching ; Key factors in Communication Network Evolution ; Layered Architecture and Applications – Examples of Layering , OSI Reference Model, TCP/IP Model Telnet FTP and IP Utilities. Digital Transmission: Digital Representation of Information: Properties of digital transmission: Characterization of Communication Channels Frequency Domain and Time Domain : Fundamental limits in Digital Communication – The Nyquist Signalling rate, The Shannon channel capacity : Line coding , Modems & digital Modulations

[12 Hours]

Unit - II

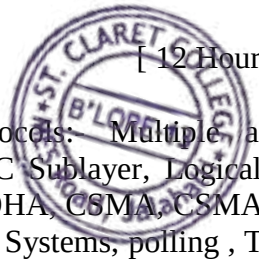
Transmission Systems: properties of media and digital transmission Systems – Twisted Pair , Coaxial Cable, Optical Fibre, Radio Transmission Intrared Light Error detection and correction – Error detection , Two – dimensional parity checks , Internet checksum , Polynomial code; standardized Polynomial codes , Error detecting capability of a polynomial code, Multiplexing – frequency – Division , Time – Division , SONET; Wavelength Division Multiplexing Circuit switches; Telephone network , signalling Traffic and Overload control in Telephone networks – Concentration, Routing Control, Overload controls Cellular Telephone Networks, Satellite Cellular networks.

[12 Hours]

Unit – III

Peer –to-Peer Protocols:- Peer-to peer Protocols and service models ARQ Protocols stop and wait , Go –back-N Selective Repeat , Transmission efficiency of ARQ Protocols, Other adaptation functions , - Sliding window flow control Timing Recovery in Synchronous Services Reliable Stream Service, Data Link Control, HDLC, PPP ; Statistical Multiplexing.

[12 Hours]



Unit - IV

Local Area Networks and Medium access Control Protocols:- Multiple access communications; Local Area network – LAN Structure, MAC Sublayer, Logical link control layer, Random Access protocols ALOHA , Slotted ALOHA, CSMA, CSMA/CD, Scheduling approaches to medium access control – Reservation Systems, polling , Token passing rings, comparison of Random access & Scheduling access control Comparison of Radom access & SHEDULING MEDIUM access controls; Channelization – FDMA, TDMA, CDMA;

[12 Hours]

Unit - V

LAN Standard –Ethernet and IEF, 802.3 LAN Standard ; Token Ring and IEEE 8025 LAN standard , FDDI, Wireless LAN's and IEEE 802.11 Standards; LAN Bridges – Transparent Bridges , Source Routing Bridges , Mixed – media Bridges. Packet Switching Networks :- Network services & Internal Network Operation; Packet Network Topology; Datagrams & VIRTUAL circuits ; structure of switch/ Router, Connectionless packet switching ; Virtual – Circuit packet switching ; Overview of Routing and congestion in packet networks – Routing algorithms classification , Routing tables,

shortest path routing algorithms, Flooding , Hierarchical routing , Distance vector routing Link state routing , congestion control algorithms. [12 Hours]

Text Books:

1. Stallings, "Data and Computer Communications", 7th Edition,Pearson Education, 2012

Reference Books:

1. Andrew S Tanenbaim, "Computer Networks", 4th Edition, Pearson Education.
2. Behrouz Ferouzan, Introduction to Data Communication & Networking TMH, 1999.
3. Larry &Peterson & Bruce S Davis; Computer networks Second Edition , Morgan Kaufman, 2000.

BCA502T : SOFTWARE ENGINEERING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: Software Products and Software process, Process models: Waterfall modal, Evolutionary Development, Bohemia's Spiral model, Overview of risk management, Process Visibility, Professional responsibility. Computer based System Engineering: Systems and their environment, System Procurement, System Engineering Process, System architecture modelling. Human Factors, System reliability Engineering. Requirements and Specification: The requirement Engineering Process, The Software requirement document, Validation of Evolution of requirements, Viewpoint – oriented & method based analysis , system contexts , Social 7 organizational factors . Data flow , Semantic, Objects, models , Requirement Specification, Non functional requirement.

[12 Hours]

Unit - II

Software Prototyping: Prototyping in software process, Prototyping techniques, User interface prototyping. Software Design: Design Process, Design Strategies, Design Quality , System Structuring control models, Modular decomposition , Domain Specific architecture.

[12 Hours]

Unit - III

Object Oriented& function oriented design: Objects, object Classes and inheritance Object identification, An object oriented design example, Concurrent Objects, Data flow design Structural decomposition, Detailed Design, A Comparison of design Strategies.
User interface design: Design Principles, User System interaction, Information Presentation, User Guidance, Interface Evaluation.

[12 Hours]

Unit - IV

Software Reliability and reusability : Software reliability metrics , Software reliability Specification , Statistical testing ,Reliability Growth modeling, Fault avoidance & tolerance, Exception handling & defensive programming , Software development with reuse, Software' development for reuse , Generator based reuse, Application System Portability.

[12 Hours]

Unit - V

Software Verification and Validation : The testing Process , Test Planning & Strategies, Black Box , Structural, interface testing , Program inspections , Mathematically based verification, Static analysis tools, Clean room software development. Management Issues: Project management, Quality management, Software cost estimation, Software maintenance. [12 Hours]

Text book

1. Ian Sommerville – Software Engineering, 9th Edition, Pearson Education Ltd, 2010.

Reference Books

1. Roger S. Pressman – Software Engineering, A Practitioner's approach, 7th Edition, McGRAW-HILL Publication, 2010.
2. Pankaj Jalote, "An integrated approach to Software Engineering", 3rd Edition, Narosa Publishing House, 2013.

BCA503T: COMPUTER ARCHITECTURE

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

DIGITAL LOGIC CIRCUITS: Logic gates Boolean algebra, map simplification, combinational circuits, flip-flop, sequential circuits. INTEGRATED CIRCUITS AND DIGITAL FUNCTIONS: Digital integrated circuits, IC flip –flops and registers, decoders and multiplexers, binary counters, shift registers, random –access memories (RAM) read –only memories (ROM).

[12 Hours]

Unit - II

DATA REPRESENTATION: Data types, fixed-point representation, floating – point representation, other binary codes, error detection codes.

DATA TRANSFER OPERATIONS: Register Transfer, Memory Transfer and I/O Transfer.

[12 Hours]

Unit – III

BASIC COMPUTER ORGANISATION AND DESIGN: Instruction codes, computer instruction, timing and control, execution and instruction, input-output and interrupt, design of computer.

[12 Hours]

Unit - IV

CENTRAL PROCESSOR ORGANIZATION : Processor bus organization, arithmetic logic unit (ALU) instruction formats, addressing modes, data transfer and manipulation , program control, microprocessor organization.

[12 Hours]

Unit – V

INPUT-OUTPUT ORGANISATION: Peripheral devices . asynchronous data transfer , direct memory access (DMA) ,priority interrupt, input –output processor (IOP).

MEMORY ORGANIZATION : Auxiliary memory, microcomputer memory hierarchy , associative memory , virtual memory, cache memory.

[12 Hours]

Text Books

1. M.Moris Mano , Computer System, Architecture, 2nd Edition Prentice Hall of India.

References

1. Heuring and Jordan, Computer systems design and Architecture , Peason Edition
2. William Stallings , Computer Organisation and Archotecture, Peason Education
3. Floyed , Digital Fundamentals,8th Edition , Peason Education.
4. Andrew S. Temenbauam, Structured Computer Organization , 3rd Edition ; Prentice Hall of India.
5. David Patterson & Hennessy , Computer Organization & Design , Elsevier.

BCA504T: OBJECT ORIENTED PROGRAMMING USING JAVA

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to JAVA: JAVA Evolution: Java History, Java Features, How Java Differs from C and C++, Java and Internet, Java and World Wide Web, Web Browsers, Hardware and Software Requirements, Java Support Systems, Java Environment. Overview of JAVA Language: Introduction, Simple Java program, More of Java Statements, Implementing a Java Program, Java Virtual Machine, Command Line Arguments, Programming Style. Constants, Variables, and Data Types: Introduction, Constants, Variables, Data Types, Declaration of Variables, Giving Values to Variables, Scope of Variables, Symbolic Constants, Type Casting, Getting Values of Variables, Standard Default Values, Operators and Expressions: Introduction, Arithmetic Operators, Relational Operators Logical Operators, Assignment Operators, Increment and Decrement Operators, Conditional Operators, Bitwise Operators, Special Operators, Arithmetic Expressions, Evaluation of Expressions, Precedence of Arithmetic Operators, Type Conversion and Associativity, Mathematical Functions. Decision Making and Branching: Introduction, Decision Making with if Statement, Simple if Statement, The if…..else Statement, Nesting of if……Else Statements, The else if Ladder, The Switch Statement, The ?: Operator. Decision Making and Looping: Introduction. The while Statement, The do Statement, The for Statement, Jumps in Loops Labeled Loops.

[12 hours]

Unit -II

Classes, Arrays, Strings and Vectors: Classes, Objects and Methods: Introduction, Defining a Class, Adding Variables, Adding Methods, Creating Objects, Accessing Class Members, Constructors, Methods Overloading, Static Members, Nesting of Methods, Inheritance: Extending a Class Overriding Methods, Final Variables and Methods, Finalizer methods, Abstract Methods and Classes, Visibility Control. Arrays, Strings and Vectors: Arrays, One-dimensional Arrays, Creating an Array, Two -Dimensional Arrays, Creating an Array, Two – dimensional Arrays, Strings, Vectors, Wrapper Classes.

[12 Hours]

Unit - III

Interfaces, Packages, and Multithreaded Programming: Interfaces: Multiple Inheritance: Introduction, Defining Interfaces, Extending Interfaces, Implementing Interfaces, Accessing Interface Variables. Packages: Putting Classes together: Introduction, Java API Packages, Using System Packages, Naming Conventions, Creating Packages, Accessing a Package, Using a Package, Adding a Class to a Package, Hiding Classes. Multithreaded Programming: Introduction, Creating Threads, Extending the Thread Class, Stopping and Blocking a thread, Life Cycle of a thread, Using Thread Methods, Thread Exceptions, Thread Priority, Synchronization, Implementing the 'Runnable' Interface.

[12 Hours]

Unit - IV

Managing Exceptions, Applet Programming: Managing Errors and Exception: Introduction, Types of Exception Handling Code, Multiple Catch Statements, Using Finally Statement, Throwing Our Own Exceptions, Using Exceptions for Debugging. Applet Programming: Introduction, How Applets Differ from Applications, Preparing to Write Applets, Building Applet Code, Applet Life Cycle, Creating an Executable applet, Designing a Web Page, Applet Tag, Adding Applet to HTML File, running the Applet, More About HTML Tags, Displaying Numerical Values, Getting Input from the User.

[12 Hours]

Unit - V

Graphics Programming, Input/Output: Graphics programming: Introduction, The Graphics Class, Lines and rectangles, circles, and Ellipses, Drawing Arcs, Drawing Polygons, Lines Graphs, Using Control Loops in Applets, Drawing Bar Charts. Managing Input/Output Files in JAVA: Introduction, Concept of Streams, Stream Classes, Byte Stream Classes, Character Stream Classes, Using Streams, Other Useful I/O Classes, Using the File Class, Input / Output Exceptions, Creation of Files, Reading / Writing Characters, Reading / Writing Bytes, Handling Primitive Data Types, Concatenating and Buffering Files, Interactive Input and output, Other Stream Classes.

[12 Hours]

Text Books:

1. A.Balaguruswamy, "Programming with JAVA", A Primer, TMH, 1999.

Reference Books:

1. Thomas Boutel, "CGI programming in C and Perl", Addison – Wesley, 1996.
2. Jefry Dwight et al, Using CGI, Second Edition, Prentice Hall, India, 1997.
3. Patrick Naughton & Herbert Schildt, JAVA 2: The Complete Reference, THM, 1999.
4. Schildt, "JAVA The Complete Reference", 7th Edition.

BCA505T : MICROPROCESSOR AND ASSEMBLY LAGUAGE

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Architecture and Operation: Introduction to 8085, Microprocessor organization/ architecture & its operation Microprocessor based system, memory interfacing , basic interfacing concepts ,interfacing I/O devices

[12 Hours]

Unit - II

Programming the 8085: Programming model, instruction classification , Instruction format, addressing modes, writing assembly level programs-overview of instruction set, timing diagrams data transfer, Arithmetic, Logic branch operations.

[12 Hours]

Unit - III

Programming techniques- Looping Counting and Indexing , 16 bit arithmetic operations , logic operations Compare and rotate operations . Counters and Time delays . Generation of pulse waveforms. Stacks and subroutines- conditional CALL and RETURN instructions. Advanced subroutine concepts. BCD to Binary and Binary to BCD conversions, BCD to 7 segment conversion , Binary to ASCII and ASCII to Binary code conversion, BCD addition and subtraction , multiplication and division.

[12 Hours]

Unit – IV

Memory Interface: Memory and I/O mapping and interfacing concepts. Interrupts : 8085 vectored interrupts , Restart as Software instructions, additional I/O concepts and processes.

[12 Hours]

Unit – V

Interfacing of peripherals (I/Os) and applications: Interfacing Keyboard (linear and matrix) and 7 segment display including multiplexes, 8279 programmable keyboard /display interface, 8255 PPI , 8259 PIC , DMA and 8257 DMA controller , Serial communication using 8251, D to A converters and interfacing, RS323 serial

communication standards.

[12 Hours]

Text books

1. R.S.Gaonkar – Microprocessor Architectutre , Programming and Application with 8085. Penram Int. 3rd Edn.

References

1. Douglas V.Hall- Microprocessors and digital systems, MH.
2. Kenneth L.Short - Microprocessor and Programmed Logic ‘’, PHI , 2nd Edn.
3. Aditya P. Mathur- Introduction to Microprocessors, 3RD Edn. TMH
4. Antonakos: Introduction to Intel family of Microprosessors Pearson Education
5. Hoffer: Modern Systems Analysis and Design Pearson Eduction Kendall, System Analysis and Design

BCA504P : JAVA PROGRAMMING LAB

PART - A

1. Write a program to find factorial of list of number reading input as command line argument.
2. Write a program to display all prime numbers between two limits.
3. Write a program to sort list of elements in ascending and descending order and show the exception handling.
4. Write a program to implement all string operations.
5. Write a program to find area of geometrical figures using method.
6. Write a program to implement constructor overloading by passing different number of parameter of different types.
7. Write a program to create student report using applet, read the input using text boxes and display the o/p using buttons.
8. Write a program to calculate bonus for different departments using method overriding.
9. Write a program to implement thread, applets and graphics by implementing animation of ball moving.
10. Write a program to implement mouse events and keyboard events.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA505P: ASSEMBLY LANGUAGE PROGRAMMING LAB

PART - A

1. Exchange of two 16-bit numbers.
2. Addition & Subtraction of two 8 –bit HEX numbers.
3. Subtraction of two 16 –bit numbers.
4. Two n-byte Number addition.
5. Block Transfer.
6. 'N' Decimal Number addition.
7. 4-Digit BCD addition.
8. Subtraction of 16 –bit number.
9. Sorting of array in ascending order.
10. Multiplication of 2 digit BCD

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.
b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.
c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA506P : PROJECT

Students can develop a project in team (maximum three members). They should implement their project in college in any RDBMS package or any language available in the college. The students have to collect data outside practical hours. Project may be taken outside but must be implemented in the college. Internal marks can be awarded by the guide by evaluating the performance of the students during the course of project work. In viva-voce the questions must be directed only on the project work to access the involvement and understanding of the problem by the students.

The project carries 100 marks is distributed as follows:

Demonstration and Presentation	65 Marks
Viva-voce	25 Marks
Project Report	10 Marks

SIXTH SEMESTER BCA

BCA601T : THEORY OF COMPUTATION

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction to Finite Automata: The central concepts of Automata theory; Deterministic finite automata; Nondeterministic finite automata. An application of finite automata,

Finite automata with Epsilon transitions.

[12 Hours]

Unit - II

Regular Expressions: Finite Automata and Regular Expressions Applications of Regular Expressions. Regular languages; Proving languages not to be regular languages; Closure properties of regular languages; Decision properties of regular languages; Equivalence and minimization of automata.

[12 Hours]

Unit - III

Context–free grammars: Parse trees; Applications; Ambiguity in grammars and Languages. Definition of the Pushdown automata; the languages of a PDA; Equivalence of PDA's and CFG's.

[12 Hours]

Unit - IV

Deterministic Pushdown Automata:Normal forms for CFGs; The pumping lemma for CFGs; Closure properties of CFLs. Problems that Computers cannot solve.

[12 Hours]

Unit – V

The Turing machine:Programming techniques for Turing Machines. Undecidability, A Language that is not recursively enumerable; An Undecidable problem that is RE; Post's Correspondence problem.

[12 Hours]

Text Book:

1. John E. Hopcroft, Rajeev Motwani, Jeffrey D.Ullman: Introduction to Automata Theory, Languages and Computation, 3rd Edition, Pearson Education, 2011.

Reference Books:

1. John C Martin: Introduction to Languages and Automata Theory, 3rd Edition, Tata McGraw-Hill, 2007.
2. Daniel I.A. Cohen: Introduction to Computer Theory, 2nd Edition, John Wiley & Sons, 2009.
3. Thomas A. Sudkamp: An Introduction to the Theory of Computer Science, Languages and Machines, 3rd Edition,Pearson Education, 2006

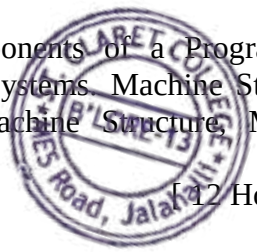
BCA602T: SYSTEM PROGRAMMING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Background: Machine Structure, Evolution of the Components of a Programming System, Assembler, Loaders, Macros, Compliers, Formal Systems. Machine Structure, Machine Language and assembly language: General Machine Structure, Machine Language, Assembly Language

[12 Hours]



Unit - II

Assemblers: General Design Procedure, Design of assembler, Statement of Problem, Data structure, Format of databases, algorithm, look for modularity, Table Processing: Searching and Sorting. The Problem, Searching a table, linear Search, binary Search, Sorting, interchange sort, Shell Sort, Bucket Sort, Radix Exchange Sort, address calculation sort, comparison of sorts, hash or random entry searching.

[12 Hours]

Unit - III

MACRO LANGUAGE AND THE MACRO PROCESSOR: Macroinstruction, Features of macro Facility, Macro instruction arguments, conditional macro Expansion, macro calls within macros, macro Instructions defining macros, Implementation, Statement of problem, implementation of a restricted facility, A two pass algorithm. A single pass algorithm, implementation of macro calls within macros. Implementation within an assembles.

[12 Hours]

Unit - IV

LOADERS: Loader schemes, Compile & go, General loading Scheme, absolute loaders, Subroutine Languages, Relocating loaders, Direct linking loaders, other loading Schemes – Binders, linking loaders, Overlays, Dynamic binders. Design of absolute loader, Design of a Direct linking loader Specification of problem, Specification of data structure, format of data bases algorithm.

[12 Hours]

Unit - V

COMPILERS: Statement of problem, Problem1: Recognizing basic Elements, Problem2: Recognizing Syntactic cutis & interpreting meaning, Problem3: Storage Allocation, Problem4: Code Generation. Optimization (machine independent) optimization (machine dependent), Assembly Phase, General Model of complier. PHASES OF COMPILERS: Simple Structure of Compiler, Brief introduction to 7 Phases of Compliers.

[12 Hours]

Text Books:

1. John J. Donowon, System Programming, TATA McGraw-Hill.

Reference Books:

1. Dhamdhere: System programming and Operating System TMH
2. Beck: System Software, 3/e Pearson Education.

BCA603T : CRYPTOGRAPHY AND NETWORK SECURITY

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Introduction: Security Goals, Cryptographic Attacks, Services and Mechanism, Techniques. Mathematics of Cryptography: Integer Arithmetic, Modular Arithmetic, Matrices, Linear Congruence.

[12 Hours]

Unit – II

Traditional Symmetric-Key Ciphers: Introduction, Substitution Ciphers, Transpositional Ciphers, Stream and Block Ciphers. Data Encryption Standard (DES): Introduction, DES Structure, DES Analysis, Security of DES, Multiple DES, Examples of Block Ciphers influenced by DES. Advanced Encryption Standard: Introduction, Transformations, Key Expansion, The AES Ciphers, Examples, Analysis of AES.

[12 Hours]

Unit III

Encipherment using Modern Symmetric-Key Ciphers: Use of Modern Block Ciphers, Use of Stream Ciphers, Other Issues. Mathematics of Asymmetric-Key Cryptography: Primes, Primality Testing, Factorization, Chinese Remainder Theorem, Quadratic Congruence, Exponentiation and Logarithm. Asymmetric Key Cryptography: Introduction, RSA Cryptosystem, Rabin Cryptosystem, Elgamal Cryptosystem, Elliptic Curve Cryptosystems.

[12 Hours]

Unit - IV

Cryptography Hash Functions: Introduction, Description of MD Hash Family, Whirlpool, SHA-512. Digital Signature: Comparison, Process, Services, Attacks on Digital Signature, Digital Signature Schemes, Variations and Applications. Key Management: Symmetric-Key Distribution, Kerberos, Symmetric-Key Agreement, Public-Key Distribution, Hijacking.

[12 Hours]

Unit - V

Security at the Application Layer: PGP and S/MIME: Email, PGP, S/MIME. Security at the Transport Layer: SSL and TLS: SSL Architecture, Four Protocols, SSL Message Formats, Transport Layer Security. Security at the Network Layer: IPSec: Two modes, Two security protocols, Security association, security policy, Internet Key exchange, ISAKMP. [12 Hours]

Text Book:

1. Behrouz A. Forouzan, Debdeep Mukhopadhyay: Cryptography and Network Security, 2nd Edition, Special Indian Edition, Tata McGraw-Hill, 2011.

Reference Books:

1. Michael E. Whitman and Herbert J. Mattord: Principles of Information Security, 2nd Edition, Thomson, Cengage Delmar Learning India Pvt., 2012.
2. William Stallings: Network Security Essentials: Applications and Standards, 4th Edition, Pearson Education, 2012.

BCA604T: WEB PROGRAMMING

Total Teaching Hours : 60 No of Hours / Week : 04

Unit - I

Fundamentals of Web: Internet, WWW, Web Browsers, and Web Servers, URLs, MIME, HTTP, Security, The Web Programmers Toolbox. XHTML: Origins and evolution of HTML and XHTML, Basic syntax, Standard XHTML document structure, Basic text markup, Images, Hypertext Links, Lists, Tables.

[12 Hours]

Unit - II

HTML and XHTML: Forms, Frames in HTML and XHTML, Syntactic differences between HTML and XHTML. CSS: Introduction, Levels of style sheets, Style specification formats, Selector forms, Property value forms, Font properties, List properties, Color, Alignment of text, The Box model, Background images, The and tags, Conflict resolution.

[12 Hours]

Unit -III

Java Script: Overview of JavaScript; Object orientation and JavaScript; General syntactic characteristics; Primitives, Operations, and expressions; Screen output and keyboard input; Control statements; Object creation and Modification; Arrays; Functions; Constructor; Pattern matching using expressions; Errors in scripts; Examples.

[12 Hours]

Unit - IV

Java Script and HTML Documents: The JavaScript execution environment; The Document Object Model; Element access in JavaScript; Events and event handling; Handling events from the Body elements, Button elements, Text box and Password elements; The DOM 2 event model; The navigator object; DOM tree traversal and modification.

[12 Hours]

Unit - V

Dynamic Documents with JavaScript: Introduction to dynamic documents; Positioning elements; Moving elements; Element visibility; Changing colors and fonts; Dynamic content; Stacking elements; Locating the mouse cursor; Reacting to a mouse click; Slow movement of elements; Dragging and dropping elements. XML: Introduction; Syntax; Document structure; Document Type definitions; Namespaces; XML schemas; Displaying raw XML documents; Displaying XML documents with CSS; XSLT style sheets; XML Processors; Web services.

[12 Hours]

Text Books

1. Robert W Sebesta, "Programming the World Wide Web", 4th Edition, Pearson Education, 2008.

Reference Books

1. M.Deitel, P.J.Deitel, A.B.Goldberg, "Internet & World Wide Web How to program", 3rd Edition, Pearson Education / PHI, 2004.
2. Chris Bates, "Web Programming Building Internet Applications", 3rd Edition, Wiley India, 2006.
3. Xue Bai et al, "The Web Warrior Guide to Web Programming", Thomson, 2003.
4. Sklar, "The Web Warrior Guide to Web Design Technologies", 1st Edition, Cengage Learning India.

BCA604P : WEB PROGRAMMING LAB

PART -A

1. Write a program to find factorial of list of number reading input as command line argument.
2. Write a program to sort list of element in ascending and descending order and show the exception handling.
3. Write a program to implement all string operations.
4. Write a program to find area of geometrical figures using method overloading.
5. Write a program to implement constructor overloading by passing different number of parameter of different types.
6. Write a program to create student report using applet, read the input using text boxes and display the o/p using buttons.
7. Write a program to implement an apply by passing parameter to HTML.
8. Write a program to implement thread, applets and graphics by implementing animation of ball moving.
9. Write a program to implement mouse events.
10. Write a program to implement keyboard events.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.

b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.

c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks

Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA604P : WEB PROGRAMMING LAB

PART - A

1. Create a form having number of elements (Textboxes, Radio buttons, Checkboxes, and so on). Write JavaScript code to count the number of elements in a form
2. Create a HTML form that has number of Textboxes. When the form runs in the Browser fill the textboxes with data. Write JavaScript code that verifies that all textboxes has been filled. If a textboxes has been left empty, popup an alert indicating which textbox has been left empty.
3. Develop a HTML Form, which accepts any Mathematical expression. Write JavaScript code to Evaluates the expression and Displays the result.
4. Create a page with dynamic effects. Write the code to include layers and basic animation.
5. Write a JavaScript code to find the sum of N natural Numbers. (Use user-defined function)
6. Write a JavaScript code block using arrays and generate the current date in words, this should include the day, month and year.
7. Create a form for Student information. Write JavaScript code to find Total, Average, Result and Grade.
8. Create a form for Employee information. Write JavaScript code to find DA, HRA, PF, TAX, Gross pay, Deduction and Net pay.
9. Create a form consists of a two Multiple choice lists and one single choice list

(a) The first multiple choice list, displays the Major dishes available

(b) The second multiple choice list, displays the Starters available.

(c)The single choice list, displays the Soft drinks available.

10. Create a web page using two image files, which switch between one another as the mouse pointer moves over the image. Use the on Mouse Over and on Mouse Out event handlers.

PART – B

During practical examination the External and Internal examiners may prepare exam question paper related to theory syllabus apart from Part-A. (A minimum of 10 Programs has to be prepared).

Note :

a) The candidate has to write both the programs One from Part-A and other from Part-B and execute one program as of External examiner choice.

b) A minimum of 10 Programs has to be done in Part-B and has to be maintained in the Practical Record.

c) Scheme of Evaluation is as follows:

Writing two programs	- 10 Marks
Execution of one program	- 10 Marks
Formatting the Output	- 05 Marks
Viva	- 05 Marks
Record	- 05 Marks
Total	**- 35 Marks**

BCA605P : PROJECT WORK

Students should individually develop a project. They should implement their project in college in any RDBMS package or any language available in the college. The project should web based. The students have to collect data outside practical hours. Project may be taken outside but must be implemented in the college. Internal marks can be awarded by the guide by evaluating the performance of the students during the course of project work. In viva-voce the questions must be directed only on the project work to access the involvement and understanding of the problem by the students.

The project carries 200 marks is distributed as follows:

Demonstration and Presentation	130 Marks
Viva-voce	50 Marks
Project Report	20 Marks

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Phone No.: 080 - 22961958(o)
Fax No.: 080 - 22961958(o)
Mo: +91 94480 06278
Email: dr_mrg@rediffmail.com

BANGALORE UNIVERSITY
DEPARTMENT OF COMMERCE
Central College Campus, Bangalore – 560 001.

No.: /DEPT/COMM/2013 – 14 **Date:** 17th July 2014

Dr. M. Ramachandra Gowda
Professor and Chairman

To,
The Registrar
Bangalore University,
Bangalore.

Respected Madam,

Sub: Submission of B.Com Vocation Tourism and Office Management and Secretarial Practice.

I am herewith sending B.Com (Vocational) Tourism and Office Management Secretarial Practice based on Credit System. This syllabus is applicable from the Academic Year 2014-'15. The same has been decided by BOS (UG) held on 12th June 2014 also placed before faculty also. This is for your kind information.

Thanking you,

Yours sincerely,

CHAIRMAN
CHAIRMAN
Department of Commerce
Central College Campus,
Bangalore University,
Bangalore - 560 001.

ST. CLARET COLLEGE B'LORE-13 MES Road, Jalahalli

Encl: B.Com (Vocational) Course Structure and Syllabus

17/7/14

B.Com –Vocational
TOURISM AND TRAVEL MANAGEMENT

SYLLABUS

1.6 VOCATIONAL PAPER 1 TOURISM BUSINESS

Introduction to Travel, Tourism and Hospitality Management

Chapter I : Introduction

Meaning and definition of tourism – Evolution of tourism. Nature and Importance of tourism. Mass tourism – Basic components of tourism – Types of tourism. Domestic and International tourism – Positive and negative impacts of tourism: Economical, social, cultural, environmental and infrastructural. Tourist – Definition, Meaning and importance.

Chapter II : Attraction

Tourist Destinations and world Heritage centers of India.

Chapter III : Accessibility

Transport systems – Transport and tourism – Types of transport – Surface transport, air transport and sea transport, luxury trains – Airlines in India – cruise industry.
Reservation procedure for railways and airways in brief.

Chapter IV : Accommodation

Accommodation – meaning – classification – Types -primary and secondary – significance of accommodation. Hotels– Motels, Holiday homes – youth hostels – Resorts – Home stay – Fo... Lodges – Budget hotels – Star hotels

Management of hospitality industry – organizational structure Departments in a hotel – functions and responsibilities of- front office management , food and beverages ,house keeping, Engineering and maintenance, Accounts and finance, Personal or HR. Types of rooms – Billing procedure.

CHAIRMAN
Department of Commerce,
Campus.

(2)

Chapter V : Tourism in India

Growth and development of tourism in India. Role of -Government – Ministry of Tourism – Public sector (ITDC) – Tourism in Karnataka – role of KSTDC – Statistics on Indian tourism.

Practical for skill development :

Record Journal to be maintained based on the subject.

- Prepare a report on unexplored destination in India and their potential for tourism promotion.
- Students are required to maintain a newspaper clippings file, detailing the articles pertaining to tourism.

BOOKS FOR REFERENCE:

- An Introduction to Travel and Tourism – Dennis L Foster
- Christropher J. Holloway : The Business of Tourism : Macconald and Evans, 1983.
- Tourism Management – Stephan J Page
- Tourism Industry in India – By Tapan K Panda and Sitikantha Mishra
- A..K.Bhatia : Tourism Development, Principle and Practiuces : Sterling publishers (p) Ltd New Delhi.
- Anand M.M : Tourism and Hotel Industry in India :Sterling pubiishers (p) Ltd. New Delhi.
- Kaul.R.H : Dynamics of Tourism : A trilogy Sterling Publishers (p) Ltd New Delhi.
- IITTM : Growth of Modern Tourism – monograph : IITM, New Delhi.,1989.
- ITTM : Tourism as an industry – monograph : ITTM, New Delhi, 1989.
- Burhat and Medlik : Tourism – Past, present and future Heinemann, London.
- Wahab, S.E: Tourism Management : Tourism International Press, London1986.
- Brymer, Robert A : Introduction to Hotel and Restaurant Management : Hub publication, Co., Lowa, 1984.
- Riccline J.R.Brent : Travel and Tourism Hospitality Research, London, 1982.
- Surinder Aggarwat : Travel agency.

VOCATIONAL PAPER– II

TOURISM PRODUCT

Chapter I : introduction

Tourism product – Meaning – definition, characteristics. Types of tourism product – natural (land, water, climate) – Manmade – Symbolic. Tourism Environment – Geographical components.

Chapter II : Natural Tourism Products.

Geographical resources – features – Landforms, Climate, water bodies- flora and fauna (National parks – wild life sanctuaries) – Mountains – Islands – Beaches – Deserts etc.- as tourist destinations.

Chapter III : Socio- Cultural Products

Art and performing Arts of India – Painting – Dances (classical and folk) – music (Hindustani – Karnatik) Indian musical instruments – Handicraft etc. as potential tourist resources.

Chapter IV : Fairs and Festivals

Fairs and Festivals of India – [Social – Religious and Commercial] Tourism promotional fairs and festivals – Hampi, Pattadakal Dance festival, Snake- boat festival, Khajuraho Dance festival, Kite festival, Desert festival etc.

Chapter V : Man made Tourism Product

Art and Architecture in India – various styles. Monuments in India – Religious shrines – Museums, Art galleries

Chapter VI : Emerging Trends in Tourism:

Brief introduction on-

- Health Tourism – Medical and Wellness Tourism.
- Adventure Tourism – land based, water based, air based.
- Rural Tourism – Education and Sports tourism.
- MICE tourism – Coastal tourism.
- Eco tourism – Sustainability.

(4)

Practical for Skill Development:

- Record journal to be maintained based on the subject
- On job training I (Field Study Report) students are required to prepare a report on Indian tourism product
- Students are required to undertake a field tour for a period of 2 weeks.

BOOKS FOR REFERENCE :

- Percy Brown : Indian Architecture Hindu and Buddhist period.
- Dennis L Foster :An introduction to Travel and tourism
- Tapan K Panda and Sitikantha Mishra.:Tourism Industry in India
- Harle .J.C : The Art and Architecture of Indian Sub Continent.
- Stephan J Page -Tourism Management
- Bharitya Vidya Bhawan : Imperial Unity.
- Bharitya vidya Bhawan : Classical age.
- Acharya Ram : Tourism and Cultural Heritage of India: Rosa Publication (Jaipur, 1986)
- Basham.A.L : The Wonder that was India : Rupa and Com Delhi-1988.
- The gazette of India : History and Culture,
- Hussain.A.K : The culture of india, National Beek Trust, New Delhi-1987.
- Mukerjee.R.K : The culture and art of India- George Allen Unwin Ltd. London 1959
- The Treasure of Indian Museum : Marg Publication Bombay.

VOCATIONAL PAPER III

TRAVEL AGENCY AND TOUR OPERATOR ORGANISATIONS

Chapter I : Introduction

Travel Agencies-Definition, functions, duties. Types of travel agencies - services and products offered by travel agencies. Modern Travel Agencies.
Tour operators – Role – functions and types of Tour operators Difference between travel agency and tour operators – approval procedure.

Chapter II : Organization Structure

Organizational structure of Travel Agencies. Procedure to start a travel agency in India – IATA approval. Duties and responsibilities of staff and managers. Functions of travel agents in -customs office – passport office and foreign affairs Ministry. Itinery development, tour packaging process, costing and pricing.

Chapter III : Tourist Guides

Definition- duties and responsibilities – categories- procedure to become a recognized Tourist guide.

Chapter IV : Travel Documentation.

Passport – procedure for obtaining a passport in India. Visa – types – procedure.
Inbound and out bound regulations. Customs – Airport tax, currency regulations and Health regulations.

Chapter V : Tourism organizations

State,National and International Tourism Institutions and Organizations -WTO, WTTC, IATA, TAAI, PATA, etc.
ITDC, KSTDC.

Practical for Skill Development :

- Record Journal to be maintained based on the subject.
- Students are required to visit a Travel Agency or Tour operator and prepare a report on it (which should include various functions performed by the travel agency)
- Passport and visa format.

BOOKS FOR REFERENCE :

- Travel Agency Management An Introductory Text by Mohinder Chand
- An Introduction to travel and tourism – Dennis L Foster
- Tourism Management – Stephan J Page
- Tourism industry in India – By Tapan K Panda and Sitikantha Mishra
- Travel Agents and Tourism : Merissa Jome.W
- David H. Howel- Principal and methods of scheduling reservations(national publishers)
- Agarwal, Surinder : Travel agency management
- Geo, Chack : Professional Travel agency management : prentice Hall London,
- Bhatia.A.K. : Tourism Development – principles and policies sterling publishers, New Delhi.
- Iliam Cordve : Travel in India.
- The World of Travel- national publishers Delhi .

VOCATIONAL PAPER IV TOURISM MARKETING

Chapter -I Introduction

Marketing –Meaning –Definition –Characteristics- importance Classifications.
Concepts in service marketing; Needs, Wants, Demands, Products markets.

Chapter –II Marketing of Tourism

Marketing of Tourism – Forecasting tourism demand –Market segmentation and positioning -Marketing of:- Airlines, Hotels, Resorts, Travel Agencies and other tourism related services – Challenges and strategies. -Tourism marketing mix.

Chapter-III Market Research

Marketing research- Meaning-Definition-methods and importance of marketing research. Primary data, secondary data, qualitative and quantitative data and marketing information systems (MIS) and its function – Consumer and consumer behaviour, factors influencing the buying behaviour of consumers – market segmentation and bases for segmenting consumers market. Targeting and positioning and market strategies in tourism. Market survey- Questionnaire – Process of marketing Research.

Chapter –IV Marketing strategies

Marketing strategies – various marketing strategies in Travel and tourism. Developing marketing strategies in tourism – New product development – Professionalism- customer satisfaction –Branding. Product strategies- pricing considerations – distribution channels. Tour packages – tour brouchers – communication and technology in marketing Tourism.

Practical for skill Developments

- Students are required to prepare a questionnaire for the visitors on a historical monument
- Students are required to prepare a report on marketing strategy to promote a destination product.
- Broachers designing and itinerary planning.

BOOKS FOR REFERENCE :

- P C Sinha, Tourism Marketing
- An Introduction to Travel and Tourism – Dennis L Foster
- Tourism Management – Stephan J Page
- Tourism Industry in India – Tappan K Panda Sitikantha Mishra
- Kotler Philips - Marketing Management, PHI, New Delhi.
- Maccarthy D.K.J, Basic Marketing – A Management Approach.
- Douglas Foster, Travel and Tourism Management.
- Negi. M.S.- Tourism and Hospitality
- Wahab.S.Grampter, Tourism Marketing, Tourism International Press, London.
- Stephan.F.Witt, Tourism Marketing and Management Handbook, prentice Hall, New York.
- Renal A. Nykiel L, Marketing in Hospital Industrry (2nd ED.) Van Nestrand Reinhold.
- Maclean, Hunter, Marketing Management (Tourism in your business), Canadian Hotel and Restaurant Ltd,
- Kenneth E. Clow and David L. Kurtz, services Marketing, Biztantra Publications.

VOCATIONAL PAPER V

ENTREPRENEURSHIP DEVELOPEMENT PROGRAME

Chapter – I

Entrepreneurship : what is it? Introduction to entrepreneur entrepreneurship and enterprise – Importance and relevance of the entrepreneur – Factors influencing entrepreneurship – Pros and Cons of being an entrepreneurs – Women entrepreneurs, problems and promotion – Types of Entrepreneurs – Characteristics of a successful entrepreneur – Competency requirement for entrepreneurs – Awareness of self competency and its development

Chapter – II

Small Scale Industries – Small scale industries/ Tiny industries/ Ancillary industries/ cottage industries – definition, meaning, product range, capital investment, ownership patterns – Importance and role played by SSI in the development of the Indian economy– problems faced by SSI's and the steps taken to solve the problems – policies governing SSI's.

Chapter –III

Starting a Small Industry – To understand what constitutes a business opportunity, scanning the environment for opportunities, evaluation of alternatives and selection based on personal competencies. - An overview of the steps involved in starting a business venture – location, clearances and permits required, formalities, licensing and registration procedures – Assessment of the market for the proposed project – To understand the importance of financial, technical and social feasibility of the project.

Chapter – IV

Preparing the Business Plan (BP) – What is a BP? Why is it important? Who prepares it? Typical BP format

- Financial aspects of the BP
- Marketing aspects of the BP

- Human resource aspects of the BP
- Technical aspects of the BP
- Social aspects of the BP

Preparation of BP – Common pitfalls to be avoided in preparation of a BP

Chapter – V

Implementation of the project – Financial assistance through SFC's, SIDBI, Commercial banks, KSIDC, KSSIC, IFCI, - Non financial assistance from DIC, SISI, EDI, SIDO, AWAKE,TCO, TECKSOK, KVIC– Financial incentives for SSI's, and Tax Concessions – Assistance for obtaining raw material, machinery, land and building and technical assistance – Industrial estates role and types.

Chapter – VI

Sickness in SSI's – Meaning and definition of a sick industry – Causes of industrial sickness preventive and remedial measures for sick industries

SKILL DEVELOPMENT.

- Preparation of a project report to start a SSI Unit.
- Preparing a letter to the concerned authority seeking license to the SS Unit, You propose to start.
- Format of a business plan.
- A report on the survey of SSI units in the region where college is located.
- Chart showing financial assistance available to SSI along with the rates of interest.
- Chart showing tax concessions to SSI both direct and indirect.
- Success stories of Entrepreneurs in the region.

BOOKS FOR REFERENCE :

- Mark. J.Dollinger, Entrepreneurship – Strategies and Resources, Pearson Edition.
- Udai Pareek and T.V Rao– Developing Entrepreneurship.
- S.V.S. Sharma -Developing Entrepreneurship , Issues and Problems
- Srivastava- A Practical Guide to Industrial Entrepreneurs
- Government of India, Report of the committee on Development of small and medium entrepreneurs, 1975
- Bharusali- Entrepreneur Development
- Vasanth Desai- Management of Smal Scale Industry
- Vasanth Desai- Problems and Prospects of Small Scale Industry
- CSV Murthy- Entrepreneurial Development
- Dr. Anil Kumar, S.C.Poornima, Minni K.Abraham, Jayashree K- Entrepreneurial Development

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VOCATIONAL PAPER VI

Tourism Development – Planning and Policies

Chapter I : Introduction

General concepts of planning – Tourism Planning – planning and tourism development – principles of planning- tourism policy – meaning and significance of tourism policy – evolution of tourism policy – principles of tourism policy. – tourism planning process - complexities of planning in tourism.

Chapter II : Tourism planning in India

Tourism planning in India – five year plans and planning for tourism. Role of private and public sector in tourism planning. Development of tourist circuits – National Tourism Policy- Karnataka State Tourism Policy – Destination development.

Chapter III : Tourism legislations

National Action Plan 1992. Ancient Monuments Preservation Act- Ancient Monuments and Archeological Site and Remains Act 1972 – Wild Life Protection Act 1972.

Chapter IV : Customer Relationship Management

Customer relationship – public relationship and communication for tourism manager – importance of public relations and communication in tourism. Development of communication in tourism in brief.

Practical for Skill Development

Record journal to be maintained based on the subject

On the job training I :

Field Trip : The students of travel and management shall be required to undertake a field trip(3 weeks) to important tourist destination covering atleast 8 main centers relating to monuments, wildlife parks, bird sanctuaries and sport centers at their second year term.

Students are required to submit their field trip report consisting of about 50 typed pages during their practical examination of fourth semester for the evaluation of the internal and external examiner. The report and practical record in viva-voce examination carries 100 marks and shall be evaluated by both internal and external examiners jointly.

1. On the job training II :

The students shall be required to undergo (6 weeks) practical training by their third year term in a tourism enterprise- travel agency – hotel – airlines or tourism corporation, duly approved by the head of the institution.

Students are required to submit a comprehensive training report during their practical examination of VI semester. The report carries 50 marks for the practical examination purpose and shall be evaluated by both internal and external examiners jointly

2. Project report :

The students are required to make a project report on a topic under Travel and tourism in VI semester . The project must be with atleast 60 pages excluding annexures. It must be submitted for sixth semester practical examination to be evaluated by the internal and external examiner through a viva voice examination. It carries 50 marks. And Viva-voce carries 50 marks.

BANGALORE UNIVERSITY

REVISED SYLLABUS 2014 – 15

B.B.M., (CBCS) DEGREE SEMESTER SCHEME

DEPARTMENT OF COMMERCE

Central College Campus, Bangalore – 560 001.

BANGALORE UNIVERSITY
DEPARTMENT OF COMMERCE

REGULATIONS PERTAINING TO B.B.M (CBCS) DEGREE SEMESTER SCHEME 2014 - 15

I. OBJECTIVES :

1. To develop ethical managers with inter disciplinary knowledge'
2. To develop entrepreneurs
3. To prepare students to take the responsibility of full line of Finance function of a company with special reference to SME sector.
4. To prepare students to take the responsibility of full line of Marketing function of a company with special reference to SME sector.
5. To prepare students to take the responsibility of full line of Human Resource function of a company with special reference to SME sector.
6. To develop IT enabled global middle level managers for solving real life business problems.
7. To develop business analysts for companies, capital markets and commodity markets.
8. To prepare students to take up higher education to become business scientists, researchers consultants and teachers, with core competencies.
9. Also to develop the students for competitive examinations of UPSC, KPSC, BSRB, Staff Selection Commission, etc.

II. ELIGIBILITY FOR ADMISSION :

Candidates who have completed Two years Pre – University course of Karnataka State or its equivalent are eligible for admission into this course.

III. DURATION OF THE COURSE:

The course of study is four (04) years of Eight Semesters. A candidate shall complete his/her degree within eight (08) academic years from the date of his/her admission to the first semester. However, students successfully complete Two (02) years of the course and leave the course, will be awarded Diploma in Commerce. Students successfully completes Three (03) years of the course will be awarded Bachelors Degree in Management (B.B.M). An option is provided to the students to continue the course to the Fourth year and those who successfully complete the Fourth year will be awarded Bachelors Degree in Management (Hon.) {B.B.M. (Hon.)}.

IV. MEDIUM OF INSTRUCTION

The medium of instruction shall be in English.

V. CLASS ROOM STRENGTH OF STUDENTS

There shall be Maximum of 60 students in each section.

VI. ATTENDANCE:

a. For the purpose of calculating attendance, each semester shall be taken as a Unit.
b. A student shall be considered to have satisfied the requirement of attendance for the semester, if he/she has attended not less than 75% in aggregate of the number of working periods in each of the subjects compulsorily.

c. A student who fails to complete the course in the manner stated above shall not be permitted to take the University examination.

VII. COURSE MATRIX

See Annexure – 1

VIII. TEACHING AND EVALUATION:

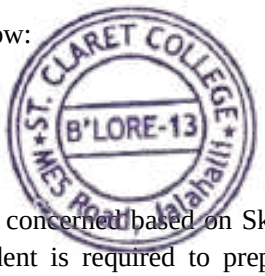
M.Com/MBA/MFA/MBS graduates with B.Com, B.B.M, BBA& BBS as basic degree from a recognized university are only eligible to teach and to evaluate the subjects (excepting languages, compulsory additional subjects and core Information Technology related subjects) mentioned in this regulation. Languages and additional subjects shall be taught by the graduates as recognized by the respective board of studies.

VIII. SKILL DEVELOPMENT / RECORD MAINTENANCE AND SUBMISSION:

a. Every college is required to establish a dedicated business lab for the purpose of conducting practical/on line assignments to be written in the record.
b. In every semester, the student should maintain a Record Book in which a minimum of 5 exercises/programs per subject are to be recorded. This Record has to be submitted to the Faculty for evaluation at least 15 days before the end of each semester.

IX. SCHEME OF EXAMINATION:

a. There shall be a university examination at the end of each semester. The maximum marks for the university examination in each paper shall be 70.
b. Of the 30 marks of Internal Assessment, 20 marks shall be based on Two tests. Each test shall be of at least 01 hour duration to be held during the semester. The average of two tests shall be taken as the internal assessment marks. The remaining 10 marks of the Internal Assessment shall be based on Attendance and Skill Development Record of 05 marks each.
c. The marks based on attendance shall be awarded as given below:
   75% to 80% = 02 marks.
   81% to 85% = 03 marks.
   86% to 90% = 04 marks.
   91% to 100% = 05 marks.
d. Marks for skill development shall be awarded by the faculty concerned based on Skill Development exercises provided in the syllabus of each paper. The student is required to prepare/workout the concerned exercises in a Record Book maintained by him/her and shall submit it the faculty concerned at least 15 days before the last date of the semester.



X. PROJECT REPORT AND VIVA-VOCE:

a) The Project report in the sixth semester carries 100 marks (70 marks for project report and 30 marks for viva – voce) which shall form part of Sixth semester examination.
b) There shall be single valuation of project report and this will be done simultaneously along with Vive - Voce. Internal Assessment does not carry any marks.
c) A batch of Two (02) Project Report and Viva – Voce Examiners shall evaluate and conduct Viva - Voce

examinations for a maximum of Thirty (30) Project Reports and Conduct Viva – Voce Examinations for the same candidates.

d) The principal of the college shall submit the project reports of the students, to the university within three days after the completion of Viva - Voce examination.
e) Candidate shall obtain a minimum of 40% marks (Including Viva-Voce) in this subject (project Report) failing which he she shall revise and resubmit before the commencement of the next examination. However, no student shall be allowed to resubmit the project report after three consecutive chances.
f) The student who fails to submit the project report shall not be permitted to take the examination.
g) The board of examiners or their nominees' shall conduct viva-voce examination for Project Report.

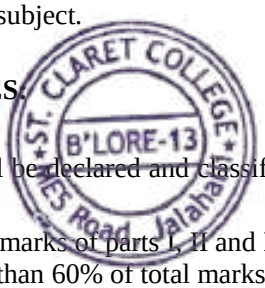
XI. APPEARANCE FOR THE EXAMINATION:

a) A candidate shall apply for all the parts in each examination when he/she appears for the first time. A candidate shall be considered to have appeared for the examination only if he/she has submitted the prescribed application for the examination along with the required fees to the university.
b) A candidate who has passed any language under Part-I shall be eligible to claim exemption from the study of the language if he/she has studied and passed the language at the corresponding level.
c) Further, candidates shall also be eligible to claim exemption from studying and passing in those commerce subjects which he/she has studied and passed at the corresponding level, subject to the conditions stipulated by the university.
d) A candidate who is permitted to seek admission to this degree course on transfer from any other University shall have to study and pass the subjects which are prescribed by the University. Such candidates shall not however, be eligible for the award of ranks.

XII. MINIMUM FOR A PASS:

Candidates who have obtained a minimum of 35% marks in university examination (i.e. 25 marks out of 70 marks of theory examination) and 40% in aggregate (i.e., total of university examination and internal assessment marks) in each subject shall be eligible for a pass or exemption in that subject.

XIII. CLASSIFICATION OF SUCCESSFUL CANDIDATES:



1. The results of the First to Sixth semester degree examination shall be declared and classified separately as follows:
    a. First Class: Those who obtain 60% and above of the total marks of parts I, II and III.
    b. Second Class: Those who obtain 50% and above but less than 60% of total marks of parts I, II and III.
    c. Pass Class: Rest of the successful candidates who secure 40% and above but less than 50% of marks in part I, II and III.
2. Class shall be declared on the basis of the aggregate marks obtained by the candidates in this degree course (excluding languages (part I) and non-core subjects (Part III)) as a whole. However, only those candidates who have passes each semester university examination in the first attempt only shall be eligible for award of ranks. The first ten ranks only shall be notified.

XIV. MEDALS AND PRIZES:

No candidates passing an external examination shall be eligible for any scholarship, fellowship, medal, prize or any other award.

XV. TERMS AND CONDITIONS:

a) A candidate is allowed to carry all the previous uncleared papers to the subsequent semester/semesters.
b) Such of those candidates who have failed/remained absent for one or more papers henceforth called as repeaters, shall appear for exam in such paper/s during the three immediately succeeding examinations. There shall be no repetition for internal assessment test.
c) The candidate shall take the examination as per the syllabus and the scheme of examination in force during the subsequent appearances.

XVI. PATTERN OF QUESTION PAPER:

Each theory question paper shall carry 70 marks and the duration of examination is 3 hours. The Question paper shall ordinarily consist of three sections, to develop testing of conceptual skills, understanding skills, comprehension skills, articulation and application of skills. The question paper setter shall be asked to prepare TWO sets of papers with a maximum of 10% repetition. The Question Paper will be as per the following Model:

SECTION-A **1.** a,b,c,d,e,f,g,	(Conceptual questions) Answer any Five	(05 X 02 = 10 Marks)
SECTION -B: **2,3,4,5,6.**	(Analytical questions) Answer any Three	(03 X 06 = 18 Marks)
SECTION-C: **7,8,9,10,11.**	(Essay type questions) Answer any THREE	(03 X 14 = 42 Marks)
Total		**70 Marks**

XVII. PROVISION FOR IMPROVEMENT OF RESULTS:

The candidate shall be permitted to improve the results of the whole examination or of any Semester or a subject within the prescribed time by the university after the publication of the results. This provision shall be exercised only once during the course and the provision once exercised shall not be revoked. The application for improvement of results shall be submitted to the Registrar (Evaluation) along with the prescribed fee.

XVIII. REMOVAL OF DIFFICULTY AT THE COMMENCEMENT OF THESE REGULATIONS:

If any difficulty arises while giving effect to the provision of these Regulations, the Vice Chancellor may in extraordinary circumstances, pass such orders as he may deem fit.

ANNEXURE – 1

BANGALORE UNIVERSITY
B.B.M (CBCS) COURSE SEMESTER SCHEME -- 2014 – 15
COURSE MATRIX

I SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 1 **Languages**	**Language:** Kannada / Sanskrit / Urdu / Tamil / Telugu /Malayalam/ Additional English / Marathi / Hindi	1.1	4	3	30	70	100	2
	Language: English	1.2	4	3	30	70	100	2
Part 2 **Optional**	Fundamentals of Accounting	1.3	4	3	30	70	100	2
	Business Organization and Environment	1.4	4	3	30	70	100	2
	Quantitative Methods for Business - I	1.5	4	3	30	70	100	2
	Management Process	1.6	4	3	30	70	100	2
Part 3	Foundation Course*		3	3	30	70	100	2
	CC & EC*				50	-	50	1
Total Credits								**15**

II SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 1 **Language**	**Language:** Kannada / Sanskrit / Urdu / Tamil / Telugu/Malayalam / Additional English / Marathi / Hindi	2.1	4	3	30	70	100	2
	Language: English	2.2	4	3	30	70	100	2
Part 2 **Optional**	Financial Accounting	2.3	4	3	30	70	100	2
	Quantitative Methods for Business – II	2.4	4	3	30	70	100	2
	Organizational Behavior	2.5	4	3	30	70	100	2
	Production and Operations Management	2.6	4	3	30	70	100	2
Part 3	Foundation Course*		3	3	30	70	100	2
	CC & EC*				50	-	50	1
Total Credits								**15**

III SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 1 **Language**	**Language:** Kannada / Sanskrit / Urdu / Tamil / Telugu/Malayalam / Additional English / Marathi / Hindi	3.1	4	3	30	70	100	2
Part 2 **Optional**	Soft Skills for Business	3.2	4	3	30	70	100	2
	Corporate Accounting	3.3	4	3	30	70	100	2
	Human Resource Management	3.4	4	3	30	70	100	2
	Services Management	3.5	4	3	30	70	100	2
	Corporate Environment	3.6	4	3	30	70	100	2
Part 3	SDC*		3	3	30	70	100	2
	CC & EC*				50	-	50	1
Total Credits								**15**

IV SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 1 **Language**	**Language:** Kannada / Sanskrit / Urdu / Tamil / Telugu/Malayalam / Additional English / Marathi / Hindi	4.1	1	1	30	70	100	2
Part 2 **Optional**	Business Research Methods	4.2	4	3	30	70	100	2
	Marketing Management	4.3	4	3	30	70	100	2
	Financial Management	4.4	4	3	30	70	100	2
	Business Regulations	4.5	4	3	30	70	100	2
	Cost Accounting	4.6	4	3	30	70	100	2
Part 3	SDC*		3	3	30	70	100	2
	CC & EC*				50	-	50	1
Total Credits								**15**

V SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 2 **Optional**	Entrepreneurial Management	5.1	4	3	30	70	100	3
	Computer Applications in Business	5.2	4	3	30	70	100	3
	Banking Regulations & Operations	5.3	4	3	30	70	100	3
	Management Accounting	5.4	4	3	30	70	100	3
	Elective Paper I	5.5	4	3	30	70	100	3
	Elective Paper II	5.6	4	3	30	70	100	3
Part 3	SDC*		3	3	30	70	100	2
Total Credits								**20**

VI SEMESTER

	Subjects	Paper	Instruction hrs/week	Duration of Exam(hrs)	Marks			Credits
					IA	Exam	Total	
Part 2 **Optional**	International Business	6.1	3	30	70	100	3	4
	E-Business	6.2	3	30	70	100	3	4
	Income Tax	6.3	3	30	70	100	3	4
	Strategic Management Or Project Report & Viva (Voce)	6.4	3	30	70	100	3	4
	Elective Paper III	6.5	3	30	70	100	3	4
	Elective Paper IV	6.6	3	30	70	100	3	4
Part 3	SDC*		3	30	70	100	2	3
Total Credits								**27**

ELECTIVE GROUPS

1. FINANCE GROUP

Semester No.	Paper No.	Title of the Paper	Lecture Hours Per Week	Total Marks
V	FN.5.5	Advanced Financial Management	04	100
	FN.5.6	Financial Markets & Services	04	100
VI	FN.6.5	Investment & Portfolio Management	04	100
	FN.6.6	Stock and Commodity Markets	04	100

2. MARKETING GROUP

Semester No.	Paper No.	Title of the Paper	Lecture Hours Per Week	Total Marks
V	MK.5.5	Consumer Behavior	04	100
	MK.5.6	Advertising & Media Management	04	100
VI	MK.6.5	Brand Management	04	100
	MK.6.6	Retail Management	04	100

3. HUMAN RESOURCE GROUP

Semester No.	Paper No.	Title of the Paper	Lecture Hours Per Week	Total Marks
V	HR.5.5	Employee Welfare & Social Security	04	100
	HR.5.6	Strategic HRM	04	100
VI	HR.6.5	Organizational Change & Development	04	100
	HR.6.6	Compensation Management	04	100

Note: VII and VIII Semester Syllabus as per Bangalore University 1st Year M.Com Course.

1. **Foundation, Skill Development or Interdisciplinary Courses (Foundation Course*)**
   (Common for all programmes):
   - Constitution of Indian and Human Rights
   - Environment and Public Health
   - Computer Applications and Information Technology
   - Business Entrepreneurship and Management
   - Philosophy, Psychology and Life Skills
   - Personality Development and Leadership / Integrating Mind, Body and Heart
   - Indian History, Culture and Diversity
   - Research Methodology
   - Education and Literacy / Science and Life
   - Human Resource Development .Management
   - One of the Foreign Languages such as German, French etc.
   - Any other Course prescribed by the University from time to time
   - Commodity & Stock Market
   - Mathematics in Finance

2. **Co-and Extra – Curricular Activities (CC& EC*)**
   A student shall opt for any one of the following activities in the first four semesters offered in the college
   - N.S.S / N.C.C./Rotary Activities / Rovers and Rangers
   - Sports and Games / Activities related to Yoga
   - A Small project work concerning the achievements of Indian in different fields
   - Evolution of study groups/seminar circles on Indian thoughts and ideas
   - Interaction with local communities in their neighborhood and learn about and from them
   - Exploring different aspects of Indian civilizations
   - Other activities such as Cultural Activities as prescribed by the University.

Evaluation of Co-and Extra Curricular Activities is as per the procedure evolved by the University from time to time.

1.3 FUNDAMENTALS OF ACCOUNTING

OBJECTIVE

The objective of this subject is to acquaint students with the accounting concepts, tools and techniques influencing business organizations.

Unit 1: INTRODUCTION TO FINANCIAL ACCOUNTING 08 Hrs

Introduction – Meaning and Definition – Objectives of Accounting – Functions of Accounting – Users of Accounting Information – Limitations of Accounting – Accounting Principles – Accounting Concepts and Accounting Conventions. Accounting Standards –List of Indian Accounting Standards.

Unit 2: ACCOUNTING PROCESS 10Hrs

Meaning – Process of Accounting – Kinds of Accounts – Rules - Transaction Analysis – Journal – Ledger – Balancing of Accounts – Trial Balance – Problems.

Unit 3: SUBSIDIARY BOOKS 10 Hrs

Meaning – Significance – Types of Subsidiary Books – Purchases Book – Sales Book – Purchase Returns Book – Sales Return Book – Bills Receivable Book – Bills Payable Book – Cash Book (Simple Cash Book, Double Column Cash Book, Three Column Cash Book and Petty Cash Book) and Journal proper. Bank Reconciliation Statement – Preparation of Bank Reconciliation Statement.

Unit 4: FINAL ACCOUNTS OF PROPRIETARY CONCERN 10 Hrs

Preparation of Profit& Loss Account and Balance Sheet(Vertical form).

Unit 5: SINGLE ENTRY SYSTEM 18Hrs

Meaning – Features – Types – Merits – Demerits – Differences between single entry and double entry systems – Preparation of Opening Statement of Affairs, Closing Statement of Affairs, Computation of Profit/Loss and Revised Statement of Affairs. Conversion of single entry to double entry system.

SKILL DEVELOPMENT

- List out the accounting concepts and conventions.
- List out any ten errors disclosed by trial balance
- Collect the final accounts of a proprietary concern and present it in vertical form
- Prepare a Bank Reconciliation Statement with imaginary figures

BOOKS FOR REFERENCE

1. Jawaharlal & Seema Srivastava: Financial Accounting, HPH
2. Saha, Fundamentals of Accounting, HPH
3. Dr. S.N. Maheswari, Financial Accounting, HPH
4. S Jayapandian: Financial Accounting from Zero,
5. Grewal and Gupta, Advanced Accounting, Sultan Chand.
6. S. P Jain and K. L. Narang ; Financial Accounting, Kalyani Publishers.
7. Soundra Rajan A & K. Venkataramana, Financial Accounting, SHB Publishers.

1.4 BUSINESS ORGANISATION AND ENVIRONMENT

OBJECTIVE

The objective is to familiarize the students with aspects of Business Organization and its Environment.

Unit 1: INTRODUCTION TO BUSINESS ORGANIZATION 10 Hrs

Meaning of Business – Classification of Business Activities – Industry – Types of Industry – Commerce – Trade – Aids to Trade –Meaning – Advantages and Disadvantages

Unit 2: FORMS OF BUSINESS ORGANIZATION 14Hrs

Sole Proprietorship – Meaning – Characteristics – Advantages and Disadvantages. Partnership – Meaning – Characteristics – Advantages and Disadvantages - Types of Partners. Co-operative Society - Meaning – Characteristics – Types – Advantages and Disadvantages.

Unit 3: JOINT STOCK COMPANY 08 Hrs

Meaning – Definition – Features – Types of Companies – Formation of a Company.

Unit 4: BUSINESS ENVIRONMENT 14Hrs

Meaning and Importance. Dimensions of Business Environment – Political, Economic, Social, Legal, Natural and Technological Environment.

Unit 5: GOVERNMENT AND BUSINESS 10Hrs

Meaning and Importance. Impact of Government policy on business and industry with reference to liberalization, privatization and globalization.

SKILL DEVELOPMENT

- Draw a Business Tree
- Prepare a Partnership deed
- Prepare Memorandum and Articles of Association of any company
- Discuss the Impact of Globalization on Indian Business and Industry
- State the impact of Technology on Indian Business

BOOKS FOR REFERENCE

1. Dr. Aswathappa: Essentials of Business Environment, HPH.
2. Francis Cherrunilam : Business Environment, HPH.
3. Muniraju S.K. Podder – Business Organisation & Environment
4. VivekMittall, – Business Environment, Excel Books, New Delhi.
5. Raj Agarwal – Business Environment, Excel Books, New Delhi.
6. K. Venkataramana, Business Environment, SHB Publishers.

1.5 QUANTITATIVE METHODS FOR BUSINESS - I

OBJECTIVE

To provide basic knowledge of quantitative methods and their application to commercial situations and for decision making in business.

Unit 1: NUMBER SYSTEM 04 Hrs

Introduction – Natural Numbers - Even Numbers – Odd Numbers – Integers – Prime Numbers – Rational & Irrational numbers, Real Numbers, HCF & LCM (Simple problems)

Unit 2: THEORY OF EQUATIONS 12Hrs

Introduction – Meaning – Types of Equations – Simple, Linear and Simultaneous Equations (only two variables) Eliminations and Substitution Method only. Quadratic Equation – Factorization and Formula Method ($ax^2 + bx + c = 0$ form only). Problems on Commercial Application.

Unit 3: PROGRESSIONS 12 Hrs

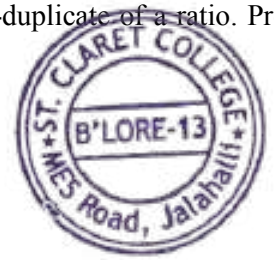
Introduction – Arithmetic Progression - Finding the 'n^{th} term of an AP and Sum to n^{th} term of AP. Insertion of Arithmetic Means in given terms of AP and representation of 3 terms of AP. Geometric Progression – Finding n^{th} term of GP – Sum to 'n'th Term of GP – Insertion of Geometric Means in given Geometric Progression and also representation of 3 terms of GP.

Unit 4: MATRICES AND DETERMINANTS 14Hrs

Introduction, Meaning, types of matrices – operations of addition, subtraction, multiplication of two matrices – problems, transpose of a square matrix. Determinant of a square matrix- minor of an element, co-factor of an element of a determinant. adjoint of a square matrix, singular and non-singular matrices – inverse of a square matrix – Problems on linear equations in two variables using Cramer's rule.

Unit 5: COMMERCIAL ARITHMETIC 14 Hrs

Simple interest, Compound interest including half yearly and quarterly calculations, annuities Percentages, bills discounting, concepts of Ratios, duplicate-triplicate and sub-duplicate of a ratio. Proportions, third, fourth and inverse proportion - problems.



SKILL DEVELOPMENT

- Calculation of future value of present value.
- Calculation of geometric mean i.e, CAGR.
- Calculation of EMI, Premium amount.

BOOKS FOR REFERENCE

1. A.LeninJothi : financial Mathematics, HPH.
2. Dikshit & Jain : Business Mathematics, HPH
3. Ranganath: Business Mathematics, GK Publications, Mumbai.
4. R. Selvaraj, Quantitative Methods in Management, Excel Books.
5. G.R. Veena & Seema: Business Mathematics and Statistics, I.K. Intl
6. Dr. Sancheti & Kapoor: Business Mathematics and Statistic, Sultan Chand and Sons.
7. Zamarudeen: Business Mathematics, Vikas Publishers.
8. Saha: Mathematics for Cost Accountants, HPH.
9. 7 Lectures – Quantitive Methods for Business – I, HPH

1.6 MANAGEMENT PROCESS

OBJECTIVES:

The objective is to familiarize the students with concepts and principles of Management

Unit 1: INTRODUCTION TO MANAGEMENT 12Hrs

Introduction - Meaning, Nature and Characteristics of Management - Scope and functional areas of Management - Management as a Science, Art or Profession - Management & Administration - Principles of management - Social responsibility of Management and Ethics.

Unit 2: PLANNING 08 Hrs

Nature, importance and purpose of planning - Planning process, Objectives - Types of plans (Meaning only) - Decision making – importance & steps.

Unit 3: ORGANIZING AND STAFFING 14Hrs

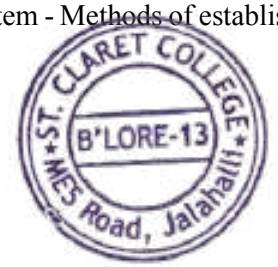
Nature and purpose of organization, Principles of organization - Types of organization –Departmentation, Committees - Centralization Vs decentralization of authority and responsibility - Span of Control - MBO and MBE(Meaning only) - Nature and importance of staffing.

Unit 4: DIRECTING AND COORDINATING 14Hrs

Meaning and nature of directing - Motivation theories (Maslow's, Herzberg, McGregor's X & Y theory). Leadership – Meaning -Formal and Informal Leadership – Characteristics - Leadership Styles - Autocratic/Dictatorial - Democratic/Participative, Free reign/Laissez faire Leadership Styles - Communication -Meaning and importance, Barriers to Communication, Types of Communication – Coordination–Meaning, importance and Principles.

Unit 5: CONTROLLING 08Hrs

Meaning and steps in controlling - Essentials of a sound control system - Methods of establishing control (in brief).



SKILL DEVELOPMENT

- Different types of Organization Charts (structure).
- Chart on Staffing.
- Graphic representation of Maslow's Theory.
- Chart on Media of Communication.
- Draft Control chart for different industries / business groups.

BOOKS FOR REFERENCE

1. Appanniah& Reddy, Management HPH.
2. T. Ramaswamy : Principles of Management, HPH.
3. Rekha & Vibha – Management Process, Vision Book House.
4. Koontz & O'Donnell, Management, McGraw Hill.
5. L M Prasad, Principles of management, Sultan Chand & Sons
6. V.S.P Rao/Bajaj, Management process and organization, Excel Books.

7. Karampal : Management Process &Organisational Behaviour, I.K. Intl
8. Rustum&Davan, Principles and practice of Management.
9. S V S Murthy, Essentials of Management.
10. Thomas. N. Duening& John. M. Ivan cevich, Management, Principles and Guidelines, Biztantra Publications.
11. Tripathi& Reddy, Principles of Management. McGraw Hill
12. Kandepu : Elements of Functional Administration, HPH
13. K. Venkataramana, Management Process, SHB Publishers.

2.3 FINANCIAL ACCOUNTING

OBJECTIVE:

The objective of this subject is to acquaint students with the accounting concepts, tools and Techniques influencing Business Organizations.

Unit 1: INSURANCE CLAIMS 10Hrs

Introduction – Need – Policy for Loss of Stock – Steps for ascertaining Fire insurance claim – Treatment of Salvage – Average Clause –Computation of Fire insurance claims.

Unit 2: HIRE PURCHASE AND INSTALLMENT SYSTEMS 12Hrs

Introduction – Meaning – Hire Purchase Act 1972 – Important Definitions – Hire Purchase Agreement – Hire Purchase Price – Cash Price – Hire Purchase Charges – Net Hire Purchase Price – Net Cash Price – Calculation of Interest – Calculation of Cash Price – Journal Entries and Ledger Accounts in the books of Hire Purchaser and Hire Vendor. Installment System – Meaning – Features – Differences between Hire Purchase System and Installment Purchase System (Theory only)

Unit 3: ROYALTY ACCOUNTS 12Hrs

Introduction – Meaning – Technical Terms – Royalty – Landlord – Tenant – Minimum Rent – Short Workings – Recoupment of Short Working under Fixed Period – Floating Period – Recoupment within the Life of a Lease – Treatment of Strike and Stoppage of work – Accounting Treatment in the books of Lessee – Preparation of Ledger Accounts – Royalty Account – Landlord Account – Short Workings Account – Minimum Rent Account when Minimum Rent Account is required.

Unit 4: SALE OF PARTNERSHIP TO A LIMITED COMPANY 14Hrs

Introduction – Need for conversion - Meaning of Purchase Consideration – Mode of Discharge of Purchase Consideration – Method of calculation of Purchase Consideration – Net Payment Method – Net Asset Method – Passing of Journal Entries and Preparation of Ledger Accounts in the books of Vendor – Treatment of certain items – Dissolution Expenses – Unrecorded Assets and Liabilities – Assets and Liabilities not taken over by the Purchasing Company – Contingent liabilities – Non-assumption of trade liabilities – Passing of Incorporation entries in the books of Purchasing Company.

Unit 5: ISSUE OF SHARES 8 Hrs

Meaning of Share, Types of Shares – Preference shares and Equity shares – Issue of Shares at par, at Premium, at Discount, Pro – Rata Allotment – Journal Entries and Bank Accounts – Preparation of Balance Sheet in the Vertical form.

SKILL DEVELOPMENT

- Problems on calculation of purchase consideration when a firm is converted into a limited company
- Computation of cash price, interest components and hire purchase installments taking any problem
- Understand the meaning and purpose of loss of stock insurance including the average clause
- A problem on royalty highlighting the significance of minimum rent and recoupment of short workings

BOOKS FOR REFERENCE

1. Anil Kumar & Others – Financial Accounting
2. M.A.Arunachalam&K.S.Raman: Advanced Accountancy
3. B.S. Raman, Advanced Accountancy Vol II
4. V.K. Goyal, Financial Accounting 2nd Edition
5. Shukla and Grewal, Advanced Accountancy
6. Gupta and Radhaswamy, Advanced Accountancy Vol I& II
7. Agarwal and Jain, Advanced financial Accounting
8. Guruprasad Murthy : Financial Accounting
9. Maheshwari, Advanced Accountancy Vol I & II
10. B.M. Lall Nigam & G.L. Sharma, Advanced Accountancy
11. S.N. Maheshwari& S.K. Maheshwari, Financial Accounting
12. Jain S.P &Narang K.L, Basic Financial Accounting
13. Soundra Rajan A & K Venkataramana, Financial Accounting, SHB Publishers.

2.4 QUANTITATIVE METHODS FOR BUSINESS - II

OBJECTIVE

The objective is to provide basic knowledge of quantitative methods and their commercial application for decision making in business.

Unit 1: INTRODUCTION TO STATISTICS 04 Hrs

Background and Basic concepts: Introduction – Definition of Statistics – Functions – Scope – Limitations, Classification and Tabulation of Data.

Unit 2: MEASURES OF CENTRAL TENDENCY 14 Hrs

Introduction – Types of averages – Arithmetic Mean (Simple and Weighted) – Median – Mode – Graphic location of Median and Mode through Ogive Curves and Histogram.

Unit 3: MEASURES OF DISPERSIONAND SKEWNESS 14 Hrs

Part – 1: Measures of Dispersion : Meaning– Calculation of Absolute and Relative measures of dispersion - Range – Quartile Deviation – Mean Deviation – Standard Deviation and Coefficient of Variation.

Part – 2: Measures of Skewness: Meaning of Skewness - Symmetrical &Skewed Distributions- Measures of Skewness - Absolute and Relative Measures of Skewness – Karl Pearson's Coefficient of Skewness and Bowley's Coefficient of Skewness

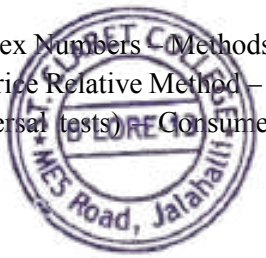
Unit 4: CORRELATION AND REGRESSION ANALYSIS 14Hrs

Correlation – Meaning & Definition - Uses – Types – Probable error – Karl Pearson's & Spearman's Rank Correlation (Excluding Bi-variate and Multiple correlation).

Regression – Meaning and Definition, Regression Equations - Problems

Unit 5: INDEX NUMBERS 10 Hrs

Meaning & Definition – Uses – Classification – Construction of Index Numbers – Methods of constructing Index Numbers – Simple Aggregate Method – Simple Average of Price Relative Method – Weighted Index numbers – Fisher's Ideal Index (including Time and Factor Reversal tests) – Consumer Price Index – Problems



SKILL DEVELOPMENT

- Collect the age statistics of 10 married couples and compute correlation coefficient.
- Collect the age statistics of 10 newly married couples and compute regression equations. Estimate the age of bride when age of bridegroom is given.
- Select 10 items of daily-consumed products and collect base year quantity, base year price and current year price. Calculate cost of living index.

BOOKS FOR REFERENCE

1. S P Gupta: Statistical Methods- Sultan Chand, Delhi
2. C.R.Reddy : Quantitative Techniques for Management Decisions, HPH.
3. Dr. B N Gupta: Statistics (SahitytaBhavan), Agra.
4. R.S Bhardwaj: Business Statistics, Excel Books.

5. Chikodi & Pradad – Quantitative Method for Business - II
6. Veerchamy : Operation Research I.K. International Publishers
7. S C Gupta: Business Statistics, Himalaya Publications.
8. Ellahance : Statistical Methods
9. Sanchethi and Kapoor: Business Mathematics, Sultan Chand
10. C.S Mujawar : Statistics for Managers I.K. International Publishers

2.5 ORGANISATIONAL BEHAVIOUR

OBJECTIVE:

The objective is to enable the students to understand the Organizational Behaviour, and Organizational Change and dynamic of groups .

Unit 1: ORGANIZATIONAL BEHAVIOUR 06Hrs

Organization Behaviour– Definition, Scope and Application in Management -Contributions of other disciplines to OB–Emerging issues in Organizational Behaviour.

Unit 2: PERSONALITY, PERCEPTION AND ATTITUDES 16 Hrs

Personality : Meaning - Determinants of Personality - Biological factors - Cultural factors - Family and Social Factors - Situational factors -Personality attributes influencing OB, Interactive Behaviour and Interpersonal Conflict.

Perception : Meaning - Need - Perceptual Process – Perceptual Mechanism - Factors influencing perception.

Attitude: Meaning of Attitude - Characteristics of Attitude – Components of Attitude - Attitude and Behaviour – Attitude formation, change in attitude and barriers to attitude.

Unit 3: LEARNING AND BEHAVIOUR MODIFICATION 08Hrs

Principles of Learning & Reinforcement - Observational Learning - Cognitive Learning - Organizational Behaviour Modification - Steps in Organizational Behaviour Modification process - Organizational Reward Systems

Unit 4: GROUP DYNAMICS 12Hrs

Meaning - Types of Groups - Functions of small groups - Group Size Status - Managerial Implications – Group Behaviour - Group Norms - Cohesiveness - Group Think,

Unit 6: ORGANIZATIONAL CHANGE AND DEVELOPMENT 14Hrs

Organizational Change: Meaning - Nature of work change - Pressure for change - Change process - Types of change – Factors influencing change - Resistance to change - Overcoming resistance - **Organizational Development**–Meaning and different types of OD interventions.

SKILL DEVELOPMENT

- Meaning of job enrichment and list the requirements of job enrichments
- Characteristics of attitude and components of attitude – A brief discussion
- List the determinants of personality
- Factors influencing perceptions - A brief explanation
- List the characteristics of various leadership styles.

BOOKS FOR REFERENCE

1. K. Aswathappa, Organizational Behaviour, HPH.
2. Appanniah&, Management and Behavioural Process, HPH.
3. Rekha & Vibha – Organizational Behavioural

4. Robbins, Organizational Behaviour, International Book House.
5. John W. Newstrom&Kieth Davis, Organizational Behaviour, McGraw Hill.
6. P.G. Aquinas Organizational Behavior, Excel Books.
7. Fred Luthans, Organizational Behaviour. McGraw Hill.
8. M. Gangadhar. V.S.P.Rao and P.S.Narayan, Organizational Behaviour
9. M.N.Mishra: OrganisationalBehaviour and Corporate Development, HPH.
10. Karamapl : Business Management & Organizational Behavioral I.K. International
11. N.S. Gupta, Organizational Behaviour, HPH.
12. Jit. S. Chandan, Organisational Behaviour, Vikas Publishing House.
13. Sharma R.K & Gupta S.K, Management and Behaviour Process, Kalyani Publishers.
14. K. Venkataramana, Organisational Behaviour, SHBP.

2.6 PRODUCTION AND OPERATIONS MANAGEMENT

OBJECTIVE

The objective of the subject is to make the students understand the concepts of production and operations management of an industrial undertaking and the benefits of automation.

Unit 1: INTRODUCTION TO PRODUCTION AND OPERATIONS MANAGEMENT 12Hrs

Introduction - Meaning & Definition – Classification - Objectives and Scope of Production and operation Management -Automation: Introduction – Meaning and Definition – Need – Types - Advantages and Disadvantages.

Unit 2: PLANT LOCATION AND LAYOUT 08 Hrs

Introduction – Meaning & Definition - Factors affecting location, theory and practices, cost factor in location - Plant layout principles - space requirement- Different types of facilities, Organization of physical facilities – building, sanitation, lighting, air conditioning and safety.

Unit 3: MATERIALS MANAGEMENT 08Hrs

Introduction – Meaning & Definition - Purchasing, Selection of Suppliers, Inventory Management, Material Handling Principles and Practices, Economic Consideration, Criteria for Selection of Materials Handling Equipment, Standardization, Codification, Simplification, Inventory Control, Techniques of

Unit 4: PRODUCTION PLANNING AND QUALITY CONTROL 16Hrs

Objectives and Concepts, capacity planning, corresponding production planning, controlling, scheduling routing – Quality Control - Statistical Quality Control, Quality Management, Control charts and operating characteristic curves, acceptance sampling procedures, Quality Circle, Meaning of ISO and TQM. Productivity – factors influencing productivity - Concept of Standard Time, Method study, Time and Motion Study, Charts and Diagrams, Work Measurements

Unit 6: MAINTENANCE AND WASTE MANAGEMENT 12Hrs

Introduction – Meaning – Objectives - Types of maintenance, Break down, spares planning and control, preventive routine, relative advantages, maintenance scheduling, equipment reliability and modern scientific maintenance methods - Waste Management - Scrap and surplus disposal, salvage and recovery.

SKILL DEVELOPMENT

1. Visit any industry and list out the stages of PPC with as many details as possible.
2. List out the Functions of Materials management in an organization
3. Describe the Functions of Quality Circles in an industry
4. Draw a ISO specification chart
5. Visit a company and List out Environmental issues.
6. Visit a company and draw a chart on Plant layout.

BOOKS FOR REFERENCE

1. Ashwathappa. K & Sridhar Bhatt : Production & Operations Management, HPH.
2. Gondhalekar&Salunkhe : Productivity Techniques, HPH.
3. SN Chary, Production & Operations Management, McGraw Hill.
4. U. Kachru, Production & Operations Management, Excel Books.
5. Alan Muhlemann, John Oaclank and Keith Lockyn, Production & Operations Management, PHI.
6. K KAhuja, Production Management, CBS Publishers.
7. S.A. Chunawalla& Patel: Production & Operations Management, HPH.
8. Everett E Adam Jr., and Ronald J Ebert, Production & Operations Management, Sage Publishers.
9. Dr. L. N. Agarwal and Dr. K.C. Jain, Production Management
10. Thomas E. Morton, Production Operations Management, South Western College.
11. K. Venkataramana, Production Operations Management, SHBP.
12. Sridhara Bhatt - Production & Operation Management, HPH.
13. Ghousia Khaloon – Production & Operation Management, VBH.

3.2 SOFT SKILLS FOR BUSINESS

OBJECTIVE:

The objective is to develop both oral and written communication skills relating to organizational and Business issues

Unit 1: ELEMENTS OF COMMUNICATION 14Hrs

Meaning, Importance, Objectives & Principles of Communication, , Process, impediments of effective communication, Strategies for effective communication. Types and forms of communication

Nonverbal Communication- Body Language, Gestures, Postures, Facial Expressions, Dress codes, The Cross Cultural Dimensions of Business Communication, Listening & Speaking, Techniques of Eliciting Response, Probing Questions, Observation, Business and social etiquette.

Unit 2: PUBLIC SPEAKING 10 Hrs

Importance of Public Speaking and Speech Composition - Principles of Effective Speaking& Presentations. Technical speeches & Non-technical presentations. Speech for introduction of a speaker - Speech for vote of thanks -Occasional speech - Theme speech. Moderating programs - Use of Technology

Unit 3: INTERVIEW TECHNIQUES 08 Hrs

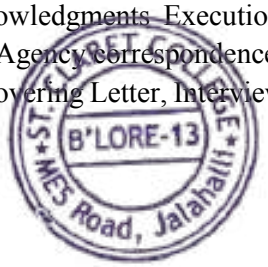
Importance of Interviews, Art of conducting and giving interviews, Placement interviews - discipline interviews - Appraisal interviews – Exit interviews.

Unit 4: MEETINGS 08Hrs

Importance of Meetings -Opening and Closing Meetings - Participating and Conducting Group discussions. Brain Storming, e– Meetings, preparing agenda and minutes of the meeting

Unit 5: BUSINESS COMMUNICATION 16Hrs

Business Letters: Inquiries, Circulars, Quotations, Orders, Acknowledgments Executions, Complaints, Claims &Adjustments, Collection letter, Banking correspondence, Agency correspondence, Bad news and persuading letters, Sales letters, Job application letters - Bio-data, Covering Letter, Interview Letters, Letter of Reference. Memos, Minutes, Circulars &Notices.



SKILL DEVELOPMENT

- Conduct a mock meeting and draft minutes of the meeting.
- Draft a letter of enquiry to purchase a laptop.
- Draft your bio-data.
- Prepare your Career Plan.

BOOKS FOR REFERENCE

1. Rai & Rai – Soft Skill for Business
2. Santhosh Kumar – Soft Skill for Business, VHB.
3. C.G.G Krishnamacharyulu&Lalitha :Soft Skills of Personality Development, HPH.
4. Lesikar, R.V. &Flatley, M.E. (2005). Basic Business Communication Skills for

Empowering the Internet Generation. Tata McGraw Hill Publishing Company Ltd.,New Delhi.
5. Rai&Rai: Business Communication Himalaya Publishing House
6. Rajkumar, Basic of Business Communication
7. Ludlow, R. & Panton, F. (1998). The Essence of Effective Communications. Prentice Hall of India Pvt. Ltd.
8. M.S. Rao : Soft Skills – Enhancing Employability I.K. International PH.
9. Rao& Das : Communication Skills, I.K. International PH.
10. Adair, J. (2003). Effective Communication. Pan McMillan.
11. Thill, J. V. &Bovee, G. L. (1993). Excellence in Business Communication. McGrawHill, New York.
12. Bowman, J.P. &Branchaw, P.P. (1987). Business Communications: From Process to Product. Dryden Press, Chicago.
13. Sharma S.P. & Others, Business Communication
14. Banerjee : Soft Skills Business and Professional Communication, I.K. International

3.3 CORPORATE ACCOUNTING

OBJECTIVE

The objective of this subject is to enable the students to have a comprehensive understanding about the provisions of the Company's Act and Corporate Accounts.

Unit 1: COMPANY FINAL ACCOUNTS 20 Hrs

Statutory Provisions regarding preparation of Company Final Accounts – Treatment of Special Items – Managerial Remuneration – Tax deducted at source – Advance payment of Tax – Provision for Tax – Depreciation – Interest on debentures – Dividends – Rules regarding payment of dividends (Theory only) – Transfer to Reserves – Preparation of Profit and Loss Account and Balance Sheet as per Section 219(1)(b) (IV) and form 23AB. Abridged Profit and Loss Account – Abridged Balance Sheet (Vertical Form).

Unit 2: FINANCIAL STATEMENTS ANALYSIS 10 Hrs

Analysis of financial statements – comparative statements, comparative income statement, comparative Balance sheet – common size statements – Common size income statement, common size Balance Sheet – Trend percentages. Reporting to management – Management Decision and Analysis.

Unit 3: VALUATION OF GOODWILL 8Hrs

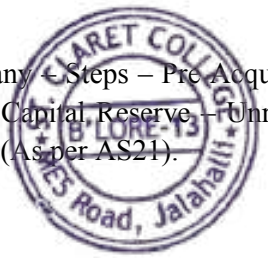
Meaning – Circumstances of Valuation of Goodwill – Factors influencing the value of Goodwill – Methods of Valuation of Goodwill - Average Profit Method – Super Profit Method – Capitalization of Super Profit Method – Annuity Method – Capitalization of Profit Method.

Unit 4: VALUATION OF SHARES 8 Hrs

Meaning – Need for Valuation – Factors Affecting Valuation – Methods of Valuation – Asset Backing or Intrinsic Value Method – Yield Method – Earning Capacity Method – Fair Value Method - Rights Issue and Valuation of Rights Issue.

Unit 5: HOLDING COMPANY ACCOUNTS 10 Hrs

Introduction – Meaning of Holding Company – Subsidiary Company – Steps – Pre Acquisition Profits – Post Acquisition Profits – Minority Interest – Cost of Control or Capital Reserve – Unrealized Profit – Mutual Indebtedness – Preparation of Consolidated Balance Sheet (As per AS21).



SKILL DEVELOPMENT

- Collect and fill the share application form of a limited Company.
- Collect a Prospectus of a company and identify the reasons to invest or not to invest in shares.
- List the various functions of underwriters.
- Collect annual report of a Company and List out its assets and Liabilities.
- Collection of latest final accounts of a company and find out the net Asset value of shares
- List out the conditions to be fulfilled for redemption of Preference shares.

BOOKS FOR REFERENCE

1. Anil Kumar - Marriappa – Corporate Accounting , HPH.
2. M.A.Arunachalam & K.S.Raman: Corporate Accounting – II, HPH.
3. Dr. S.N. Maheswari , Financial Accounting, Jain Book Depot.
4. V.K. Goyal: Corporate Accounting, PHI.
5. Soundrarajan A & K. Venkataramana, Corporate Accounting, SHBP.
6. S. P. Jain and K. L. Narang – Corporate Accounting, Kalyani Publishers.
7. SP Iyengar, Advanced Accountancy, Sultan Chand and Sons, New Delhi.
8. R L Gupta, Advanced Accountancy, Sultan Chand and Sons, New Delhi..

3.4 HUMAN RESOURCE MANAGEMENT

OBJECTIVE

The objective is to familiarize the students with concepts and principles of Human Resource Management.

Unit 1: HUMAN RESOURCE MANAGEMENT 10 Hrs

Introduction – Meaning of HRM – Objectives of HRM – Importance of HRM – Functions and Process of HRM – HR Manager - Duties and Responsibilities – Recent trends in HRM.

Unit 2: HUMAN RESOURCE PLANNING, RECRUITMENT & SELECTION 14 Hrs

Meaning – Importance of Human Resource Planning – Benefits of Human Resource Planning. Recruitment – Meaning – Methods of Recruitment. Selection – Meaning – Steps in Selection Process – Problems Involved in Placement.

Unit 3: INDUCTION AND TRAINING 08Hrs

Meaning, objective and purpose of Induction: Training- Need for training, benefits of training, identification of training needs and methods of training.

Unit 4: PERFORMANCE APPRAISAL AND COMPENSATION 10Hrs

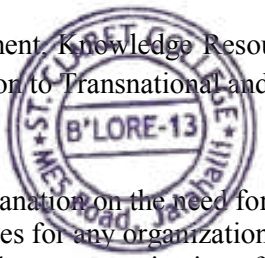
Introduction – Meaning and Definition – Objectives – Methods of Performance Appraisal – Uses and Limitations of Performance Appraisal. Compensation – Meaning of Compensation – Objectives of Compensation.

Unit 5: PROMOTION AND TRANSFERS 08Hrs

Meaning and Definition of Promotion - Purpose of promotion, basis of promotion, Meaning of transfer, reasons for transfer, types of transfer, right sizing of work force,need for right sizing.

Unit 6: HUMAN RESOURCE DEVELOPMENT 06Hrs

Meaning of HRD, Role of training in HRD, Knowledge Management, Knowledge Resources, Impact of Globalization on Human Resource Management, Problems in relation to Transnational and Multinationals.



SKILL DEVELOPMENT

- Prepare a Chart showing the functions of HRM and a brief explanation on the need for each function.
- Prepare an advertisement for recruitment / selection of candidates for any organization of your choice.
- Give observation report of industrial safety practices followed by any organization of your choice
- Develop a format for performance appraisal of an employee.
- Choose any MNC and present your observations on training programme.

BOOKS FOR REFERENCE

1. Aswathappa, Human Resource Management, Tat McGraw Hill.
2. Madhurimalall, Human Resource Management, HPH.
3. Reddy &Appanniah, Human Resource Management. HPH.
4. C.B.Mamoria, Personnel management, HPH.
5. Edwin Flippo, Personnel management, McGraw Hill.
6. SubbaRao, Personnel and Human Resources management, HPH.

7. S.Sadri& Others: Geometry of HR, HPH.
8. Rajkumar : Human Resource Management I.K. Intl
9. Michael Porter, HRM and human Relations, Juta & Co.Ltd.
10. Biswanath Ghosh, Human Resource Development and Management.
11. Rekha & Vibha – Human Resource Management, VBH.
12. K. Venkataramana, Human Resource Management, SHBP.

3.5 SERVICES MANAGEMENT

OBJECTIVE

The objective is to familiarize the students with different services and prepare them with requisite skills to manage services.

Unit 1: INTRODUCTION TO SERVICES MANAGEMENT 08 Hrs

Meaning of Services – Concepts - Characteristics of Services – Classification of Services – Growth of Service Sector.

Unit 2: SERVICES MARKETING 18Hrs

Meaning – Differences between Products and Services – Importance of Services Marketing – Marketing Mix for Services – 7 P's (in detail) Managing Demand and Supply in Service Industry. Service Delivery Process: Role of Customer in Service delivery process- Quality issues in Services – GAP Model, Managing moments of Truth

Unit 3: TOURISM AND HOSPITALITY SERVICES 12 Hrs

Introduction – Evolution of Tourism Industry – Concept and Nature of Tourism – Significance of Tourism Industry- Market segmentation in tourism- Marketing mix of Tourism - Recent Trends in Tourism. Hospitality Services: Types of Hotels –Types of Accommodation – Departments in Hotels – Customer care in Hospitality Industry.

Unit 3: BANKING AND INSURANCE SERVICES 12Hrs

Banking - Introduction – Traditional Services – Modern Services – Recent Trends in Banking Services.
Insurance - Introduction – Meaning and Definition of Insurance – Types of Insurance – Life Insurance – Products of Life Insurance – General Insurance – Types of General Insurance – Insurance Agents and other Intermediaries .

Unit 5: HEALTHCARE AND INFORMATION TECHNOLOGY ENABLED SERVICES (ITES) 6 Hrs

Hospitals – Evolution of Hospital Industry – Nature of Service – Risk involved in Healthcare Services – marketing of medical services – Hospital extension services – Pharmacy, nursing – Medical Transcription. ITES: Introduction – Growth, Types, Job opportunities in ITES.

SKILL DEVELOPMENT

- Prepare a chart on conditions to be complied for Star Hotel Status.
- Procure any two insurance policies (Xerox) and paste them in the record.
- Visit and Travel and Tour agencies and prepare organization chart.
- Interact with tourist operators and identify the areas of tourism management.
- Prepare a chart showing customer service rendered by at least two MF. (Preferably a comparative chart)
- Procedures of Railway ticket booking with specimen of reservation/cancellation slip.
- Procedure for Air ticket booking both domestic and International.

BOOKS FOR REFERENCE

1. S.M. Jha: Services Marketing HPH
2. Dr. Shajahan. S; Service Marketing (Concept, Practices & Cases); Himalaya Publishing House; Mumbai; First Edition 2001.
3. Sunil B Rao – Service Management
4. Shanker, Ravi; Services Marketing – the Indian Perspective; Excel Books, New Delhi; First Edition; 2002
5. Dutta : Service Management, I.K. International
6. Cengiz Hakseveretal – 'Service Management and Operations'; Pearson Education.
7. K. Venkataramana, Service Management, SHBP.

3.6 CORPORATE ENVIRONMENT

OBJECTIVE

The objective is to enable the students to get familiarized with the existing Company Law and Secretarial Procedure.

Unit 1: FORMATION OF COMPANY 14Hrs

Promotion of Company – Promotion – Incorporation – Capital Subscription and Certificate of Commencement of Business. **Memorandum of Association** – Definition – Clauses. **Articles of Association** – Definition – Contents – Distinction between Memorandum of Association and Articles of Association – Alteration of Memorandum of Association and Articles of Association. **Prospectus** – Meaning – Contents – Statement in Lieu of Prospectus.

Corporate Social Responsibility initiatives under Companies Act 2013 (Section 135)

Unit 2: CAPITAL OF COMPANY 10 Hrs

Share Capital – Meaning of Shares – Kinds of Shares – Merits and Demerits of Shares. Debentures – Meaning – Features – Types – Merits and Demerits, Listing of Shares.

Unit 3: COMPANY MEETINGS 12 Hrs

Meaning and Definition – Types of Meeting – Statutory Meeting – Annual General Meeting – Extraordinary General Meeting – Board Meeting and Resolutions.

Unit 4: COMPANY SECRETARY 10Hrs

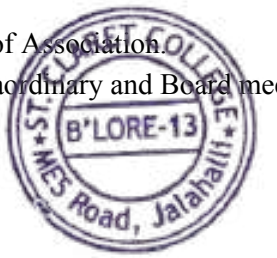
Meaning and Definition – Position – Appointment – Rights – Duties – Liabilities – Qualification and Removal of Company Secretary.

Unit 5: WINDING UP OF COMPANIES 10 Hrs

Modes of winding up – commencement of winding up – consequences –official liquidator – powers and duties of liquidator.

SKILL DEVELOPMENT

- Drafting of Memorandum of Association, Drafting of Articles of Association.
- Drafting Notice of Company Meetings – Annual, Special, Extraordinary and Board meetings.
- Drafting Resolutions of various meetings – different types.
- Chart showing Company's Organization Structure.
- Chart showing different types of Companies.
- A case study on CSR initiatives of any one company



BOOKS FOR REFERENCE

1. Maheshwari&Maheshwari, Elements of Corporate Laws, Himalaya Publishers
2. Dr. P.N. Reddy and H.R. Appanaiah, Essentials of Company Law and Secretarial Practice, Himalaya Publishers.
3. M.C. Shukla&Gulshan, Principles of Company Law, S. Chanda & Co.
4. C.L. Bansal, Business & Corporate law, Excel Books.
5. N.D. Kapoor, Company Law and Secretarial Practice, Sultan Chand & Sons.
6. S.S Gulshan, Company Law, New Age International.
7. M.C. Bhandari, Guide to Company Law Procedures, Bhandari Publications.
8. S.C. Kuchal, Company Law and Secretarial Practice, Chaitanya Publishing.
9. K. Venkataramana, Service Management, SHBP.
10. Pradeep K. Shinde, Corporate Environment

4.2 BUSINESS RESEARCH METHODS

OBJECTIVE

The objective is to create an awareness of the Process of Research, the tools and techniques of research and generation of reports

Unit 1: INTRODUCTION TO RESEARCH 14Hrs

Meaning – Objectives – Types of Research – Scope of Research – Research Approaches – Research Process – Research Design – Research Methods Vs Research Methodology - Steps in Research – Problem Formulation – Statement of Research Objective – Exploratory – Descriptive – Experimental Research.

Unit 2: METHODS OF DATA COLLECTION 08 Hrs

Observational and Survey Methods – Field Work Plan - Administration of surveys - Training field investigators - Sampling methods - Sample size.

Unit 3: TOOLS FOR COLLECTION OF DATA 08 Hrs

Questionnaire Design; Attitude measurement techniques – Motivational Research Techniques – Selection of Appropriate Statistical Techniques

Unit 4: STATISTICAL METHODS 18 Hrs

Tabulation of data - Analysis of data –Testing of Hypothesis, Advanced techniques – ANOVA, Chi-Square - Discriminant Analysis - Factor analysis, Conjoint analysis - Multidimensional Scaling - Cluster Analysis (Concepts Only).

Unit 5: REPORT WRITING 08 Hrs

Types of Reports, Business, Technical and Academic Report writing – Methodology Procedure – Contents – Bibliography

SKILL DEVELOPMENT

- Illustrate different types of samples with examples
- Construct a questionnaire for collection of primary data keeping in mind the topic chosen for research
- Narrate your experience using observation technique
- Diagrammatically present the information collected through the questionnaire

BOOKS FOR REFERENCE

1. O.R.Krishnaswamy; Research methodology in Social Sciences, HPH, 2008.
2. R. Divivedi: Research Methods in Behavior Science, Macmillan India Ltd., 2001.
3. J.K. Sachdeva: Business Research Methodology HPH
4. S.N. Murthy, V. Bhojanna: Business Research Methods Excel Books
5. Levin &Rubin: Statistics for Management, Prentice Hall of India, 2002
6. Gupta S; Research Methodology and Statistical Techniques, Deep & Deep Publication (P) Ltd., 2002
7. Thakur D: Research Methodology in Social Sciences, Deep & Deep Publications (P) Ltd.,1998.
8. Tripathi P.C:A Textbook of Research Methodology, Sultan Chand & Sons, 2002.
9. Cooper: Business Research Methods 6th edition, MC Graw Hill,
10. C.R. Kothari, Research Methodology, Vikas Publications
11. Usha Devi N, Santhosh Kumar - Business Research Methodology

4.3 MARKETING MANAGEMENT

OBJECTIVE

The objective is to enable students to understand the concept of marketing and its applications and the recent trends in Marketing.

Unit 1: INTRODUCTION TO MARKETING 10 Hrs

Meaning & Definition – Goals – Concepts of Marketing – Approaches to Marketing – Functions of Marketing.

Recent trends in Marketing - Introduction, E-business – Tele-marketing – M-Business – Green Marketing – Relationship Marketing – Retailing – Concept Marketing and Virtual Marketing (Meaning Only).

Unit 2: MARKETING ENVIRONMENT (MACRO) 10 Hrs

Meaning – Demographic – Economic – Natural – Technological - Political – Legal – Socio - Cultural Environment

Unit 3: MARKETING MIX 20 Hrs

Meaning – Elements – Product – Product Mix – Product Line – Product Lifecycle – Product Planning – New Product Development – Failure of New Product – Branding – Packing and Packaging. Pricing – Objectives – Factors influencing Pricing Policy and Methods of Pricing. Physical Distribution – Meaning – Factors affecting Channel Selection – Types of Marketing Channels. Promotion – Meaning and Significance of Promotion – Personal Selling & Advertising (Meaning Only).

Unit 4: MARKET SEGMENTATION AND CONSUMER BEHAVIOUR 10 Hrs

Meaning & Definition - Bases of Market Segmentation – Requisites of Sound Market Segmentation. Consumer Behaviour – Factors influencing Consumer Behaviour and Buying Decision Process.

Unit 5: CUSTOMER RELATIONSHIP MANAGEMENT 06 Hrs

Meaning and Definition – Role of CRM – Advantages and Disadvantages

SKILL DEVELOPMENT

- Identify the product of your choice and describe in which stage of the product life cycle it is positioned.
- Suggest strategies for development of a product.
- Study of Consumer Behaviour for a product of your choice.
- Develop an Advertisement copy for a product.
- Prepare a chart for distribution network for different products.

BOOKS FOR REFERENCE

1. P N Reddy & Appanniah, Marketing Management, HPH.
2. Kuranakaran, Marketing Management, Himalaya Publishers.
3. Rekha & Vibha, Marketing Management, VBH.
4. Philip Kotler, Marketing Management, Prentice Hall.

5. Bose Biplab, Marketing Management, Himalaya Publishers.
6. J.C. Gandhi, Marketing Management, Tata McGraw Hill.
7. Ramesh & Jayanti Prasad: Marketing Management, I.K. International
8. William J. Stanton, Michael J.Etzel, Bruce JWalker, Fundamentals of Marketing, McGraw Hill Education.
9. Sontakki, Marketing Management, Kalyani Publishers.
10. K. Venkataramana, Marketing Management, SHBP.

4.4 FINANCIAL MANAGEMENT

OBJECTIVE

The objective is to enable students to understand the basic concepts of Financial Management and the role of Financial Management in decision-making.

Unit 1: INTRODUCTION TO FINANCIAL MANAGEMENT 10 Hrs

Introduction – Meaning of Finance – Business Finance – Finance Function – Aims of Finance Function – Organization structure of finance - Financial Management – Goals of Financial Management – Financial Decisions – Role of a Financial Manager – Financial Planning – Steps in Financial Planning – Principles of a Sound Financial Planning.

Unit 2: TIME VALUE OF MONEY 10 Hrs

Introduction – Meaning & Definition – Need – Future Value (Single Flow – Uneven Flow & Annuity) – Present Value (Single Flow – Uneven Flow & Annuity)– Doubling Period – Concept of Valuation – Valuation of Bonds & Debentures – Preference Shares – Equity Shares – Simple Problems.

Unit 3: FINANCING DECISIONAND INVESTMENT DECISION 16Hrs

Financing Decisions: Introduction – Meaning of Capital Structure – Factors influencing Capital Structure – Optimum Capital Structure – EBIT – EBT – EPS – Analysis – Leverages – Types of Leverages – Simple Problems.

Investment Decisions: Introduction – Meaning and Definition of Capital Budgeting – Features – Significance – Process – Techniques – Payback Period – Accounting Rate of Return – Net Present Value – Internal Rate of Return – Profitability Index - Simple Problems

Unit 4: DIVIDEND DECISION 08 Hrs

Introduction – Meaning and Definition – Determinants of Dividend Policy – Types of Dividends – Provisions under Campiness Act in relation to dividends.

Unit 5: WORKING CAPITAL MANAGEMENT 12 Hrs

Introduction – Concept of Working Capital – Significance of Adequate Working Capital – Evils of Excess or Inadequate Working Capital – Determinants of Working Capital – Sources of Working Capital –Cash Management – Receivables Management – Inventory Management,.

SKILL DEVELOPMENT

- Draw the organization chart of Finance Function
- Illustrate operating cycle for at least 2 companies of your choice.
- Evaluate the NPV of an investment made in any one of the capital projects with imaginary figures for 5 years.
- Prepare an ageing schedule of debtors with imaginary figures.
- Capital structure analysis of companies in different industries

BOOKS FOR REFERENCE

1. Reddy, Appananaih: Financial Management.
2. Sudrashan Reddy – Financial Management
3. Venkataraman R _ Financial Management
4. S N Maheshwari, Financial Management., Sultan Chand.
5. R.M.Srivastava : Financial Management –Management and Policy, Himalaya Publishers.
6. Khan and Jain, Financial Management, Tata McGraw Hill.
7. Dr. K.V. Venkataramana, Financial Management, SHB Publications.
8. Sudhindra Bhatt: Financial Management, Excel Books.
9. Sharma and Sashi Gupta, Financial Management, Kalyani Publication.
10. M.GangadharRao& Others: Financial Management, Himalaya Publishers.
11. I M Pandey, Financial Management, Vika Publication House.
12. Prasanna Chandra, Financial Management, Tata McGraw Hill.
13. K. Venkataramana, Financial Management, SHBP.

4.5 BUSINESS REGULATIONS

OBJECTIVE

The objective is to introduce the students to various regulations affecting business and to familiarize the students with such regulations.

Unit 1: INTRODUCTION TO BUSINESS LAWS 06 Hrs

Introduction, Nature of Law, Meaning and Definition of Business Laws, Scope and Sources of Business Law, Fundamental Rights and Directive Principle of State Policies, Principles having economic significance, Overview of Business Laws in India.

Unit 2: CONTRACT LAWS 14 Hrs

Indian Contract Act, 1872: Definition of Contract, essentials of a valid contract (all essentials need to be explained in great detail), classification of contracts, breach of contract and remedies for breach of contract.
Indian Sale of Goods Act, 1930: Definition of contract of sale, essentials of contract of sale, conditions and warrantees, rights and duties of buyer, rights of an unpaid seller.

Unit 3: INFORMATION LAWS AND RTE 10Hrs

Right to Information Act, 2005: Objectives of the RTI Act, Scope, SuoMoto disclosure, Method of seeking information, Eligibility to obtain information, Authorities under the Act,.
Right to Education Act: Objectives of the RTE Act – Salient Features.

Unit 4: COMPETITION AND CONSUMER LAWS 12Hrs

The Competition Act, 2002: Objectives of Competition Act, the features of Competition Act, components of Competition Act, CCI, CAT, offences and penalties under the Act.
Consumer Protection Act, 1986: Definition of the terms consumer, consumer dispute, defect, deficiency, unfair trade practices and services. Consumer Protection Act, Consumer Redressal Agencies – District Forum, State Commission, National Commission, any two landmark judgments of the Supreme Court.

Unit 5: ECONOMIC AND ENVIRONMENTAL LAWS 14Hrs

FEMA 1999: Objects of FEMA, definition of important terms – authorized dealer, currency, foreign currency, foreign exchange, foreign security, Directorate of Enforcement, salient features of the FEMA, offences and penalties,
Environment Protection Act, 1986: Objects of the Act, definitions of important terms – environment, environment pollutant, environment pollution, hazardous substance and occupier, types of pollution, global warming, causes for ozone layer depletion, carbon trade, rules and powers of central government to protect environment in India.

SKILL DEVELOPMENT

- Prepare a chart showing sources of business law and Indian Constitution Articles having economic significance.
- Draft an agreement on behalf of an MNC to purchase raw materials indicating therein terms and conditions and all the essentials of a valid contract.
- Draft an application to the Chief Information Officer of any government office seeking information about government spending.
- Draft digital signature certificate.
- Draft a complaint to District Consumer Forum on the deficiency of service in a reputed corporate hospital for medical negligence.
- Collect leading cyber crimes cases and form groups in the class room and conduct group discussion.
- Draft a constructive and innovative suggestions note on global warming reduction.

BOOK REFERENCE

1. K. Aswathappa, Business Laws, Himalaya Publishing House,
2. K.R. Bulchandni: Business Laws, HPH.
3. N.D. Kapoor, Business Laws, Sultan chand publications.
4. S.S. Gulshan, Business Law 3rd Edition, New Age International
5. S.C. Sharama& Monica : Business Law I.K. International
6. Tulsian Business Law , Tata McGraw-Hill Education
7. Dr. K. Venkataraman, SHB Publications.
8. Kamakshi P & Srikumari P, Business Regulation

4.6 COST ACCOUNTING

OBJECTIVE

The objective of this subject is to familiarize students with the various concepts and element of cost.

Unit 1: INTRODUCTION TO COST ACCOUNTING 10 Hrs

Introduction – Meaning & Definition of Cost, Costing and Cost Accounting – Objectives of Costing - Comparison between Financial Accounting and Cost Accounting – Application of Cost Accounting – Designing and Installing a Cost Accounting System – Cost Concepts - Classification of Costs – Cost Unit – Cost Center – Elements of Cost – Preparation of Cost Sheet – Tenders and Quotations.

Unit 2: MATERIAL COST CONTROL 14Hrs

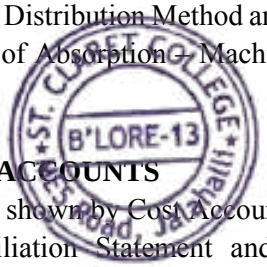
Meaning – Types – Direct Material – Indirect Material - Material Control – Purchasing Procedure – Store Keeping – Techniques of Inventory Control – Setting of Stock Levels – EOQ – ABC Analysis – VED Analysis – Just In-Time – Perpetual Inventory System – Documents used in Material Accounting - Methods of Pricing Material Issues – FIFO – LIFO – Weighted Average Price Method and Simple Average Price Method.

Unit 3: LABOUR COST CONTROL 10 Hrs

Meaning – Types – Direct Labour – Indirect Labour – Timekeeping – Time booking – Idle Time – Overtime – Labour Turn Over. Methods of Labour Remuneration - Time Rate System – Piece Rate System – Incentive Systems – Halsey plan – Rowan Plan – Taylor's differential Piece Rate System and Merrick's Differential Piece Rate System – Problems

Unit 4: OVERHEAD COST CONTROL 14Hrs

Meaning and Definition – Classification of Overheads – Procedure for Accounting and Control of Overheads – Allocation of Overheads – Apportionment of Overheads – Primary Overhead Distribution Summary – Secondary Overhead Distribution Summary – Repeated Distribution Method and Simultaneous Equations Method – Absorption of Factory Overheads – Methods of Absorption – Machine Hour Rate – Problems.



Unit 5: RECONCILIATION OF COST AND FINANCIAL ACCOUNTS 08Hrs

Need for Reconciliation – Reasons for differences in Profit or Loss shown by Cost Accounts and Profit or Loss shown by Financial Accounts – Preparation of Reconciliation Statement and Memorandum Reconciliation Account.

SKILL DEVELOPMENT

- Classification of costs incurred in the making of a product.
- Identification of elements of cost in services sector.
- Cost estimation for the making of a proposed product.
- Documentation relating to materials handling in a company.
- Collection and Classification of overheads in an organization.
- Discuss the reasons for LTO in organizations..

BOOKS FOR REFERENCE

1. M. N. Arora: Cost Accounting, HPH
2. J.Madegowda: Advanced Cost Accounting, HPH.
3. N.K. Prasad: Cost Accounting, Book Syndicate.
4. Gouri Shankar: Practical Costing, HPH.
5. KhannaPandey&Ahuja : Practical Costing, Sultan Chand.
6. K. S. Thakur: Cost Accounting, New Century Book House Pvt. Ltd.
7. M.L. Agarwal: Cost Accounting, Sahithya Bhawan Publications.
8. Palaniappan & Harihara : Cost Accounting I.K. International
9. Jain &Narang: Cost Accounting, Kalyani Publishers.
10. S.P. Iyengar: Cost Accounting, Sultan Chand.
11. S.N. Maheshwari: Cost Accounting, Mahaveer Publishers.
12. Horngren: Cost Accounting – A Managerial Emphasis, Prentice Hall.
13. Dr.A. Sundra Rajan & Dr. K. Venkataramana, SHB Publications.
14. R.G. Saha & Others – Cost Accounting
15. V. Rajesh Kumar & R.K. Sreekantha, Cost Accounting – I, Vittam Publications.

5.1 ENTREPRENEURIAL MANAGEMENT

OBJECTIVE

The objective is to enable students to understand the basic concepts of entrepreneurship and prepare business plan to start a small industry.

Unit 1: ENTREPRENEURSHIP 12 Hrs

Introduction – Meaning & Definition of Entrepreneurship, Entrepreneur & Enterprise – Differences between Entrepreneurship, Entrepreneur & Enterprise – Functions of Entrepreneur – Role of Entrepreneur for Economic Development - Factors influencing Entrepreneurship - Pros and Cons of being an Entrepreneur – Differences between Manager and Entrepreneur – Qualities of an Entrepreneur – Types of Entrepreneurs. Entrepreneurship Development- Need – Problems – National and State Level Institutions

Unit 2: SMALL SCALE INDUSTRIES 10 Hrs

Small Scale Industries - Tiny Industries - Ancillary Industries - Cottage Industries – Definition – Meaning - Product Range - Capital Investment - Ownership Patterns - Importance and Role played by SSI in the development of the Indian Economy - Problems faced by SSI's and the steps taken to solve the problems - Policies Governing SSI's

Unit 3: STARTING A SMALL INDUSTRY 12 Hrs

Concept of Business opportunity, scanning the environment for opportunities, evaluation of alternatives and selection based on personal competencies. - An overview of the steps involved in starting a business venture – Location, Clearances and Permits required, Formalities, Licensing and Registration Procedures - Assessment of the market for the proposed project - Importance of financial, technical and social feasibility of the project.

Unit 4: PREPARING THE BUSINESS PLAN (BP) 10 Hrs

Business Plan, Importance of BP, Preparation of BP, Typical BP format - Financial aspects of the BP - Marketing aspects of the BP - Human Resource aspects of the BP - Technical aspects of the BP - Social aspects of the BP - Preparation of BP - Common pitfalls to be avoided in preparation of a BP

Unit 5: IMPLEMENTATION OF THE PROJECT AND SICKNESS IN SSIs 12 Hrs

Financial assistance through SFC's, SIDBI, Commercial Banks, KSIDC, KSSIC, IFCI, - Non-financial assistance from DIC, SISI, EDI, SIDO, AWAKE, TCO, TECKSOK, KVIC - Financial incentives for SSI's and Tax Concessions - Assistance for obtaining Raw Material, Machinery, Land and Building and Technical Assistance - Industrial Estates – Role and Types. Sickness: Meaning and definition of a sick industry - Causes of Industrial Sickness - Preventive and Remedial Measures for Sick Industries

SKILL DEVELOPMENT

- Preparation of a Project report to start a SSI Unit.
- Preparing a letter to the concerned authority-seeking license to the SS Unit, You propose to start.
- Format of a business plan.
- A Report on the survey of SSI units in the region where college is located.
- Chart showing financial assistance available to SSI along with rates of interest.

- Chart showing tax concessions to SSI both direct and indirect.
- Success stories of Entrepreneurs in the region.

BOOKS FOR REFERENCE

1. Vasant Desai: The Dynamics of Entrepreneurship Development and Management, HPH
2. Mark. J. Dollinger, Entrepreneurship – Strategies and Resources, Pearson Edition.
3. Satish Taneja: Entrepreneur Development, HPH.
4. UdaiPareek and T.V. Rao, Developing Entrepreneurship
5. S.V.S. Sharma, Developing Entrepreneurship, Issues and Problems, SIET, Hyderabad
6. Srivastava, A Practical Guide to Industrial Entrepreneurs, Sultan Chand.
7. Government of India, Report of the committee on small and medium entrepreneurs, 1975
8. VidyaHattangadi ; Entrepreneurship, HPH.
9. N.V.R. Naidu : Management and Entrepreneurship, I.K. International
10. Bharusali, Entrepreneur Development,
11. K. Venkataramanappa, Entrepreneurial Development, SHB Publications
12. Anil Kumar : Small Business and Entrepreneurship, I.K. International
13. Rekha & Vibha – Entrepreneurial Management, VBH.

5.2 COMPUTER APPLICATION IN BUSINESS

OBJECTIVE

The objective of the subject is to make the students understand the concept of information systems used in business and to know the latest trends in doing business in internet environment.

Unit 1: INTRODUCTION TO INFORMATION SYSTEM 10 Hrs

Meaning and definition of system, information and information system – business information system – Features of Information system – Uses of Business Information Systems, Users of Information Systems – Components of Business Information Systems.

Unit 2: TYPES OF INFORMATION SYSTEMS 14Hrs

Management Support Systems (MSS), Management Information systems, , Transaction Processing systems, Decision Support Systems (DSS), Group Decision Support System (GDSS), Office Automation system, Process Control systems, Executive Information systems, Levels of management and Information systems.

Unit 3: MS OFFICE 12 Hrs

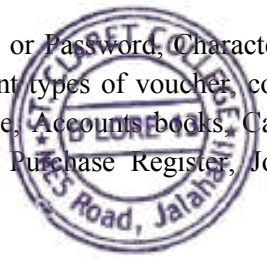
MS Word – editing a document- Formatting – Spell Checking – Page setup, Using tabs, Tables and other features Mail Merge, MS Excel – building work sheet- data entry in work sheets, auto fill – working with simple problems- formula – statistical analysis, sort, charts, MS Power point – Design, Side Show – Presentation.

Unit 4: DATABASE MANAGEMENT SYSTEMS 14 Hrs

Introduction- Purpose of Database Systems, Views of data, Data Models, Database language, Transaction Management, Storage Management, Database Administrator, Database Users, Overall System Structure, Different types of Database Systems

Unit 5: ACCOUNTING SOFTWARE 06Hrs

Introduction to Tally, Opening new company, Safety of Accounts or Password, Characteristics, Making Ledger Accounts, writing voucher, voucher entry, making different types of voucher, correcting sundry debtors an sundry creditors accounts, preparation of Trail Balance, Accounts books, Cash Book, Bank Books, Ledger Accounts, Group Summary, Sales Register and Purchase Register, Journal Register, Statement of Accounts, & Balance Sheet.



SKILL DEVELOPMENT

- Maintain a Record on Practicals.

BOOKS FOR REFERENCE

1. James Obrein, Management Information Systems, Tata McGraw Hill
2. M. Suman _ Computer Application Business
3. R.G. Saha – Computer Application Business
4. Amrutha Gowri & Soundrarajana A, Computer Application Business, SHBP>
5. Manjunath, GunduRao – Computer Business Applications, HPH.
6. Sudaimuthu& Anthony: Computer Applications in Business, HPH.

7. S. Perekar, Anindita Hazra; Computer Application in Business
8. Srivatasava : Enterprise Resource Planning I.K. International
9. S Sadagopan, Enterprise resource planning (ERP), Tata McGraw Hill
10. S.P. Rajagopal, Computer Application in Business
11. C.S.V.Murthy: Management Information, HPH

5.3 BANKING REGULATIONS &OPERATIONS

OBJECTIVE

The objective is to familiarize the students to understand the law and practice of banking.

Unit 1: COMMERCIAL BANKS 08 Hrs

Introduction – Role of Commercial Banks – Functions of Commercial Banks – Primary Functions and Secondary Functions – Credit Creation of Commercial Banks – Investment Policy of Commercial Banks – Profitability of Commercial Banks. Regulation and Control of Commercial Banks by RBI

Unit 2: BANKER AND CUSTOMER RELATIONSHIP 20Hrs

Banker and Customer: Meaning of Banker and Customer – Banking Company – General and Special Relationships between Banker and Customer.

Types of Customers and Account holders: Procedure and Practice in opening and conducting the accounts of customers particularly individuals including minors - Joint Account Holders. Partnership Firms - Joint Stock companies with limited liability-Executors and Trustees-Clubs and Associations-Joint Hindu Family

Unit 3: NEGOTIABLE INSTRUMENTS 08Hrs

Introduction – Meaning & Definition – Features – Kinds of Negotiable Instruments (Meanings only) – Cheques – Meaning & Definition – Features - Parties – Crossing of cheques – types of crossing. Endorsements – Meaning – Essentials – Kinds of Endorsement.

Unit 4: PAYING BANKER AND COLLECTING BANKER 10 Hrs

Paying Banker – Meaning – Precautions – Statutory Protection to the Paying Banker – Dishonor of Cheques – Grounds of Dishonor – Consequences of wrongful dishonor of Cheque.

Collecting Banker – Meaning – Duties & Responsibilities of Collecting Banker –Statutory Protection to Collecting Banker

Unit 5: PRINCIPLES OF BANK LENDING 10 Hrs

Different kinds of borrowing facilities granted by banks - Loans, Cash Credit, Overdraft, Bills Purchased, Bills Discounted, Letters of Credit - Types of Securities – NPA (Meaning only).Sound principles of Bank Lending.

SKILL DEVELOPMENT

- Collect and fill account opening form of SB A/c or Current A/c
- Collect and fill pay in slip of SB A/c or Current A/c.
- Draw specimen of Demand Draft.
- Draw different types of endorsement of cheques.
- Past specimen of Travelers Cheques / Gift Cheques / Credit Cheques.
- List customer services offered by atleast 2 banks of your choice.

BOOKS FOR REFERENCE

1. Gordon &Natrajan: Banking Theory Law and Practice, HPH.
2. Maheshwari. S.N.: Banking Law and Practice, Kalyani Publishers
3. Gagendra Naidu, S. K. Poddar , Law and Practice of Banking, VBH.
4. M. Prakash – Banking Regulation & Operations, VBH.
5. Tannan M.L: Banking Law and Practice in India, Wadhwa and company
6. P.SubbaRao ; Bank Management, HPH.
7. Herbert Percival Sheldon, Peter J. Fidler, Herbert B. Sheldon, Sheldon's Practice and Law of Banking, Mac Donald and Evans
8. V. Iyengar; Introduction to Banking, Excel Books.
9. Kothari N. M: Law and Practice of Banking.
10. Shekar. K.C: Banking Theory Law and Practice, VBH.
11. Venkataramana. K, Banking Regulation, SHBP.

5.4 MANAGEMENT ACCOUNTING

OBJECTIVE

The objective of this subject is to enable the students to understand the analysis and interpretation of financial statements with a view to prepare management reports for decision-making.

Unit 1: INTRODUCTION TO MANAGEMENT ACCOUNTING 06 Hrs

Meaning – Definition – Objectives – Nature and Scope of Management Accounting – Relationship between Financial Accounting, Management Accounting, and Cost Accounting

Unit 2: RATIO ANALYSIS 16 Hrs

Meaning and Definition of Ratio, Accounting Ratio and Ratio Analysis – Uses – Limitations - Classification of Ratios – Problems on Ratio Analysis - Preparation of Trading and Profit & Loss Account and Balance Sheet with the help of Accounting Ratios

Unit 3: FUND FLOW ANALYSIS 12Hrs

Meaning and Concept of Fund – Meaning and Definition of Fund Flow Statement – Uses and Limitations of Fund Flow Statement – Procedure of Fund Flow Statement – Statement of changes in Working Capital – Statement of Funds from Operation – Statement of Sources and Application of Funds – Problems.

Unit 4: CASH FLOW ANALYSIS 12Hrs

Meaning and Definition of Cash Flow Statement – Differences between Cash Flow Statement and Fund Flow Statement – Uses of Cash Flow Statement – Limitations of Cash Flow Statement – Provisions of AS-3 – Procedure of Cash Flow Statement – Concept of Cash and Cash Equivalents - Cash Flow from Operating Activities – Cash Flow from Investing Activities and Cash Flow from Financing Activities – Preparation of Cash Flow Statement according to AS-3 (Indirect Method Only).

Unit 5: MARGINAL COSTING AND BUDGETORY CONTROL 10Hrs

Marginal Costing: Meaning, Features and Assumptions - Calculation of Break Even Point – Equation Method, Graphic Method, Problems .

Budgetary Control: Introduction – Meaning & Definition of Budget and Budgetary Control – Objectives of Budgetory Control – Classification of Budgets –Functional Budgets – Problems on Flexible Budgets

SKILL DEVELOPMENT

- Collection of financial statements of any one organization for two years and preparing comparative statements
- Collection of financial statements of any two organization for two years and prepare a common Size Statements
- Collect statements of an Organization and Calculate Important Accounting Ratio's
- Draft a report on any crisis in an organization.

BOOKS FOR REFERENCE

1. PN Reddy & Appanaiah, Essentials of Management Accounting, HPH.
2. J. Made Gowda: Management Accounting, HPH.
3. R.G. Saha – Management Accounting
4. Dr. S.N. Maheswari, Management Accounting, VBH.
5. Sexana, Management Accounting, Tata McGraw Hill
6. Sudhindra Bhatt; Management Accounting, Excel Books.
7. Dr. S.N. Goyal and Manmohan, Management Accounting
8. Jawaharlal : Essentials of Managerial Accounting, HPH.
9. B.S. Raman, Management Accounting, United Publishers.
10. Sharma and Gupta, Management Accounting, S J Publishers.
11. Soundra RajanA & Venkataramana. K, Management Accounting, SHBP.

6.1 INTERNATIONAL BUSINESS

OBJECTIVE

The objective of this subject is to facilitate the students in understanding International Business in a multi cultural world.

Unit 1: INTRODUCTION TO INTERNATIONAL BUSINESS **10Hrs**

Meaning and Definition of International Business – Theories of International Trade – Economic Theories – Forms of International Business - Nature of International Business

Unit 2: MODES OF ENTRY INTO INTERNATIONAL BUSINESS **12 Hrs**

Mode of Entry – Exporting – Licensing – Franchising – Contract Manufacturing – Turn Key Projects – Foreign Direct Investment – Mergers, Acquisitions and Joint Ventures – Comparison of different modes of Entry.

Unit 3: GLOBALIZATION **16Hrs**

Globalization: Meaning - Features – Stages –Production –Investment and Technology, Globalization – Advantages and Disadvantages – Methods and Essential Conditions for Globalization. **MNC's and International Business**: Definitions – Distinction between Indian Companies – MNC – Global Companies and TNC – Organizational Transformations – Merits and Demerits of MNC's in India

Unit 4: INTERNATIONAL MARKETING INTELLIGENCE **8 Hrs**

Information required – Source of Information – International Marketing Information System and Marketing Research.

Unit 5: EXIM TRADE **10 Hrs**

Export Trade, Procedure, Steps & Documentation, Direction of India's Trade – Export Financing – Documents related to Export Trade – Export Marketing – Import Trade, Procedure, Steps, Documentations and Problems - EXIM Policy - Balance of Payment – Disequilibrium and Measures for Rectification - Institutions connected with EXIM Trade.

SKILL DEVELOPMENT

- List any three MNC's operating in India along with their products or services offered.
- Prepare a chart showing currencies of different countries
- Tabulate the foreign exchange rate or at least 2 countries for 1 month
- Collect and Paste any 2 documents used in Import and Export trade.

BOOKS FOR REFERENCE

1. Dr. Aswathappa International Business, Tata McGraw Hill.
2. P. SubbaRao – International Business – HPH
3. Shyam Shukla; International Business, Excel Books.
4. Francis Cherunilam; International Business, Prentice Hall of India
5. MahuaDutta, International Business, I.K. Intl
6. J. Maskeri- International Business
7. Rosy Joshi; International Business, Kalyani Publishers.
8. Venkataramana. K, International Business, SHBP.
9. Subhasre S – International Business

6.2 E-BUSINESS

OBJECTIVE:

The objective is to expose the students to electronic modes of commercial operations.

UNIT 1 :E-BUSINESS **16Hrs**

Introduction, E-Commerce – definition, History of E-commerce, types of E-Commerce B to B etc. Comparison of traditional commerce and e-commerce. E-Commerce business models – major B to B, B to C model, Consumer-to-Consumer (C2C), Consumer-to-Business (C2B) model, Peer to-Peer (P2P) model – emerging trends. Advantages/ Disadvantages of e-commerce, web auctions, virtual communities, portals, e-business revenue models.

UNIT 2 : SECURITY FOR E-BUSINESS **12 Hrs**

Security threats – An area view – implementing E-commerce security – encryption – Decryption, Protecting client computers E-Commerce Communication channels and web servers Encryption, SSL protocol, Firewalls, Cryptography methods, VPNs, protecting, networks, policies and procedures

UNIT 3 : E-PAYMENTS **12Hrs**

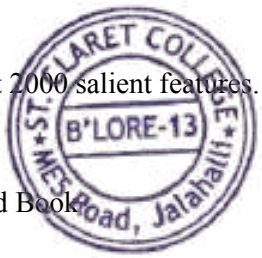
E-payment systems – An overview. B to C payments, B to B payments. Types of E- payment system – Credit card payment, debit cards, accumulating balance, online stored value payment systems, digital cash, digital (electronic) wallets, agile wallet, smart cards and digital cheques. Secure Electronic Transaction (SET) protocol

UNIT 4 : E-BUSINESS MARKETING TECHNOLOGIES **10 Hrs**

E-Commerce and marketing B to B and B to C marketing and branding strategies. Web transaction logs, cookies, shopping cart database, DBMS, SQL, data mining, CRM (customer relationship Management) system – permission marketing, affiliate marketing, viral marketing.

UNIT 5 : CYBER LAWS **06Hrs**

Legal Aspects of E-Business, Internet frauds – Cyber Laws. IT Act 2000 salient features.



SKILL DEVELOPMENT

- Visit Few Business Websites and note down in Practical Record Book.

BOOKS FOR REFERENCE

1. Marriappa M – E- Commerce,
2. M. Suman – E – Commerce & Accounting
3. Kalakota Ravi and A. B. Whinston : "Frontiers of Electronic Commerce", Addison
4. Watson R T :"Electronic Commerce – the strategic perspective." The Dryden press
5. Agarwala K.N and Deeksha Ararwala: "Business on the Net – Whats and Hows of E-Commerce"
6. Agarwala and Ararwala : "Business on the Net – Bridge to the online store front,"
7. Murthy CSV: "E. Commerce" Himalaya Publishing House Pvt.Ltd.
8. Diwan, Prag and Sharma, "Electronic Commerce – A manager guide to E-business", Vanity Books International

9. P. Diwan, S. Sharma; “E-Commerce”, Excel Books.
10. JanalD.S :“Online Marketing Hand book.” Van Nostrand Reinhold Network
11. Kosiur David, “Understanding Electronic Commerce Microsoft”, press Washing-ton.
12. Minoli and Minol, “Web Commerce Technology Handbook”, TMH New Delhi.
13. Schneider Gary P, “Electronic Commerce- course Technology, Delhi.
14. Young Margaret Levine: “The complete reference to Internet”, TMH.
15. C.S.Rayudu: “Ecommerce and E Business”, HPH.
16. Kalakota Ravi: “E-business 2: Road map for success.” Pearson Education Ltd.
17. Kalkota Ravi. “Electronics Commerce”: A managers Guide.
18. Mariammal & Soundra Rajan, E-business, SHB.

6.3 INCOME TAX

OBJECTIVE

The objective of this subject is to expose the students to the various provision of Income Tax Act relating to computation of Income individual assesses only.

Unit 1: INTRODUCTION TO INCOME TAX **15 Hrs**

Income Tax: Brief History - Legal Frame Work – Types of Taxes - Cannons of Taxation – Important Definitions – Assessment – Assessment Year – Previous Year – Exceptions to the general rule of Previous Year - Assessee – Person – Income - Casual Income – Gross Total Income – Agricultural Income

Residential Status: Residential Status of an Individual – Resident – Not Ordinarily Resident – Non-resident – Determination of Residential Status – Incidence of Tax – Problems on Scope of Total Income.

Exempted Incomes: Introduction – Exempted Incomes U/S 10 (Restricted to Individual Assessee) – Only theory

Unit 4: INCOME FROM SALARY **15 Hrs**

Meaning – Basis of Charge – Advance Salary – Arrears of Salary - Definitions – Salary Allowances – Fully Taxable Allowances – Partly Taxable Allowances – Fully Exempted Allowances – Perquisites – Tax Free Perquisites – Taxable Perquisites – Perquisites Taxable in all Cases – Perquisites Taxable in Specified Cases – Profits in Lieu of Salary – Provident Fund – Transferred Balance – Deductions from Salary U/S 16 – Problems on Income from Salary(excluding retirement benefits).

Unit 5: INCOME FROM HOUSE PROPERTY **10 Hrs**

Basis of Charge – Deemed Owners – Exempted Incomes from House Property – Treatment of Composite Rent – Annual Value – Determination of Annual Value – Treatment of Unrealized Rent – Loss due to Vacancy – Deductions from Annual Value – Problems on Income from House Property(Excluding Pre-Construction interest)

Unit 6: PROFITS AND GAINS FROM BUSINESS AND PROFESSION **12Hrs**

Meaning and Definition of Business, Profession – Expenses Expressly Allowed – Allowable Losses – Expenses Expressly Disallowed – Expenses Allowed on Payment Basis – Problems on Business relating to Sole Trader only and Problems on Profession relating to Chartered Accountant, Advocate and Doctor.

Unit 6: COMPUTATATION OF TOTAL INCOME **4 Hrs**

Income from **Capital Gains, Other Sources** (Theory only) and Deductions **U/S 80C, D,E,G**. Simple problems on Computation of Total income of an Individual

SKILL DEVELOPMENT

- Form No. 49A (PAN) and 49B.
- Filling of Income Tax Returns.
- List of enclosures to be made along with IT returns (with reference to salary & H.P).
- Preparation of Form 16.
- Computation of Income Tax and the Slab Rates.

- Computation of Gratuity.
- Chart on perquisites.
- List of enclosures to be made along with IT returns (with reference to salary and house property incomes)

BOOKS FOR REFERENCE

1. Dr. Vinod K. Singhania: Direct Taxes – Law and Practice, Taxmann publication.
2. B.B. Lal: Direct Taxes, Konark Publisher (P) ltd.
3. Dr. Mehrotra and Dr. Goyal: Direct Taxes – Law and Practice, Sahitya Bhavan Publication.
4. Dinakar Pagare: Law and Practice of Income Tax, Sultan Chand and sons.
5. Gaur &Narang: Income Tax, Kalyani Publisher s
6. 7 Lecturer – Income Tax – VBH
7. Dr.V.Rajesh Kumar and Dr.R.K.Sreekantha: Income Tax – I, Vittam Publications

6.4 STRATEGIC MANAGEMENT OR PROJECT REPORT AND VIVA - VOCE

OBJECTIVE:

The Objective of this subject is to expose the students to the various strategic issues such as strategic planning, implementation and evaluation etc. and preparation of project reports.

Unit 1: INTRODUCTION TO STRATEGIC MANAGEMENT **10 Hrs**

Introduction - Meaning and Definition – Need – Process of Strategic Management – Strategic Decision Making – Business Ethics – Strategic Management.

Unit 2: ENVIRONMENTAL APPRAISAL **12 Hrs**

The concept of Environment – The Company and its Environment – Scanning the Environment, Technological, Social, Cultural, Demographic, Political, Legal and Other Environments Forces. SWOT Analysis – Competitive Advantage – Value Chain Analysis.

Unit 3: STRATEGIC PLANNING **12 Hrs**

Strategic Planning Process – Strategic Plans during recession, recovery, boom and depression – Stability Strategy – Expansion Strategy – Merger Strategy – Retrenchment Strategy – Restructure Strategy – Levels of Strategy – Corporate Level Strategy – Business Level Strategy and Functional Level Strategy – Competitive Analysis – Porter's Five Forces Model.

Unit 4: IMPLEMENTATION OF STRATEGY **14 Hrs**

Aspects of Strategy Implementation – Project Manipulation – Procedural Implementation – Structural Implementation – Structural Considerations –Organizational Design and Change – Organizational Systems. Behavioral Implementation – Leadership Implementation – Corporate Culture – Corporate Policies and Use of Power. Functional and Operational Implementation – Functional Strategies – Functional Plans and Policies. Financial – Marketing – OPERATIONAL and Personnel dimensions of Functional Plan and Policies – Integration of Functional Plans and Policies.

Unit 5: STRATEGY EVALUATION **08 Hrs**

Strategy Evaluation and Control - Operational Control - Overview of Management Control – Focus on Key Result Areas.

SKILL DEVELOPMENT

- Present a chart showing Strategic Management Process.
- Select any organization and undertake SWOT analysis.
- Present strategy followed by an FMCG company in Indian Market.
- Select any sector and make competitive analysis using Porter's five forces model.
- List social responsibility action initiated by any one company.
- Select any organization and identify the Key Result Areas

BOOKS FOR REFERENCE

1. Dr. Aswathappa, Business Environment for Strategic Management, Tata McGraw Hill.
2. Subbarao: Business Policy and Strategic Management, HPH.

3. Charles W.L Hill and Gareth R. Jones, Strategic Management an Integrated Approach, Cengage Learning
4. Azhar Kazmi, Business Policy and Strategic Management, Tata McGraw Hill
5. C. AppaRao; Strategic Management and Business Policy, Excel Books.
6. Ghosh P.K., Business Policy and Strategic Planning and Management, Tata McGraw Hill.
7. Pillai, Strategic Management,
8. Lawerence, Business Policy and Strategic Management, Tata McGraw Hill.
9. Sathyashekar : Business Policy and Strategic Management, I.K International Publishing House Pvt. Ltd.

ELECTIVE GROUPS

1. FINANCE GROUP

F. N 5.5 ADVANCED FINANCIAL MANAGEMENT

OBJECTIVE

The objective is to familiarize the students with Advanced Financial Analysis and Decisions.

Unit 1: INVESTMENT DECISIONS AND RISK ANALYSIS **12 Hrs**

Risk Analysis – Types of Risks – Risk and Uncertainty – Techniques of Measuring Risks – Risk adjusted Discount Rate Approach – Certainty Equivalent Approach – Sensitivity Analysis - Probability Approach - Standard Deviation and Co-efficient of Variation – Decision Tree Analysis –Problems.

Unit 2: COST OF CAPITAL AND CAPITAL STRUCTURE **20Hrs**

Part 1:Capital Structure: Meaning and Significance of Cost of Capital – Types of Capital – Computation of Cost of Capital – Specific Cost – Cost of Debt – Cost of Preference Share Capital – Cost of Equity Share Capital – Weighted Average Cost of Capital – Problems.

Part 2: Capital Structure: Introduction to Capital Structure – Capital Structure Theories - Net Income Approach - Net Operating Income Approach - Traditional Approach – MM Approach – Problems.

Unit 3: DIVIDEND THEORIES **10 Hrs**

Introduction – Irrelevance Theory – MM Model. Relevance Theories - Walter Model - Gordon Model – Problems on Dividend Theories.

Unit 4: PLANNING AND FORECASTING OF WORKING CAPITAL **10 Hrs**

Concept of Working Capital – Determinants of Working Capital – Estimating Working Capital Needs – Operating Cycle – Cash Management – Motives of Holding Cash – Cash Management Techniques – Preparation of Cash Budget – Receivables Management – Preparation of Ageing Schedule and Debtors Turnover Ratio – Inventory Management Techniques – Problems on EOQ.

UNIT 5: CORPORATE VALUATION **04 Hrs**

DCF method, relative valuation method, net asset method, value based management. (Only concepts)

SKILL DEVELOPMENT

- Preparation of a small project report of a small business concern covering all components- (Finance, Marketing, Production, Human Resources, General administration) (Any one component can be selected as a title of the report)
- Designing a capital structure for a Trading concern
- Preparing a blue print on working capital of a small concern.
- Prepare a chart on Modes of cash budget.
- List out different modes of Dividend Policy.
- List out the Companies, which have declared dividends recently along with the rate of dividend.

BOOKS FOR REFERENCE

1. S N Maheshwari, Financial Management Principles and Practice, Sultan Chand and sons
2. Sudarshan Reddy: Advance Financial Management, HPH.
3. Narendra Singh : Advanced Financial Management, HPH.
4. Khan and Jain, Financial Management, Tata McGraw Hill
5. P.K. Sinha; Financial Management, Excel Books.
6. Sharma and Sashi Gupta, Financial Management, Kalyani Publishers.
7. I M Pandey, Financial Management, Vikas Publishing house
8. Prasanna Chandra, Financial Management, Tata McGraw Hill.
9. Dr. K. Venkataramanappa, SHB Publications

F. N 5.6 FINANCIAL MARKETS & SERVICES

OBJECTIVE

The objective is to familiarize the students with Traditional and Modern Financial Services.

Unit 1: FINANCIAL MARKETS **12 Hrs**

Primary Market - Meaning – Features - Players of Primary Market – Instruments in Primary Market (Names) – Procedure for issuing Equity shares and Debentures - SEBI guidelines towards the issue of Equity Shares and Debentures - Merits and Demerits of Primary Markets. Secondary Market – Meaning – Structure – Functions – Trading and Settlement System of Stock Exchange Transactions - Players in the Stock Market – Merits and Demerits of Stock Markets – Reforms in Stock Market – OTCEI and NSE – Origin – Function – Merits – Demerits.

Unit 2: NON-BANKING FINANCIAL INTERMEDIARIES **12 Hrs**

Investment & Finance Companies - Merchant Banks - Hire Purchase Finance - Lease Finance - Housing Finance - Venture Capital Funds and Factoring.

Unit 3: SEBI **10Hrs**

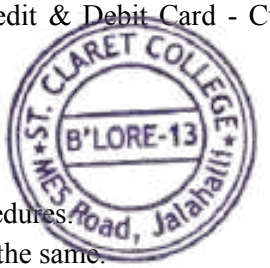
Objectives of SEBI – Organization - Functions and Functioning of SEBI - Powers of SEBI - Role of SEBI in marketing of Securities and Protection of Investor Interest.

Unit 4: MUTUAL FUNDS **12Hrs**

Concept of Mutual Funds - Growth of Mutual Funds in India - Mutual Fund Schemes – Money Market Mutual Funds – Private Sector Mutual Funds – Evaluation of the performance of Mutual Funds – Functioning of Mutual Funds in India.

Unit 5: RECENT TRENDS IN FINANCIAL SERVICES **10 Hrs**

Personalized Banking – ATM – Tele-banking & E-banking - Credit & Debit Card - Customization of Investment Portfolio - Financial Advisors.



SKILL DEVELOPMENT

- Collection of Share certificate / debenture certificate.
- Chart showing modus operandi of leasing – hire purchase procedures.
- Collect any specimen of new Financial Instruments and record the same.
- Select any Mutual Fund and examine the various closed and open-ended schemes offered.
- Visit any Housing Finance Companies and analyse the features of various financing schemes offered.

BOOKS FOR REFERENCE

1. E Gardon& K Natarajan: Financial Markets & Services, HPH.
2. Vasant Desai : Financial Markets & Financial Services , Himalaya Publishing House.
3. V.A. Avadhani : Financial Services in India, HPH.
4. Meir Kohn: Financial Institutions and Markets, Tata Mc Graw Hill
5. R.M Srivastava / D. Nigam; Dynamics of Financial Markets & Institutions in India, Excel Books.
6. L M Bhole: Financial Institutions and Markets, Tata Mc Graw Hill
7. Dr. K. Venkataramanappa, SHB Publications

F. N 6.5 INVESTMENT& PORTFOLIO MANAGEMENT

OBJECTIVE:

The objective is to familiarize the students with knowledge on Investment and Portfolio Management

Unit 1: INTRODUCTION TO INVESTMENT MANAGEMENT **10Hrs**

Meaning of Investment – Selection of Investment – Investment Avenues – Risk and Uncertainty – Types of Risks – Risk and Expected Return – Measurement of Portfolio Risk – Benefits of Diversification – Investment Strategies – Types of Companies and Stocks – Matrix approach in Investment Decision –

Unit 2: SECURITY ANALYSIS **12Hrs**

Introduction – Fundamental Analysis – Economic Analysis – Industry Analysis – Company Analysis. Technical Analysis – Dow Theory – Advanced Declined Theory – Chartism Assumptions of Technical Analysis.

Unit 3: MODERN PORTFOLIO THEORY **12 Hrs**

Introduction – Mean – Variance Model – Markowitz Model – Sharpe single index model - Capital Market Line – Market Portfolio – Capital Asset Pricing Model – Security Market Line – Beta Factor – Alpha and Beta Coefficient – Arbitrage Pricing Model.

Unit 4: PORTFOLIO EVALUATION **10 Hrs**

Sharpe's measure, Jensen's measure, Treynor's measure.

Unit 5: GLOBAL MARKETS **12 Hrs**

Global Investment Benefits - Introduction to ADRs, GDRs, FCCBs, Foreign Bonds, Global Mutual Funds – Relationship between Trends in Global Markets and the Domestic Markets.

SKILL DEVELOPMENT

- Prepare an imaginary investment portfolio for salaried man whose income is 10 lacks per annum and estimate savings is 2 lacks per annum.
- Make list of thirty companies which have gone for IPO very recently.
- Prepare a statement showing the ups and downs in the BSE index in the last one year.

BOOKS FOR REFERENCE

1. Preeti Singh: Investment Management, HPH.
2. Avadhani, Investment Analysis and Portfolio Management, HPH
3. Kevin, Investment and Portfolio Management, Prentice hall of India Pvt.Ltd
4. Sudhindra Bhatt; Security Analysis and Portfolio Management, Excel Books.
5. A.P. Dash : Security Analysis and Portfolio Management, I.K. International
6. Prasanna Chandra, Investment Analysis and Portfolio Management, Mc Graw-Hill
7. Fischer and Jordan, Security Analysis and Portfolio Management, Prentice Hall
8. Punithavathy, Pandian, Investment Analysis and Management, Vikas Publishing House.

F. N 6.6 STOCK AND COMMODITY MARKETS

OBJECTIVE:

The objective is to provide students with a conceptual framework of Stock Markets and Commodity Markets, functionaries in these markets and their mode of trading.

Unit 1: AN OVERVIEW OF CAPITAL AND COMMODITY MARKETS: **10Hrs**

Primary Market, Secondary Market (Stock Market), Depositories, Private placements of shares / Buy back of shares, Issue mechanism. Meaning of commodity and Commodity markets, Difference between Stock Market and Commodity Market.

Unit 2: STOCK MARKET: **12 Hrs**

History, Membership, Organization, Governing body, Functions of stock Exchange, on line trading, role of SEBI, Recognized Stock Exchanges in India (brief discussion of NSE BSE and Nifty). Derivatives on stocks: meaning, types (in brief).

Unit 3: TRADING IN STOCK MARKET: **12Hrs**

Patterns of Trading & Settlement – Speculations – Types of Speculations – Activities of Brokers – Broker Charges – Settlement Procedure, National Securities Depository Ltd.(NSDL) Central Securities Depository Ltd.(CSDL) (in brief).

Unit 4: COMMODITY MARKET: **12Hrs**

Evolution, Commodity derivatives, Commodity exchanges-Regional & National and International, Functions, role, objectives and types- Types of transactions in Commodity market – Spot, Future and Forward options markets.

Unit 5: TRADING IN COMMODITY MARKETS: **10 Hrs**

Patterns of Trading & Settlement, Price discover, Efficiency of Commodity Markets - Size of Commodity Markets in India - Benefits of Commodity Markets.

SKILL DEVELOPMENT

- Prepare the list of recognized stock exchanges in India
- Prepare the process chart of online trading of share and debentures.
- Prepare the chart showing Governing Body of the Commodities Market.
- Prepare the list of commodities traded on commodity market.
- Enlist the role of NSDL and CSDL.

BOOKS FOR REFERENCE:

1. Gurusamy, Financial Markets and Institutions, 3rd edition, Tata McGraw Hill.
2. Srivastava RM : Management of Financial Institutions, HPH
3. Saunders, Financial Markets and Institutions, 3rd edition, Tata McGraw Hill.
4. Bharat Kulkarni; Commodity Markets and Derivatives, Excel Books.
5. Khan, Indian Financial Systems, 6th edition, Tata McGraw Hill

6. Bhole, L.M. (2000), Indian Financial Institutions, Markets and Management, McGraw Hill, New York
7. PallaviModi: Equity – The Next Investment destination, HPH.
8. Avadhani (2010) Financial Markets and Services, Himalaya Publishers.
9. K. Venkataramanappa, SHB Publications

2. MARKETING GROUP

M.K. 5.5 CONSUMER BEHAVIOR

Unit 1: INTRODUCTION **10 Hrs**

Introduction to Consumer Behaviour - A managerial & consumer perspective; Need to study Consumer Behaviour; Applications of consumer behaviour knowledge; current trends in Consumer Behaviour; Market segmentation & consumer behaviour.

Unit 2: INDIVIDUAL DETERMINANTS OF CONSUMER BEHAVIOUR **12Hrs**

Consumer needs & motivation; personality and self-concept; consumer perception; learning & memory; nature of consumer attitudes; consumer attitude formation and change.

Unit 3: ENVIRONMENTAL DETERMINANTS OF CONSUMER BEHAVIOUR **12 Hrs**

Family influences; Influence of culture; subculture & cross cultural influences; group dynamics and consumer reference groups; social class & consumer behaviour.

Unit 4: CONSUMER'S DECISION MAKING PROCESS **12Hrs**

Problem recognition; Search & Evaluation; Purchase processes; Post-purchase behaviour; personal influence& opinion leadership process; Diffusion of innovations; Models of Consumer Behaviour; Researching Consumer behaviour; Consumer research process.

Unit 5: CONSUMER SATISFACTION & CONSUMERISM **10Hrs**

Concept of Consumer Satisfaction; Working towards enhancing consumer satisfaction; sources of consumer dissatisfaction; dealing with consumer complaint. Concept of consumerism; consumerism in India; The Indian consumer; Reasons for growth of consumerism in India; Consumer protection Act 1986.

SKILL DEVELOPMENT:

- Conduct an informal interview of a local retail store owner and determine what demographic and socio economic segments the store appears to satisfy. How did the owner select this segment or segments?
- Conduct formal interview to the managers of three retail-clothing stores. Determine the degree to which they believe consumer's personality and self-image are important to the marketing activities of the stores.
- Visit three local restaurants and assess how each attracts clientele in different stages of the family life cycle.
- You are the owner of two furniture stores, one catering to upper-middle class consumers and the other to lower-middle class consumers. How do social class differences influence each store's
    - Product lines & styles
    - Advertising media selection
    - The copy & communication styles used in the advertisements
    - Payment policies
- For each of the following Products & services, indicate who you would go to for information and advice;
    - The latest fashion in clothes

- Banking
- Air travel
- Vacation destinations
- A personal computer

- For each situation; indicate the person's relationship to you and your reasons for selecting him/her as the source of information and advice.

BOOKS FOR REFERENCE:

1. Leon. G. Schiffman & Leslve Lazer Kanuk; Consumer behaviour; 6th Edition; PHI, New Delhi, 2000.
2. Suja.R.Nair, Consumer behaviour in Indian perspective, First Edition, Himalaya Publishing House, Mumbai, 2003.
3. Batra/Kazmi; Consumer Behaviour.
4. David. L. Loudon & Albert J. Bitta; Consumer Behaviour; 4th Edition, Mcgraw Hill, Inc; New Delhi, 1993.
5. K. Venkatramana, Consumer Behaviour, SHBP.
6. Assael Henry; Consumer behaviour and marketing action; Asian Books(P) Ltd, Thomson learning, 6th Edition; 2001.
7. Jay D. Lindquist & M. Joseph Sirgy, Shopper, Buyer and Consumer Behaviour, 2003.
8. Blackwell; Consumer Behaviour, 2nd Edition.
9. S.A.Chunawalla : Commentary on Consumer Behaviour, HPH.
10. Sontakki; Consumer Behaviour, HPH.
11. Schiffman; Consumer Behaviour, Pearson Education.

M.K. 5.6 ADVERTISING & MEDIA MANAGEMENT

Unit 1: INTRODUCTION & BASIC CONCEPTS **12Hrs**

History of advertising; Advertising purpose and functions; Economic, social & ethical aspects of advertising; Advertising & the marketing mix, Advertising as a communication process; types of advertising; Major Institutions of Advertising Management.

Unit 2: ADVERTISING AND CAMPAIGN PLANNING **10Hrs**

Marketing strategy & Situation analysis; Advertising plan; Advertising objectives; DAGMAR approach; Advertising strategy; Advertising campaign-planning process.

Unit 3: CREATIVE STRATEGY & ADVERTISING BUDGET **12Hrs**

Creative approaches; The art of copywriting; Advertising copy testing; creativity in communication, motivational approaches & appeals, Advertising budget process; Methods of determining Advertising appropriations.

Unit 4: ADVERTISING MEDIA STRATEGY **10 Hrs**

Role of media; types of media; their advantages and disadvantages; Media research & advertising decisions; media planning, selection & scheduling strategies.

Unit 5: ADVERTISING EFFECTIVENESS & ORGANISING ADVERTISING FUNCTIONS. **12Hrs**

Methods of measuring advertising effectiveness; Advertising research; structure & functions of an advertising agency; Selection & co-ordination of advertising agency; Advertising regulations; Internet advertising.

SKILL DEVELOPMENT:

- Sketch the competitive position for the development of an advertising plan for Sahara Airlines & Tata Telephones.
- Define the advertising objectives on DAGMAR Approach for any product of your choice.
- By selecting an appropriate theme & appeal, create & enact an advertisement for a range of any established products. For this purpose, the class should be divided into groups and formal presentations have to be evaluated.
- Select two print & electronic media for the purpose of understanding the functions of advertising media. Comparative analysis of the same should be done & short reports must be prepared.
- Get into the exciting world of internet / Net advertising and identify the message content of 10 products / Services of your choice.

BOOKS FOR REFERENCE:

1. Rajeev Batra, John. G.Myers. T. David.A. Aaker; Advertising Management; 5th Edition, PHI Edition, New Delhi, 1998.
2. Kazmi/Batra; Advertising & Sales promotion 3rd Edition
3. Jefkins&Yadin; Advertising, 4th Edition; Pearson Education, New Delhi, 2000.

4. Manendra Mohan; Advertising Management - Concepts & Cases; Tata McGraw Hill Publishing company Ltd, New Delhi 2001.
5. K. Venkataraman, Advertising & Media Management, SHBP.
6. S.A.Chunnawalia&K.c.Sethia Foundations of Advertising - Theory & Practice, Himalaya Publishing House, 2002.
7. Sonatakki, Advertising, Kalyani Publishers
8. Wells, Advertising.
9. Rayudu: Media and Communication Management, HPH.

M.K 6.5 BRAND MANAGEMENT

OBJECTIVE

The objective is to enable the students to acquire skills in Product & Brand Management

Unit 1: PRODUCT MANAGEMENT **05 Hrs**

Meaning of Product – Product Personality, Types of Products – Product Line, Product Mix.

Unit 2: PRODUCT DEVELOPMENT **12 hrs**

Factors influencing design of the product – Changes affecting Product Management – Developing Product Strategy; Setting objectives & alternatives, Product strategy over the lifecycle. New product development – Product Differentiation and Positioning strategies. Failure of New Product.

Unit 3: MARKET POTENTIAL & SALES FORECASTING **10 hrs**

Forecasting target market potential and sales – Methods of estimating market and sales potential, Sales forecasting, planning for involvement in international market.

Unit 4: BRAND MANAGEMENT **12 hrs**

Meaning of Brand – Brand Development: Extension, Rejuvenation, Re launch- Product Vs Brands, Goods and services, Retailer and distributors, People and organization, Brand challenges and opportunities, The brand equity concept, Identity and image.

Unit 5: BRAND LEVERAGING AND BRAND PERFORMANCE **12 hrs**

Establishing a brand equity management system, measuring sources of brand equity and consumer mindset, Co-branding, celebrity endorsement. Brand Positioning & Brand Building – Brand knowledge, Brand portfolios and market segmentation – Steps of brand building, Identifying and establishing brand positioning, Defining and establishing brand values.

Unit 6: DESIGNING & SUSTAINING BRANDING STRATEGIES **05 hrs**

Brand hierarchy, Branding strategy, Brand extension and brand transfer – Managing brand over time.

SKILL DEVELOPMENT :

- List out a few celebrity brand endorsements and the appropriateness of using them.
- Draw a chart showing the brand environment
- List out a few recent news and trends about brands
- List out some of the methods of brand valuation
- List out a few brands and the adjectives attached to their ads.

BOOKS FOR REFERENCE

1. Gupta SL: Brand Management, HPH.
2. Branding Concepts- Pati, Debashish, Macmillan India
3. Brand Building : M.Bhattacharjee, HPH.

4. Harsh V. Verma; Brand Management, Excel Books.
5. Subrato Sengupta, Brand Positioning Strategies for Competitive Advantage, McGraw Hill.
6. The New Strategic Brand Management- Kapfere, Jean-Noel, Kogan page 5th edition
7. Das & Naveen, Brand Management Perspectives and Practices, ICFAI University Press.
8. Chaturvedi, B.M, Total Brand Management: An Introduction-, ICFAI University Press.
9. Ray, Brand Management Financial Perspectives, ICFAI University Press.

M.K 6.6 RETAIL MANAGEMENT

OBJECTIVE

The objective is to enable students to acquire skills in Retail Management.

Unit 1: INTRODUCTION TO RETAILING **10 Hrs.**

Definition – functions of retailing - types of retailing – forms of retailing based on ownership. Retail theories – Wheel of Retailing – Retail life cycle. Retailing in India – Influencing factors – present Indian retail scenario. Retailing from the International perspective

Unit 2: RETAIL CONSUMER BEHAVIOUR **12 Hrs.**

Buying decision process and its implication to retailing – influence of group and individual factors. Customer shopping behaviour - Customer Service satisfaction. Retail planning process – Factors to consider – Preparing a complete business plan – implementation – risk analysis.

Unit 3: RETAIL OPERATIONS **12 Hrs.**

Choice of Store location – Influencing Factors, Market area analysis – Trade area analysis – Rating Plan method - Site evaluation. Retail Operations: Store Layout and visual merchandising – Store designing – Space planning, Retail Operations - Inventory management – Merchandise Management – Category Management.

Unit 4: RETAIL MARKETING MIX **12 Hrs.**

Retail marketing mix –Introduction. **Product** – Decisions related to selection of goods (Merchandise Management revisited) –Decisions related to delivery of service. **Pricing** – Influencing factors – approaches to pricing – price sensitivity - Value pricing – Markdown pricing. **Place** – Supply channel – SCM principles – Retail logistics – computerized replenishment system – corporate replenishment policies. **Promotion** – Setting objectives – communication effects - promotional mix. Human Resource Management in Retailing – Manpower planning – recruitment and training – compensation – performance appraisal.

Unit 5: IMPACT OF IT IN RETAILING **10 Hrs.**

Non store retailing (E tailing) The impact of Information Technology in retailing - Integrated systems and networking – EDI – Bar coding – Electronic article surveillance – Electronic shelf labels – customer database management system. Legal aspects in retailing. Social issues in retailing. Ethical issues in retailing.

SKILL DEVELOPMENT:

- Draw a retail life cycle chart and list the stages
- Draw a chart showing a store operations
- List out the major functions of a store manager diagrammatically
- List out the current trends in e-retailing

BOOKS FOR REFERENCE

1. Barry Bermans and Joel Evans, "Retail Management – A Strategic Approach", 8th edition, PHI Private Limited, New Delhi, 2002.
2. Suja Nair: Retail Management, HPH.
3. A.J. Lamba, "The Art of Retailing", 1st edition, Tata Mc GrawHill, New Delhi, 2003.
4. SwapnaPradhan, Retailing Management, 2/e, 2007 & 2008, TMH
5. K. Venkatramana, Retail Management, SHBP.
6. A. Siva Kumar; Retail Marketing, Excel Books.
7. James R. Ogden & Denise T. Ogden, Integrated Retail Management 2007, Biztantra Cengage Learning
8. R.S. Tiwari : Retail Management , HPH
9. Araif Sakh: Retail Management, HPH.
10. Levy &Weitz, Retail Management,, TMH 5th Edition 2002
11. Rosemary Varley, Mohammed Rafiq, Retail Management, Palgrave Macmillan
12. Chetan Bajaj, Retail Management, Oxford Publication.
13. Uniyal & Sinha, Retail Management,, Oxford Publications.

3.HUMAN RESOURCE GROUP

H.R 5.5 EMPLOYEE WELFARE& SOCIAL SECURITY

OBJECTIVE

The objective is to enable students to acquire skills in Labor Welfare & Social Security.

Unit 1: SOCIAL & LABOUR WELFARE **12 Hrs.**

Social Welfare; Labour Welfare: Concept, Scope; Philosophy and Principles of Labour Welfare; Indian constitution and Labour Welfare; Labour Welfare Policy and Five Year Plans, Historical Development of Labour Welfare in India;

Unit 2: INDIAN LABOUR ORGANIZATION **12 Hrs.**

Impact of ILO on Labour Welfare in India; Agencies of Labour Welfare and their Roles, Labour Welfare Programmes: Statutory and Non-Statutory, Extra Mural and Intra Mural. Welfare Centers; Welfare Officer: Role, Status and Functions.

Unit 3: SOCIAL SECURITY **10 Hrs.**

Concept and Scope; Social Assistance and Social Insurance, Development of Social Security in India; Social Security measures for Industrial Employees.

Unit 4: LABOUR ADMINISTRATION – 1 **12 Hrs.**

Evolution of Machinery for Labour Administration; Central Labour Administrative Machinery in India, Labour Administration in India.

Unit 5: LABOUR ADMINISTRATION – 2 **10 Hrs.**

Director General of Employment and Training; Director General of Factory Advice Service; Provident Fund Organization; ESI Schemes; Central Board for Workers' Education;

SKILL DEVELOPMENT :

- Preparation of a list of statutory welfare measures by visiting industry
- Preparation of a list of voluntary welfare measures by visiting industry
- Preparation of list of social security measures by visiting industry

BOOKS FOR REFERENCE

1. Moorthy, M.V. Principles of Labour Welfare, Oxford & IBH Publishing Co., New Delhi.
2. Vaid, K.N. Labour Welfare in India, Sree Ram Centre for Industrial Relations and Human Resources, New Delhi.
3. K. Venkataramana, Employee Welfare& Social Security, SHBP.
4. Sharma, A.M. Aspects of Labour Welfare and Social Security, Himalaya Publishing, House, Mumbai.
5. Ram Chandra P. Singh, Labour Welfare Administration in India, Deep & Deep Pub., New Delhi.

6. Punekar, S.D. Deodhar S.B., Sankaran, Saraswathi, Labour Welfare, Trade Unionism and Industrial Relations, Himalaya Publishing House, Mumbai.
7. Pant, S.C., Indian Labour Problems, Chaitanya Publishing House, Allahabad.
8. Saxena, R.C., Labour Problems and Social Welfare, K. Nath & Co., Meerut.
9. Bhogiliwala, T.N. Economics of Labour & Industrial Relations, Sahitya Bhavan Publishing Agra.
10. Memoria, C.B. Dynamics of Industrial Relations in India, Himalaya Publishing. House, Mumbai.

H.R. 5.6STRATEGIC HRM

OBJECTIVE

The objective is to enable students to acquire skills in Strategic Human Resource Management.

Unit 1: INTRODUCTION TO STRATEGIC HRM **10 Hrs.**

Strategic Role of HRM, Planning and Implementing Strategic HR policies, HR Strategies to increase firm performance.

Unit 2: INVESTMENT PERSPECTIVES OF HR **12 Hrs.**

Investment Consideration, Investments in Training and Development, Investment Practices for improved retention, Job secure workforce, Nontraditional Investment Approaches.

Unit 3: MANAGING STRATEGIC ORGANIZATION **10 Hrs.**

Managing Strategic Organizational Renewal- Managing change and OD, instituting TQM Programmes, Creating Team based Organizations, HR and BPR, Flexible work arrangement.

Unit 4: ESTABLISHING STRATEGIC PLANS **12 Hrs.**

Establishing Strategic pay plans, Determining periods, Establishing periods, Pricing Managerial and professional jobs, Compensation trends, Objectives of International Compensation, Approaches to International Compensation, Issues related to double taxation. Cases.

Unit 5: GLOBAL HRM **12 Hrs.**

Managing Global Human Resources-HR and the internationalization of business, Improving international assignments through selections, Training and maintaining international employees, Developing International Staff and Multinational Teams - Multinational, Global, and Transnational Strategies - Strategic Alliances, Sustainable Global Competitive Advantage, Globally Competent Managers, Location of Production Facilities.

SKILL DEVELOPMENT:

- Prepare a statement showing man power requirements in an imaginary situation.
- Specimen of a payroll with imaginary roles.
- Preparation of job card with imaginary facts.
- Preparation of questionnaire on performance appraisal

BOOKS FOR REFERENCES

1. Gary Dessler, Human Resource Management, PHI, New Delhi, 2003.
2. Charles R. Greer, Strategic Human Resource Management, Pearson Education, 2003.
3. Luis R. Gomez-Mejia, David B. Balkin, Robert L. Cardy, Managing Human Resources, PHI,
4. Peter J. Dowling, Denice E. Welch, Randall S. Schuler, International Human Resource Management, Thomson South-Western, 2002.

H.R 6.5 ORGNISATIONAL CHANGE AND DEVELOPMENT

OBJECTIVE:

The objective is to enable the students to understand need for Organizational Change and Development and the OD interventions

Unit 1: CHANGE MANAGEMENT **10Hrs**

The importance and nature of change. Change and human response. Introducing change effectively: Basic steps, factors influencing change- resistance to change, overcoming resistance to change

Unit 2: ORGANIZATION EFFECTIVENESS **10Hrs**

Organization effectiveness: Concept, problems in measurement of effectiveness. System - level criteria of judging effectiveness.

Unit 3: ORGANIZATIONAL DEVELOPMENT **16 Hrs**

The nature of Organizational Development (OD): Assumptions and values. Relevant systems concepts. Action research, OD Interventions: Team interventions, Inter-group interventions, personal, interpersonal and group processes interventions: A descriptive inventory of OD interventions.

Unit 4: OD INTERVENTIONS **10Hrs**

Comprehensive interventions, Structural interventions, Job enrichment and MBO, Conditions for optimal success of OD.

Unit 5: CREATIVITY & INNOVATION **10Hrs**

Creativity & Innovation: Meaning, Need, Components of Creativity & Innovation, Organizational Constraints, Organizational environment for Creativity & Innovation,

SKILL DEVELOPMENT

- List out the recent OD interventions in Organizations.
- Discuss case studies on Impact of change on Organizational effectiveness.

BOOKS FOR REFERENCE

1. Dunnette, M.D. (Ed.) (1976). Handbook of Industrial and Organizational Psychology. Chicago: Rand McNully.
2. French, W.L.; & Bell, C.H. Jr. (1980). Organizational Development. London, Prentice Hall.
3. Herbert, T.T. (1981). Dimensions of Organizational Behavior. London: MacMillan.
4. Khandwalla, P.N. (1988). Organizational effectiveness. In J. Pandey (Ed.) Psychology in India: The State-of-the Art (Vol.3, pp. 97-215). New Delhi: Sage.
5. Luthans, F. (1989). Organizational Behaviour. London: McGraw Hill.
6. Margulies, N.; &Raia, A.P. (1975). Organizational Development: Values, process and technology. New Delhi: Tata McGraw Hill,
7. McGill, M.E. (1977). Organizational Development for Operating Managers. AMACO (a division of American Management Association).

8. Pareek, U. &Rao, T.V. (1986). Designing and Managing Human Resources Systems. New Delhi: Oxford.
9. Rudrabasavaraj, M.N. (1977). Executive Development in India. New Delhi: Himalaya Publishing House.
10. Sharma, R.A. (1982). Organizational Theory and Behaviour. New Delhi: Tata McGraw Hill,

7.6 COMPENSATION MANAGEMENT

OBJECTIVE:

The objective is to enable the students to understand the various aspects of Compensation Management

UNIT-1: JOB EVALUATION AND PERFORMANCE APPRAISAL **10 Hrs**

Job Evaluation - Definition - Traditional and New Techniques - Performance Appraisal -Basic concepts - performance standard - Appraisal methods.

UNIT-2: COMPENSATION MANAGEMENT **10 Hrs**

Compensation - Definition - Classification - Types - Incentives - Fringe Benefits.

UNIT-3: WAGE AND SALARY ADMINISTRATION **16 Hrs**

Theories of wages - wage structure - wage fixation - wage payment - salary administration. Difference between salary and wages - Basis for compensation fixation- Components of wages - Basic Wages - Overtime Wages - Dearness Allowance - Basis for calculation - Time Rate Wages and Efficiency Based Wages - Incentive Schemes - Individual Bonus Schemes, Group Bonus Schemes - Effect of various labour laws on wages-Preparation of Pay Roll

UNIT- 4:REWARDS AND INCENTIVES **10 Hrs**

Rewards for Sales personnel - Pay - commission- Performance based pay system - incentives - executives compensation plan and packages.

UNIT- 5: REGULATORY BODIES FOR COMPENSATION MANAGEMENT **10 Hrs**

Wage Boards - Pay Commissions - Compensation Management in Multi-National organizations.

SKILL DEVELOPMENT

- List out the fringe benefits offered to employees of any two companies
- Discuss the role of regulatory bodies in compensation management
- List out various Incentive Schemes of wage payments

BOOKS FOR REFERENCE

1. Compensation & Reward Management, BD Singh, Excel Books
2. Compensation, Milkovich & Newman, TMH
3. Strategic Compensation, Joseph J. Martocchio, 3rd Edition, Pearson Education
4 Compensation Management in Knowledge based world, Richard I. Anderson, 10th edition, Pearson Education
6 Compensation Management, Er Soni Shyam Singh, Excel Books.
7. Richard Thrope& Gill Homen : Strategic Reward Systems - Prentice-Hall.
8. Thomas. P. Plannery, David. A. Hofrichter & Paul. E. Platten: People, Performance & Pay – Free Press.
9. Michael Armstrong & Helen Murlis: Hand Book of Reward Management – Crust Publishing House.
10. Joseph. J. Martocchio: Strategic Compensation – A Human Resource Management Approach - Prentice-Hall.
11. Edwarde. E. Lawler III: Rewarding Excellence (Pay Strategies for the New Economy) – Jossey -Bass.