

Faculty of Social Science & Humanities

Study and Evaluation Scheme

Of

Bachelor of Arts (With Computer Appli.)

B.A. (With CA)

(Applicable w.e.f Academic Session 2015-18, till revised)



AKS UNIVERSITY, SATNA

Study and Evaluation Scheme

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Faculty of Social Sciences & Humanities
Bachelor of Arts (Computer Applications)
I Semester
Credit & Evaluation Scheme

S.N.	Subject Code	Subject Name	Periods			Credits
			L	T	P	
1.	66CA101	Fundamentals of Computer	4	-		4
2.	66CA102	Information Security & Cyber Law	4	-		4
3.	66EC103	Micro Economics	4	-	-	4
4.	66PS104	Political Theory	4	-	-	4
5.	66FC105	English Communication	3	-	-	3
6	66CA151	Fundamentals of Computer (Lab)		-	2	1
Total			19	-	02	21

Bachelor of Arts (Computer Applications)
II Semester
Credit & Evaluation Scheme

S.N.	Subject Code	Subject Name	Periods			Credits
			L	T	P	
1.	66CA201	C Programming	4	-	-	4
2.	66CA202	System Analysis & Design	4	-	-	4
3.	66EC203	Indian Economy	4	-	-	4
4.	66PS204	Indian Government and Politics	4	-	-	4
5.	66EV205	Environmental Science	3	-	-	3
6	66CA251	C Programming (Lab)		-	3	2
Total			19	-	02	21

Bachelor of Arts (Computer Applications)

III Semester

Credit & Evaluation Scheme

S.N.	Subject Code	Subject Name	Periods			Credits
			L	T	P	
1.	66CA301	OBJECT ORIENTED PROGRAMMING IN C++	4	-	-	4
2.	66CA302	Internet and its applications	4	-	-	4
3.	66EC303	Macro Economics and Money and Banking	4	-	-	4
4.	66PS304	REPRESENTATIVE POLITICAL THINKERS	4	-	-	4
5.	66SS305	Spiritual Studies	3	-	-	3
6	66CA351	Object Oriented Programming in C++(Lab)		-	3	2
Total			19	-	3	21

Faculty of Social Sciences & Humanities

Bachelor of Arts (Computer Applications)

IV Semester

Credit & Evaluation Scheme

S.N.	Subject Code	Subject Name	Periods			Credits
			L	T	P	
1.	66CA401	Digital Electronics	4	1	0	5
2.	66CA402	HTML and Web Designing	4	-	0	4
3.	66EC403	International Economics and Public Finance	4	-	-	4
4.	66PS404	COMPARATIVE GOVERNMENT AND POLITICS	4	-	-	4
5.	66EN405	Entrepreneurship	3	-	-	3
6	66CA451	HTML and Web Designing	0	-	2	1
Total			19	-	02	21

Faculty of Social Sciences & Humanities
Bachelor of Arts (Computer Applications)
V Semester
Credit & Evaluation Scheme

S.N.	Subject Code	Subject Name	Periods			Credits
			L	T	P	
1.	66CA501	Basic Computer Hardware	4	0	0	4
2.	66CA502	DATABASE MANAGEMENT SYSTEM	4	-	0	4
3.	66CA503	Data Structure	4	-	0	4
4.	66EC504	Development and Environment Economics	4	-	-	4
5.	66PS505	India and International Politics	4	-	-	4
1	66CA551	Data Structure	0	0	2	1
2	66CA552	DATABASE MANAGEMENT SYSTEM (LAB)	0	0	2	1
Total			20	0	4	22

Faculty of Social Sciences & Humanities
Bachelor of Arts (Computer Applications)
VI Semester
Credit & Evaluation Scheme

S.N.	Subject Code	Subject Name	Periods			Credits
			L	T	P	
1.	66CA601	Multimedia tools and application	4	-	0	4
2.	66CA602	PHP Programming	4	-	0	4
3	66CA603	Operating Systems	4	-	-	4
4.	66EC604	Quantitative Techniques	4	-	-	4
5.	66PS605	Public Administration	4	-	-	4
6	66CA651	Multimedia tools and application (Lab)	0	0	2	1
7	66CA652	PHP Programming (Project Lab)	0	0	2	1
Total			20	-	4	22

B.A. Computer Applications (I Semester)

Subject – Computer Applications - I

(Computer Fundamentals)

Objective: This course has been taught to the student to aware them about the computer and how it operates, to make documents.

Unit-I

Introduction to computers:- Definition of Computer, Characteristics of Computers, Types of computers Mini Computers, Micro Computers, Mainframe Computers ,Super Computers, Types of Programming Languages Machine Languages, Assembly Languages, High Level Languages. Memory Types of Memory (Primary & Secondary) RAM, ROM, Secondary Storage Devices FD, CD, HD, Pen drive. **I/O Devices:-** Keyboard, Mouse, Monitors, Scanners, Plotters, LCD, and Plasma Display).

Unit-II

Operating System and Services in O.S., Dos-History, Files and Directories, Internal & External Commands, Types of Operating System, Windows Operating Environment Features of MS – Windows, Control Panel, Taskbar, Desktop, Windows Application, Icons, Windows Accessories, Notepad, Paint Brush.

Unit- III

MS Word 2007:- Word basics, formatting text and documents, working with headers, footers and footnotes, tabs, tables and sorting, Working with graphics, templates, and introduction to mail merge.

MS Power Point 2007:- Power Point basics, creating presentation the easy way, working with graphics, Inserting various objects (Picture, Organizational Chart, Audio, Video etc) in slide, Adding Animation effects in slide.

Unit-IV

MS Excel 2007:- Excel basics, rearranging worksheets, excel formatting tips and techniques, Introduction to functions; Excel chart features, working with graphics, Using worksheet as a Database.

Unit-IV

MS Access 2007:- Database creation, screen/form design, Data Export-import. Report generation using wizard, **Introduction to Networking:** - Advantage of Networking: Basic Features, LAN, WAN, MAN, Topologies.

Advance Topics: WWW, Internet.

Text Books:-

1. E Balagurusamy Fundamentals of Computer Tata McGraw Hills Publication.

Reference Books:

1. Manish Mahajan IT Infrastructure & Management Achme learning.

B. A. Computer (I Semester)
Subject – Computer Applications - II
(Information Security and Cyber Laws)

Unit I - Course Introduction: Computer network as a threat, hardware vulnerability, software vulnerability, importance of data security.

Digital Crime: Overview of digital crime, criminology of computer crime.

Unit II - Information Gathering Techniques: Tools of the attacker, information and cyber warfare, scanning and spoofing, password cracking, malicious software, session hijacking

Unit III - Risk Analysis and Threat: Risk analysis, process, key principles of conventional computer security, security policies, authentication, data protection, access control, internal vs external threat, security assurance, passwords, authentication, and access control, computer forensics and incident response

Unit IV - Introduction to Cryptography and Applications : Important terms, Threat, Flaw, Vulnerability, Exploit, Attack, Ciphers, Codes, Caesar Cipher, Rail-Fence Cipher, Public key cryptography (Definitions only), Private key cryptography (Definition and Example)

Unit V - Safety Tools and Issues : Firewalls, logging and intrusion detection systems, Windows and windows XP / NT security, Unix/Linux security, ethics of hacking and cracking

Cyber laws to be covered as per IT 2008:

- Chapter 1: Definitions
- Chapter 2: Digital Signature And Electronic Signature
- [Section 43] Penalty and Compensation for damage to computer, computer system, etc.
- [Section 65] Tampering with Computer Source Documents
- [Section 66 A] Punishment for sending offensive messages through communication service, etc.
- [Section 66 B] Punishments for dishonestly receiving stolen computer resource or communication device
- [Section 66C] Punishment for identity theft
- [Section 66D] Punishment for cheating by personation by using computer resource
- [Section 66E] Punishment for violation of privacy
- [Section 66F] Punishment for cyber terrorism

- [Section 67] Punishment for publishing or transmitting obscene material in electronic form
- [Section 67A] Punishment for publishing or transmitting of material containing sexually explicit act, etc. in electronic form[Section 67B] Punishment for publishing or transmitting of material depicting children in sexually explicit act, etc. in electronic form
- [Section 72] Breach of confidentiality and privacy

B. A. Computer (I Semester)

Subject – Economics

(Micro Economics)

Unit-1 - Definition, Evolution, Scope & Nature of Economics, Methods of Economic Analysis - Inductive & Deductive – Logic, Merits & Demerits. Basic Concepts – Law of Demand and Supply.

Unit-2 - Utility – Cardinal and Ordinal Approaches, Elasticity of Demand – Price, Income & Cross Elasticity, Indifference Curve Analysis – Meaning, Characteristics, Consumer Equilibrium, Consumer's Surplus.

Unit-3 - Production – Laws of Production, Law of Variable Proportions, Return to Scale, Economies of Scale, Iso-quants – Meaning and Characteristics, Concepts of Cost and Revenue – Total, Marginal & Average.

Unit-4 - Market – Concepts and Classification. Demand-Supply equilibrium. Perfect Competition – Characteristics, Price and Output Determination for Firm and Industry. Monopoly – Characteristics, Price and Output Determination. Monopolistic Competition - Characteristics, Price and Output Determination.

Unit-5 - Factor Pricing - Theory of Marginal Productivity of Distribution, Classical and Modern Theories of Wages, Rent, Interest and Profit.

Recommended Books:

- Varian. H.R. Micro Economics: A modern Approach.
- Mc Conenell & Brue Micro Economics Principal, problems & policies. McGraw Hills Professional Publication.
- Ahuja H.L. Advance Economic theory Jain K.P. Advance Economic theory
- Jhingan M.L. Modern Micro Economics
- Seth M L Micro Economics
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- l sB ,e-,y ekbd zks vFkZ'kkL=

B. A. Computer (I Semester)

Subject – Political Science

(Political Theory)

Unit-I - Political Science – Definition, nature and scope Nature and significance of Political Theory. Methods: Traditional and Modern ; Relations with other social sciences : Sociology , History, Economics, Psychology and Geography.

Unit-II - State – Origin, Development and Elements. Power and Authority, Sovereignty; Pluralist Criticism; Citizenship and Civil Society. Globalization and State.

Unit-III - Rights and Duties; Liberty, Equality and Justice. Democracy: Meaning, Types and Theories of Democracy, Theories of Representation and Welfare state.

Unit-IV - Legislature, Executive and Judiciary. Theory of Separation of Powers. Constitution: Meaning and types.

Unit-V - Concepts: Feminism, Human Rights. Corruption , Castism, Regionalism.

Recommended Books:

1. Ashirvadam E0 Modern Political Theory
2. Sir E. Barker- Principles of Social and Political Theory Calcutta Oxford University 1976
3. Loski H.J. – A Grammar of Poltics0 London Allan University
4. D Held- Political Theory Cambridge Polity Press
5. Tripti Jain- Foundation of Politics – College Book Depot.
6. Verma S.P. – Modern Political Theory New Delhi Vikas 1983
7. Prof. A.D. Panth- Basis of Political Science Allahabad Publisher.
8. Dr. Om Nagpal- Fundamentals of Political Science, Kamal Publisher Indore.

B. A. Computer (I Semester)

Subject – Foundation Course

(English Communication)

- 1. Introduction:** Theory of Communication, Types and modes of Communication.
- 2. Language of Communication:** Verbal and Non-verbal (Spoken and Written), Personal, Social and Business, Barriers and Strategies, Intra-personal, Inter-personal and Group communication.
- 3. Speaking Skills:** Monologue, Dialogue, Group Discussion, Effective Communication/ Mis-Communication, Interview, Public Speech.
- 4. Reading and Understanding:** Close Reading, Comprehension, Summary Paraphrasing, Analysis and Interpretation, Translation (from Indian language to English and vice-versa), Literary/Knowledge Texts.
- 5. Writing Skills:** Documenting, Report Writing, Making notes, Letter writing.

Recommended Readings:

1. Fluency in English - Part II, Oxford University Press, 2006.
2. Business English, Pearson, 2008.
3. Language, Literature and Creativity, Orient Blackswan, 2013.
4. Language through Literature (forthcoming) ed. Dr. Gauri Mishra, Dr Ranjana Kaul, Dr Brati Biswas

B.A. Computer Applications (II Semester)

Subject – Computer Applications - I

Paper – 1 (C Programming)

UNIT –I

Algorithm: An Introduction, Properties of an algorithm, Classification, algorithm logic, flowchart.

Program design and implementation issues: programming system design technique,

Programming technique, basic constructs of structured programming, modular designing of programs, Creation, compilation, execution of program.

Programming Environment Languages - Low level programming language, Middle level programming language, High level programming language, object code, source code, executable code, Translator - assembler, compiler, and interpreter.

UNIT- II

Introduction to the C Language: The C Language and its Advantages, The Structure of a C Program, Writing and Building an Executable Version of a C Program, Debugging-Examining and Running a C Program, Character set, Constants ,Variables, keywords, identifiers, literals. Storage, classes, type casting.

Basic input & output function – printf() and scanf(), C Instructions And Operators: Types of Instructions, Data Manipulation Instructions, Input/output Instructions, Operators and its different types, Precedence of operators.

UNIT – III

Flow control instructions: decision control instructions, if, if-else, if-else-if, nested if-else, loop control instructions, for loop, while loop, do while, break, continue, case control structure, goto, exit statement.

UNIT –IV

Arrays: what is an array, array declaration, array initialization, accessing individual elements of an array, two dimensional arrays, passing an array element to a function, rules of using an array.

Strings: what are strings, standard library string function strlen(), strcpy(), strcat(), strcmp(), strcmp(), 2D array of characters and character input output functions.

UNIT –V

Function: Need of function, declaring function, defining, calling function, types of function, parameter passing.

Structure and Union: Why use structure, declaration of structure, accessing structure elements, how structure elements are stored, array of structure, uses of structure, declaration of Union, accessing Union elements.

Advance topics: Pointer, DMA, Command line arguments, the C preprocessor.

Text Books

1. E. Balagurusamy, “Programming in ANSIC C”, Tata McGraw Hill, 2002

Reference Books

1. Yashavant Kanetkar, “Let Us C” – Seventh Edition, BPB Publications, 2007

List of C practical:

1. Write a C program to display Your Name, Address and City in different lines.
2. Write a C program to find the area of a circle using the formula. $Area = PI * r^2$
3. Write a C program to find the maximum from given three nos.
4. Write a C program to find that the accepted no is Negative, Positive or Zero.
5. Write a C program to convert centigrade into Fahrenheit. Formula: $C = (F - 32) / 1.8$.
6. Write a C program to find the sum of digits of accepted no.

7. Write a C program to find the sum of first 100 odd nos. and even nos.
8. Write a C program to display first 25 Fibonacci nos.
9. Write a C program to find factorial of accepted nos.
10. Write a C program to print the accepted no and its reverse no.
11. Write a C program to find whether the accepted string number is palindrome or not.
12. Write a C program to find $x_1+x_2+x_3+x_4+ \dots+x_n$.
13. Write a C program to convert decimal to binary.
14. Write a C program to arrange the accepted numbers in ascending order and descending order.
15. Convert given line into upper case or lower case character as user want. Use switch statement for the choice of case.
16. Check accepted integer is prime number or no.
17. Convert accepted integer into word. For Example 55 = fifty five.
18. Convert accepted DATE into word. For Example 12/12/1972 = 12th December 1972.
19. Find the frequency of entered different integer nos.
20. Accept two different arrays, merge it and make it sort in ascending order.
21. Print 3 students detail of R-no, name, address, city, phone on screen. Use structure.
22. Find the NPR, NCR with using User Defined Function. $NPR = N! / (N-R)!$ $NCR = N! / (R!*(N-R))$.
23. Swap the values of two different numbers using UDF.
24. Display this kind of output on screen.

```
C
CP
CRR
```

```
.
CPROGRAMING
```

```
.
CPR
CP
C
```

25. Display this kind of output on screen.

```
1
01
101
0101
```

...

26. Display this kind of output on screen.

```
1
01
101
```

...

27. Display this kind of output on screen.

```
1
23
456
78910
```

```
...
90 91
```

.....

28. Display this kind of output on screen.

*
**

29. Display this kind of output on screen.

1
121
12321
1234321
123454321

30. Write a program to work as a dos type command using command line argument.

31. Program to show swap of two no's without using third variable.

32. Program to show the use of conditional operator.

33. Program to find that entered year is leap year or not.

34. Program to find whether given no is even or odd.

35. Program to shift inputted data by two bits to the left.

36. Program to use switch statement, Display Monday to Sunday.

37. Program to display arithmetic operator using switch case.

38. Program to show swap of two no's without using third variable.

39. Program to show table of a number using functions.

40. Program to show call by value.

B. A. Computer (II Semester)
Subject – Computer Applications - II
Paper – 2 (System Analysis and Design)

UNIT

- 1** **SYSTEM CONCEPTS:** The system concept, Characteristics of system, Elements of system, Types of system, man made information systems.
 Basic System Development Life Cycle with different users and their role in SDLC.
PROCESS MODELS: Different Approaches and Models for System Development. Waterfall Model, Spiral Model, Prototyping, RAD, COCOMO Model, Capability Maturity Model Integration (CMMI).
- 2** **INITIAL INVESTIGATION AND ANALYSIS:** Requirement Investigation & Fact Finding Methods, Types of Requirements - Functional and Non-Functional, Quality criteria, Fundamental problems in defining Requirements, Software requirement Specification (SRS) -Structure and contents of the requirements specification analysis modeling,
COST / BENEFITS ANALYSIS: Data analysis, Cost/benefit analysis, categories, determination and system proposal. Software metric
- 3** **SYSTEM PLANNING AND TOOLS OF STRUCTURED ANALYSIS:**
 Planning a software project: Defining the problem - Developing a Solution Strategy - Planning the Development Process - Planning an Organization structure - Other Planning Activities.
 Logical and Physical models, Data flow diagram, Data dictionary, system structured charts, system model. Pseudo codes, Decision tree, Decision tables, HIPO and IPO chart, Gantt charts, Warries diagram.PERTchart
- 4** **SYSTEM DESIGN:** Stages of system design, Logical and physical design methods, Form driven mythologies,Input and output form design methodologies like prompts, menu, screen design, layout consideration, zoning box design
Implementation issues: Structured Coding Techniques - Coding Style - Standards and Guidelines - documentation guidelines -Type Checking - Scoping Rules - Concurrency Mechanisms.
- 5** **TESTING AND QUALITY ASSURANCE:**
 Testing Strategies: Strategic Approach to Software Testing, Validation Testing, System Testing, Black-Box Testing, White-Box Testing and their type,
 Quality assurance, implementation and software maintenance, System security, Disaster, Recovery planning, Ethics in system development

Text Books:

S.No.	Name of Book	Edition	Authors' Name	Publication
1	SYSTEM ANALYSIS AND DESIGN		E. M. AWARD.	

Reference Books:

S.No.	Name of Book	Edition	Authors' Name	Publication
1	ANALYSIS AND DESIGN OF INFORMATION SYSTEM		J. SENU	

B. A. Computer (II Semester)

Subject – Economics

(Indian Economy)

Unit-1 –

Structure of Indian Economy – Primary, Secondary & Tertiary Sectors. Basic features - Natural Resources, Land, Water, Forest and Mineral Resources.

Unit-2 –

Human Infrastructure of Indian Economy – Health, Nutrition, Education, Knowledge & Skills, Housing and Sanitation. Demographic Features (As per Census 2011) – Population, Size, Sex, Rural-Urban Classification, Population Distribution.

Unit-3 –

Agriculture – Nature and Importance, Land Reforms, Green Revolution, Rural Finance. Agriculture Marketing and Mechanisation. Basic Features of Madhya Pradesh Economy, Main features of Agriculture in Madhya Pradesh.

Unit-4 –

Small Scale and Cottage Industries – Meaning, Importance and Problems. Major Industries in India – Iron & Steel, Textile, Sugar, Cement, Auto-Mobiles, Information Technology.

Unit-5 –

Planning in India – Objectives, Strategy, Achievements & Failures. Analysis of Current Five Year Plan.

Recommended Books:

- Mishra and Puri- Indian Economy
- Rudra dutt and K.P.M. Sundaram- Indian Economy
- Uma kaila- Indian Economy
- नाथूरामका– भारतीय अर्थव्यवस्था
- रुद्र दत्त एवं क' पी एम सुंदरम– भारतीय अर्थव्यवस्था
- ए एन अग्रवाल– भारतीय अर्थव्यवस्था
- मध्य,प्रदेश हिन्दी ग्रंथ अकादमी की पुस्तके

B. A. Computer (II Semester)
Subject – Political Science
(Indian Government and Politics)

Unit-I –

Brief History of the Indian National Movement The Making of Indian Constitution and its sources. Preamble of Indian Constitution. Basic Features of the Indian Constitution.

Unit-II –

Fundamental Rights and Duties. Directive Principles of State Policy. Union Executive : President, Cabinet , Prime Minister

Unit-III –

Indian Parliament : Lok Sabha, Rajya Sabha. The Supreme Court; Centre State Relations; Election Commission

Unit-IV –

The State Government Executive Governor, Council of Ministers and Chief Minister State Legislature : Legislative Assembly and Legislative Council.

Unit-V –

Political Parties: National and Regional Parties. Major issues in Indian politics: Roll of Caste, Religion, Language, Region in Politics. Poverty – Alleviation and Electoral Reforms.

Recommended Books:

1. A.G. Norani- Constitutional Questions in India the President Parliament and the State, Delhi, Oxford University Press 2000
2. J.C. Johari- Indian Government and Politics; Orient Longmans Publication, New Delhi
3. Rajani Kothari- Caste and Politics in India Orient Longmans Publication New Delhi.
4. Rajani Kothari- Politics of India, Orient Longmans Publicational Development of India.
5. Prof. R.N. Agrawal- National Movement and Constitutional Development of India.
6. Prof. Bipin Chandre- Indian National Movement, Vikas Publisher, New Delhi
7. D.D. Basu- Constitution of India, Vikas Publisher, New Delhi.
8. Prof. R.C. Agrawal- Indian National Movement and Indian Constitution

B. A. Computer (II Semester)

Subject – Foundation Course

(Environmental Science)

Unit 1 : Natural Resources :

Lectures 15

Definition, scope and importance, need for public awareness.

Renewable and non-renewable resources :

Natural resources and associated problems.

a) Forest resources : Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forest and tribal people.

b) Water resources : Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.

c) Mineral resources : Use and exploitation, environmental effects of extracting and using mineral resources, case studies.

d) Food resources : World food problems, changes caused by agriculture and over-grazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

e) Energy resources : Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. Case studies.

f) Land resources : Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

- Role of an individual in conservation of natural resources.
- Equitable use of resources for sustainable lifestyles.

Unit 2: Ecosystems

Lectures 10

- Concept of an ecosystem, Structure and function of an ecosystem, Producers, consumers and decomposers.
- Energy flow in the ecosystem. Ecological succession. Food chains, food webs and ecological pyramids.
- Introduction, types, characteristic features, structure and function of the following ecosystems :-
 - a. Forest ecosystem
 - b. Grassland ecosystem
 - c. Desert ecosystem
 - d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

Unit 3 : Biodiversity and its conservation

Lectures 6

- Introduction – Definition : genetic, species and ecosystem diversity.
- Biogeographical classification of India
- Value of biodiversity : consumptive use, productive use, social, ethical, aesthetic and option values , Biodiversity at global, National and local levels. India as a mega-diversity nation
- Hot-spots of biodiversity. Threats to biodiversity : habitat loss, poaching of wildlife, man-wildlife conflicts. Endangered and endemic species of India
- Conservation of biodiversity : In-situ and Ex-situ conservation of biodiversity.

Unit 4 : Environmental Pollution

Lectures 10

Definition Cause, effects and control measures of :-

- a. Air pollution
 - b. Water pollution
 - c. Soil pollution
 - d. Marine pollution
 - e. Noise pollution
 - f. Thermal pollution
 - g. Nuclear hazards
- Solid waste Management : Causes, effects and control measures of urban and industrial wastes.
 - Role of an individual in prevention of pollution. Pollution case studies.

- Disaster management : floods, earthquake, cyclone and landslides.

Unit 5 : Social Issues and the Environment

Lectures 10

- From Unsustainable to Sustainable development, Urban problems related to energy
- Water conservation, rain water harvesting, watershed management
- Resettlement and rehabilitation of people; its problems and concerns. Case Studies
- Environmental ethics : Issues and possible solutions.
- Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies.
- Wasteland reclamation. Consumerism and waste products.
- Environment Protection Act. Air (Prevention and Control of Pollution) Act,. Water (Prevention and control of Pollution) Act, Wildlife Protection Act, Forest Conservation Act, Issues involved in enforcement of environmental legislation. Public awareness.

Unit 6 : Human Population and the Environment

Lectures 9

Population growth, variation among nations.

- Population explosion – Family Welfare Programme. Environment and human health.
- Human Rights. Value Education. HIV/AIDS. Women and Child Welfare.
- Role of Information Technology in Environment and human health. Case Studies.

Field work

Marks: 50

- Study of common plants at university campus.
- Visit and study of water treatment plant.
- Visit and study of Waste management process.
- Study of Pond/River ecosystems.
- Study of Water Harvesting and its importance.
- Visit and Study of Mining sites.
- Visit and study local Polluted sites Industrial/Agricultural.
- Visit and study local forest/ hill/mountain.
- Case study of biodiversity of local area.
- Case study of women and child welfare policies in local areas.

Practical 10 lectures

Suggested Books:

A text book of Environmental Studies, Erach Bharucha, UGC Publication Delhi

A text book of Environmental science: Purohit Shami & Agrawal, Agrobios Student edition Jaipur

A text book of Environmental Studies: Kaushi & Kaushik New age International Publication

Paryavaran Addhyan : MP Hindi Granth Academy

Paryavaran Addhyan : KL Tiwari and Jadhav

Environmental Studies : Dr. Rajesh Dhankar

Paryavaran Addhyan by: Dr Mahendra Kumar Tiwari University Publication Delhi

B. A. Computer (III Semester)

Subject – Economics

(Macro Economics and Money and Banking)

Unit I –

Macro Variables, Stock and Flow, Circular Flow of Income in closed and Open Economy. Concept of National Income- GDP, GNP. Measurement of National Income and Social Accounting in India. National Income and Economic Welfare.

Unit II –

Classical Theory of Employment, Say's Law of Market, Income determination- Aggregate Demand and Supply Functions, Keynesian Theory of Employment- Effective demand. Consumption Function, Factors Affecting Consumption, Average and Marginal Propensities to consume, Simple Investment and Govt. Expenditure, Multiplier and Leakages of Multiplier.

Unit III –

Investment Function and Marginal Efficiency of Capital (MEC), Factors Affecting Capital Formation Concept of Accelerator, Keynesian Theory of Liquidity Preference, Liquidity Trap.

Unit IV –

Money- Meaning and Functions, Stock of Money and its Measures- M1, M2, M3, M4. Quantity Theory of Money- Cash Transaction and Cash Balance Approaches. Inflation, Deflation and Recession- Definition, Causes and Effects on different Segments of the Economy. Types of inflation- Demand Pull and Cost Push Inflation.

Unit V –

Bank: Meaning and Types. Central Bank and its Functions with Reference to R.B.I. Credit Control- Qualitative and Quantitative Methods. Objectives and Limitations of Monetary Policy. Functions of Commercial Bank. Meaning and Methods of Credit Creation, Recent Reforms in Banking Sectors. Money Market and its Instrument, Defects of Money Market in India. Role of Private Banking in India. Stock Market.

Recommended Books:

1. Heijdra, B.J. and F.V. Ploeg (2001) Foundations of Modern Macroeconomics, Oxford, University Press, Oxford.
2. Lewis, M.K. and P.D. Mizan (2000), Monetary Economics, Oxford University Press, New Delhi.
3. Hanson, A.H. (1953) A Guide to Keynes. McGraw Hill, New York.
4. Keynes, J.M. (1936), The General Theory of Employment, Interest and Money, Macmillan, London.
5. Gupta, S.B. (1994), Monetary Economics, S. Chand & Company, New Delhi.
6. डिग्नन : समष्टि अर्थशास्त्र : कोणाकर् पब्लिकेशन
7^व मैक्रो अर्थशास्त्र- टी.टी. सेठी
8^व हिन्दी ग्रंथ अकादमी की पुस्तकें

B. A. Computer (III Semester)

Subject – Political Science

(REPRESENTATIVE POLITICAL THINKERS)

UNIT –I –

Salient features of Ancient Indian and Western Political Thought; Ideas of Kautilya, Plato and Aristotle.

UNIT –II –

Main features of Medieval Political thought in India. Sufism, St. Simon, Machiavelli.

UNIT –III –

Contractualists: Hobbes, Locke and Rousseau

UNIT –IV –

Socialism : Utopian and Scientific.

UNIT –V –

Thought of Mahatma Gandhi, Dr. B.R. Ambedkar and Dr. Ram Manohar Lohiya.

Recommended Books:

1. A Appadorai, Indian Political Thinking Through the Ages, Delhi : Khanna Publisher 1992.
2. J. Bandhopadhaya, Social and Political Thought of Gandhi, Bombay, Allied, 1969.
3. Ghose, Modern Indian Political Thought, Delhi : Allied, 1984.
4. U.N. Ghose, A History of Indian Political Ideas, London : Oxford University Press, 1954.
5. K.N. Kadam (ed) Dr. B.R. Ambedkar, New Delhi : Sage, 1992.
6. V.S. Narvane, Modern Indian Thought, New Delih : Orient Longman, 1978.
7. D.B. Majumdaar, Indian Political Thought, College Book Depot.
8. V.P. Verma, Modern Indian Political Thought College Book Depot, Jaipur.
9. Beni Prasad, Theory of Government in Ancient India.
10. Awasthi & Awasthi, Modern Indian Political Thought, Laxmi Narayan Agrawal Publisher, Agra.
11. Barker Earnest, Political Thought, Oxford University, Calcutta.
12. Dunning W.A., A History of Political Theories from Rousseau to Spencer Vol. III (New York) 1955.
13. Ebenstein W. Great Political Thinkers-Plato to the Present (New Delhi) Oxford and IBH, 1969.
14. Lancaster L.W. Masters of Political Thought (Vol. I, III) London: George Harrap 1963.
15. Prabhu Dutt Sharma, Western Political Thought College Book Depot Sabine, A History of Political Thought.

BA(Computer application) IIIrd Sem
OBJECT ORIENTED PROGRAMMING IN C++

Objective: To familiarize the student with the universal concepts of computer programming .To present the syntax and semantics of the “C++” language as well as basic data types offered by the language. To discuss the principles of the object-oriented model and its implementation in the “C++” language

Unit – 1

OOPS-Evolution of programming methodologies, origin of c++,procedural Approach Vs. Object oriented approach, Principles or concepts of OOPs. Merits and demerits of OOPs.Comparison of C and C++-Limitations of c, Introduction to C++, Structure of C++ Program. Added features of C++ over C-Storage classes, reference variables, inline functions, cin, cout. Scope resolution operator, member dereferencing operator. Default arguments.

Unit – 2

Introduction to Objects and classes-Defining the class, defining data members and member functions, creating objects, access specifiers-private, public, protected. Nested classes, local classes, empty class. Friend function and friend class.Passing objects as function arguments, returning objects from functions, static members, this pointer, comparison of class with structure. Memory management-new and delete operator, pointer to object, pointer to class members,

Unit – 3

Constructors and destructors-Purpose of constructors and destructors,default constructors, constructors with and without parameters, Constructor overloading, copy constructor, deep and shallow copy. Invoking constructor and destructor, dynamic constructors, constructors and destructors with static members.

Unit – 4

Overloading Concepts-Function Overloading, Unary and binary operator overloading, overloading new and delete operators, overloading special operators.

Unit – 5

Inheritance-Basic concepts ,Reusability and Extensibility, Types of Inheritance, private ,public and protected Inheritance. Virtual base class.Virtual destructor. Overriding member functions, Polymorphism-Method polymorphism, polymorphism by parameter, parametric polymorphism, early and late binding

List of Practical's:-

1. Write a C++ program to show use of scope resolution operator.
2. Write a C++ program to implement static data member and static member function.
3. Write a C++ program to implement constructors.
4. Write a C++ program to implement operator overloading.
5. Write a C++ program to implement function overloading.
6. Write a C++ program to show dynamic Memory allocation.
7. Write a C++ program to implement all types of inheritance.
8. Write a C++ program to implement early and late binding.
9. Write a C++ program to implement pointer to class members.
10. Write a C++ program to implement virtual base class.

BA(Computer Application) IIIrd Sem
Internet and its applications

UNIT-I

Motivation for internetworking, the TCP/IP internet, internet service, internet protocol and standardization, Ethernet, FDDI, LAN, WAN, ATM, application and network level interconnection, properties of internet, internet architecture, interconnection through IP routers, Internet addresses.

UNIT-II

ARP, RARP, internet protocol : connectionless datagram delivery, routing IP datagrams ,subnet and supernet address extensions.

UNIT-III

The TCP/IP internet layering model, the protocol layering principle, boundaries in the TCP/IP model, UDP: the user datagram protocol, format of UDP message, UDP pseudo-header, UDP encapsulation and protocol layering, layering and the UDP checksum computation, UDP multiplexing, demultiplexing, and ports, reliable stream transport service: properties of the reliable delivery service, transmission control protocol, response to congestion, establishing and closing TCP connection, Routing: Cores, peers and algorithms, an exterior gateway protocol.

UNIT-IV

The domain name system, applications, Telnet, FTP, SMTP, POP3, IMAP-4, MIME, SNMP, internet security and firewall design,.

UNIT-V

Good web design, the process of web publishing, document overview, header elements, heading, image, forms, tables, website hosting, HTTP & URL, search engines, Javascript, ASP, servlets.

BOOKS

1. Douglas E. Comer "Internetworking with TCP/IP", Volume-I, PHI.
2. Thomas A. Powell "The Complete reference HTML", TMH.
3. Douglas Comer "The Internet Book - Pearson Education", Asia
4. K.Kalata "Internet Programming Thomson learning".
5. E.Stephen Mack &Janan Platt "HTML 4.0", BPB Pub
6. Joel sklar "Principles of Web Design", Vikas Pub. House.

B. A. Computer (IV Semester)

Subject – Economics

(International Economics and Public Finance)

Unit I –

Public Finance and Public Economics: Meaning, Nature and Scope. Meaning and Nature of Public, Private and Merits Goods, Market and State. Role and Functions. Principle of Maximum Social Advantage. Sources of Revenue. Taxes, Loans, Grants and Aid . Meaning and Types, Canons of Taxation.

Unit II-

Principles of Public Expenditure, Principles of Public Debt and Methods of Redemption; Wagener's Law, Increasing Activities. Effects of Public Expenditure on Production and Distribution. Public Finance in India: Sources of Revenue of Central and State Government, Concept and Types of Budget, Fiscal Deficit, Deficit Financing and Deficit Budget. Constitution and Function of Finance Commission, Recommendation of Latest Finance Commission, Latest Budget of Central and M.P. Government, Fiscal policy.

Unit III-

Meaning and Importance of International Economics, Intra and International Trade, Importance of International Trade in Economic Development, Theories of International Trade, Absolute and Comparative Advantage.

Unit IV –

Terms of Trade: Concept and Types, Tariff and Non-Tariff Barriers in International Trade. W.T.O . Objectives and its Functions. Balance of Trade . Concept and Types, Compositions and Structure of B.O.T and its Relationship with Balance of Payment, Methods of Corrections of Imbalance of Payment, International Capital International Capital flow- FDI & FII.

Unit V –

Exchange Rate. Theories of Exchange Rate, Mint Par parity Theory, Purchasing Power Parity Theory. Concept of Appreciation and Depreciation of Currency and its effects on Foreign Trade. Trends and Direction of India's Foreign trade.

Recommended Books:

1. Heijdra, B.J. and F.V .Ploeg (2001) Foundations of Modern Macroeconomics, Oxford, University Press, Oxford.
2. Lewis, M.K. and P.D. Mizan (2000), Monetary Economics, Oxford University Press, New Delhi.
3. Hanson, A.H. (1953) A Guide to Keynes. McGraw Hill, New York.
4. Keynes, J.M. (1936), The General Theory of Employment, Interest and Money, Macmillan, London.
5. Gupta, S.B. (1994), Monetary Economics, S. Chand & Company, New Delhi.
6. Bhagwati, J. (Ed . International Trade Selected Readings, Cambridge University Press, Massachusetts.
7. Carbough, - R.J. International Economics, International Theompson Publishing, New York
8. Kenen, P.B. . The International Economy, Cambridge University press, London.
9. Kindleberger, C.P. . International Economics, R.D. Inwin, Homewood
10. H.G. Mannur . International Economics

B. A. Computer (IV Semester)

Subject – Political Science

(COMPARATIVE GOVERNMENT AND POLITICS)

UNIT –I •

Salient Features of British Constitution: Executive, Legislature, Judiciary and Political Parties.

UNIT –II •

Salient Features of American Constitution: Executive, Legislature Judiciary and Political Parties.

UNIT –III •

Salient Features of Swiss Constitution: Executive, Legislature Judiciary and Federal Tribunal, Direct Democracy.

UNIT –IV •

Salient Features of the Constitution of People's Republic of China: Executive, Legislature, Judiciary and Communist Party.

UNIT –V •

Comparative Study of the Constitutions of Britain, USA, Switzerland and China: Federal System of USA & Switzerland, Constitutional Amendments in USA and Switzerland, Second Chamber-House of Lords and Senate, Party System in the USA, UK and China.

Recommended Books:

1. Lucian Pye, New Aspects of Politics, Princeton Hall, 1966.
2. Almond Powell, Comparative Politics, Boston, Little Brown, 1966.
3. C.B. Gena, Comparative Politics, Publisher Jaipur, Rajasthan.
4. B.L. Fadia, Comparative Politics, Sahitya Bhavan Publisher, Agra.

BA(Computer Application) IVth Sem
Digital Electronics

OBJECTIVE: This subject covers combinational and sequential logic circuits. Topics include number systems, Boolean algebra, logic families, and other related topics. Upon completion, students should be able to construct, analyze, verify and troubleshoot digital circuits using appropriate techniques.

UNIT 1

Number systems and Arithmetic Different number systems and their inter conversions. Binary arithmetic: Binary addition, subtraction, multiplication and division. Hexadecimal arithmetic : Addition, subtraction, multiplication and division. Binary subtraction using 1's complement, 2's complement method, overflow, underflow, codes, fixed point representation, floating point representation.

UNIT 2

Boolean algebra and logic gates postulates of Boolean algebra theorems of Boolean algebra: Complementation, commutative, AND, or. Associative, Distributive, Absorption laws, De Morgan's theorems, reducing Boolean expressions, Logic gates: AND, OR, NOT, Ex-OR, EX-NOR, NAND and NOR as universal gates.

UNIT 3

Minimization techniques Introduction to SOP and POS minterms, midterms, K-map, Kmap for 2, 3, 4, variables, don't care condition, ,

UNIT 4

Combinational Circuits Half Adder and full Adder Binary Parallel Adder Half Subtract or, full sub-tractor, multiplexer and de-multiplexer

UNIT 5

Flip Flops Introduction: RS FF Clocked RS FF, DFF Triggering preset and clear JK FF, TFF, Race around condition Master Slave FF.

Shift registers – Introduction, buffer register ,serial in serial out, serial in parallel out parallel in serial out, parallel in parallel out.

Text Book

1. M. Morris Mano, Digital Design, 3.ed., Prentice Hall of India Pvt. Ltd., New Delhi, 2003/Pearson Education (Singapore) Pvt. Ltd., New Delhi, 2003

References

1. R.K. Gaur, Digital Electronics and Microprocessor, Dhanpat Rai Publications

List of practical:

1. Study of AND ,OR NOT Gates.
2. Study of NAND ,NOR ,XNOR Gates
3. To verify the truth table of XOR and XNOR Gates
4. To Verify operation of NAND and NOR gates as Universal Gates.
5. To study Half Adder Circuit.

BA(Computer Application) IVth Sem
HTML and Web Designing

Unit 1

HTML - Concepts of Hypertext, Versions of HTML, Basic text formatting, Head & Body Sections, Inserting texts, Images, Hyperlinks, Backgrounds and Color controls. Different HTML tags, Table layout and presentation, Use of Fonts, List types and its tags, Use of Frames and Forms in web pages.

Unit 2

Cascading Style Sheet- Introduction, Levels of CSS inline style sheet, External style sheet, classes, class and ID method, DIV and SPAN tags.

Unit 3

JavaScript- Introduction, Language Basics-Variables, operators, statements, functions, JavaScript Events, Such as onclick, mouse out, mouseoveretc, form validation.

Unit 4

XML-Introduction, XML Fundamentals, XML Syntax, Accessing Data from XML Documents.

Unit 5

Dynamic web designing(Dream viewer):- HTML basics , website and pages , text formatting, tables , images ,links , the basic dream viewer environment, creating a site profile, the importance of site profile, organizing files and folders, folder and file naming rules, creating folder and web page file, implementation/coding process.

Book:

1. HTML AND CSS: DESIGN AND BUILD WEBSITES, BY JON DUCKETT

B. A. Computer (V Semester)

Subject – Economics

(Development and Environment Economics)

UNIT I –

Economic Growth and Development – Concept, meaning and Definitions. Characteristics of developing nations. Factors of Economic development.

UNIT II –

Theories of Economic Development- Adam Smith, Karl Marx and Shumpeter. Stages of Economic growth. Investment criteria of Economic Development. Capital output ratio, Capital Labour ratio.

UNIT III –

Balance V/s Unbalance growth- Rodan, A.Lewis, Hirshman, Liebenstein, Gunnar Myrdal, Harrod-Domar.

UNIT IV –

Economic Development and Gender Equality. Women Empowerment, Techniques of Development- Capital intensive and Labour intensive techniques. Human Development Index. Poverty.

UNIT V –

Environment- economy linkage; Environment as a necessity and luxury; Population environment linkage; Environment use and environmental disruption as an allocation problem; Market failure for environmental goods; The commons problem; Property right approach to Environmental problem; Valuation of environmental damages; Land water, air and forest. Prevention control and abatement of pollution; Choice of policy instruments in developing countries; Environment Legislation; Indicators of sustainable development.

Recommended Books:

- Indian economics (A development oriented study) Dutt, R and Sundharm, K.P.M. (S. Chand and Company LTD).
- Rathindra P.Sen . Development Theories and Growth Models (S. Chand and Company LTD Qutub Road Ram Nagar New Delhi-110055).
- आर्थिक विकास और स्वातन्त्र्य – आमर्त्य सेन (रामप्रसाद एण्ड सन्स पुस्तक प्रकाशन)
- भारतीय अर्थव्यवस्था – मिश्रा एवं पुरी (रामप्रसाद एण्ड सन्स पुस्तक प्रकाशन)
- भारत में आर्थिक पर्यावरण – ओ. पी. शर्मा (रामप्रसाद एण्ड सन्स पुस्तक प्रकाशन)
- अर्थशास्त्र – डॉ. बी.सी. सन्हा (साहित्य भवन प्रकाशन, आगरा)
- भारतीय अर्थव्यवस्था – डॉ. चतुर्भुज मामोरिया (साहित्य भवन प्रकाशन, आगरा)
- भारतीय अर्थव्यवस्था – एस.के. मिश्रा एवं बी.के. पुरी (हिमालया पब्लिशिंग हाउस)
- भारतीय अर्थव्यवस्था – रुद्र दत्त एवं के.पी.एम.सुन्दरम)
- विकास एवं पर्यावरण का अर्थशास्त्र – डॉ. आर.पी. गुप्ता, डॉ. गणेश कावडिया, डॉ.सारा अत्तारी (म.प्र. हिन्दी ग्रन्थ अकादमी, भोपाल)

B. A. Computer (V Semester)

Subject – Political Science

(India and International Politics)

Unit-I –

International Politics Post 1945: Non alignment, Cold War. Détente and New Cold War.

Unit-II –

Nuclear Armament and Disarmament: NPT, CTBT, START and PNE.

Unit-III –

Indian Foreign Policy: Principles & Determinants. India and International Organizations; India and Regional Groupings.

Unit-IV –

India's Relations with : USA Russia, China and Pakistan.

Unit-V –

Contemporary International Issues: Human Rights, Globalization, Terrorism and Environment.

Recommended Books:

1. W.D. Coplin Introduction to International Relations.
2. R. Deutch: The Analysis of International Relations.
3. Brown: International Relations Theory
4. J. Frankel: The Making of Foreign Policy. 10
5. S.H. Hoffman (ed), Contemporary Theory in International Relations.
6. S.P. Verma, International System and the Third World, New Delhi Vikas 1988
7. N.K. Jha, Domestic Imperatives in India's Foreign Policy New Delhi South Asia Pub House 2001.
8. M.S. Rajan, The Non Alignment Movement in the Present World Order, Delhi, Konark 1994
9. K.P Mishra, India's Policy of Recognition of States and Government.
10. P. Allan and K. Oldman (eds.) The End of the Cold War, Dordrecht Martinus Nijhoff 1992
11. K.I. Holstic International Politics A Framework of Analysis, Englewood Cliffs, NJ Prentice Hall 1967.
12. H.J. Morgenthau: Politics Among Nations, 6th Edition Revised by K.W. Thompson New York, Alfred Knopf, 1985
13. S.P. Verma, Contemporary Theory in International Relations, New Delhi, Vikas 1988
14. S.P Verma, International System and the Third World, New Delhi, Vikas 1988.
15. J.N. Rose Man. International Studies and the Social Sciences. London, Sage, 1973.

BA(Computer Application) Vth Sem

Basic Computer Hardware

Objective: Identify the primary hardware components of a personal computer and describe the methods by which personal computers connect. Identify the many types of data storage devices used in personal computer technology, both for primary and secondary storage purposes, and describe common problems that cause personal computers to malfunction or to function below optimum performance levels and determine the repair solutions that will allow the restoration of proper operating conditions and maintenance techniques that will maintain those conditions.

Unit-1

Computer Assembling and Installation

Information on PC & how it works, Architecture of the System, BPC Assembling, trouble shooting and managing Systems, Installations of operating systems & configuring PC network, Installation of service packs, applications such as MS Office, MS Outlook, Anti-virus software, Seagull CBT's etc., Trouble shooting of Windows XP & MS Office.

Unit-2

Mother Board & Components

Types, Form factor, Different Components of Mother Boards (I/O slots, I/O connectors, CMOS battery, RTC, Memory Socket, BIOS, Front Panel Connectors), Types of Buses, compatibility with the processor, SATA interface

Unit-3

System Resources

IRQ, DMA, Memory Address, I/O address, Resource Conflict, Plug & Play Concept.

CMOS Utility

Concept, CMOS RAM, CMOS Battery, backup, CMOS Utility Program menu, clearing CMOS.

Unit-4

Add on Cards, Cables & Connectors

Different latest Add on Cards – (Identification in terms of I/O slot and connectors)

(AGP, PCI Express, TV Tuner Card, DVR card, Video Capture, SCSI. USB, NIC, Fire wire, Internal Modem, Sound Card).

Display Systems

Types of VDU, (CRT, LCD, TFT), Terms like Resolution, Dot Pitch, Interlaced & Non Interlaced Power Consumption, Durability, Specification, Installation

Unit-5

Hard Disk Drive: Hard Disk Drive: Types, capacity, Hard Disk Drive Component (Media, R/W Head, Spindle Motor Head Actuator) Connectors, configuration of HDD in, CMOS, BIOS setup, Jumper setting, partitioning, Formatting, Preventive Maintenance (S/W, H/W), trouble Shooting (H/W, S/W Recovery, Zero fill)

Advanced Topic: Administering Users and Groups, Administering Printers, Monitoring Performance and System Events, Optical Disk Drive (ROM, R/W, DVDROM, DVD R/W), Backup Drive (Pen Drive U3 format, Zip Drive, Tape Drive, USB External Drive -HDD, CD/DVD writer), Introduction of Magneto-Optical Drive

List of Practicals: .

1. Installation of Windows XP.
2. Configuring Hardware Profile.
3. Creating Users and Groups and setting their properties
4. Installation of Network Interface Card (NIC).
5. Draw layout & understand sections of Motherboards & Add on Cards.
6. Configuring important parameters of CMOS Setup utility, BIOS update.
7. Identify different types of Drives & understand internal mechanism of the same
8. (FDD, HDD, CDO, Zip, Pen, SCSI Drive).
9. Installation of SCSI Drive, Optical Drives (CDR, DVRW).
10. Installation of OS Single, Partitioning, Formatting.

11. Installation of OS Dual.

12. Surveillance using DVR Card, Camera and Accessories – DEMO.

Prescribed Books: -

Sr.	Author	Title	Publisher
1	V.R. Mehta	Principal of Electronics	S.Chand& Co
2	Malvino& Leach	Digital Principals & Applications	--
3	Bigelow	Bigelow's Troubleshooting Maintaining & Repairing PC's	Tata McGraw Hill
4	Mark Minasi	The Complete PC Upgrade & Maintenance Guide	BPB Publication
5	SD. Balasubramaniam	Computer Installation & Servicing	Pearson Education

BA(Computer Application) Vth Sem
DATABASE MANAGEMENT SYSTEM

OBJECTIVE: This course will provide you with an understanding of the design, creation, maintenance and management of a relational database management system (RDBMS). You will learn how to create and access data using Structured Query Language (SQL), the programming language used by most large relational database management systems such as Oracle

UNIT 1

DBMS INTRODUCTION: Purpose and advantages of DBMS, view of data, DBMS architecture and data independence, database languages. Classification of DBMS ,schema and sub schema. database administrator and users, data dictionary, data modeling using ER model, Entities, attributes and relationships .

UNIT 2

KEYS: Domains, relations ,kinds of relations ,various types of keys, candidate ,primary ,alternate and foreign keys.

Codd's rule

Relational algebra,;- relational algebra with extended operations ,tuple relational calculus ,domain relational calculus, set operation, aggregate functions ,null values, join relations.

UNIT 3

RELATIONAL DATABASE DESIGN:- pitfalls in relational database design trivial and non trivial dependencies, closure set of dependencies and of attributes.

Introduction to normalization, non loss decomposition, FD diagram,1st,2nd,3rd BCNF,4NF,5NF

UNIT 4

Basic SQL:- DDL,DML and DCL commands ,specifying constraints in SQL ,select statement.

UNIT 5

Additional features of SQL, PL/SQL, cursor, trigger, view

List of Practical's in PL/SQL

1. program to perform all arithmetic operations.
2. program to find simple interest.
3. program to find area of square rectangle and circle.
4. program to print your name n times.
5. program to find whether an entered number is even or odd.
6. program to find whether an entered number is positive , negative or zero.
7. program to find whether an entered number is divisible by 11 or not.
8. program to print table of entered number.
9. program to print factorial of entered number.
10. program to find greatest of three numbers.

BA(Computer Application) Vth Sem
Data Structure

Unit-1

Introduction to Data structures and DMA:-Definition, Classification of data structures : primitive and non primitive. Operations on data structures. Meaning of static and dynamic memory allocation. Memory allocation functions :malloc, calloc, free and realloc. Recursion

Unit-2

Stack – Definition, Array representation of stack, Operations on stack: Infix, prefix and postfix notations Conversion of an arithmetic expression from Infix to postfix. Applications of stacks.

Queue - Definition, Array representation of queue, Types of queue: Simple queue, circular queue, double ended queue (deque) priority queue, operations on all types of Queues

Unit-3

Linked list – Definition, Components of linked list, Representation of linked list, Advantages and Disadvantages of linked list. Types of linked list : Singly linked list, Doubly linked list, Circular linked list and circular doubly linked list. Operations on singly linked list : creation, insertion, deletion, search and display.

Unit-4

Tree - Definition : Tree, Binary tree, Complete binary tree, Binary search tree, Heap Tree terminology : Root, Node, Degree of a node and tree, Terminal nodes, Nonterminal nodes, Siblings, Level, Edge, Path, depth, Parent node, ancestors of a node. Binary tree : Array representation of tree, Creation of binary tree. Traversal of Binary Tree : Preorder, Inorder and postorder.

Unit-5

Searching and Sorting Search-Basic Search Techniques : Search algorithm searching techniques : sequential search, Binary search – Iterative and Recursive methods. Comparison between sequential and binary search.

Sort- General Background: Definition, different types: Bubble sort, Selection sort, Merge sort, Insertion sort, Quick sort

Advanced topics in Data Structure-Graphs,Hashing.

TEXT BOOKS:

1. Fundamentals of Data structures in C, 2nd Edition, E.Horowitz, S.Sahni and Susan Anderson-Freed, Universities Press.
2. Data structures A Programming Approach with C, D.S.Kushwaha and A.K.Misra, PHI.

REFERENCE BOOKS:

1. Data structures: A Pseudocode Approach with C, 2nd edition, R.F.GilbergAndB.A.Forouzan, Cengage Learning.
2. Data structures and Algorithm Analysis in C, 2nd edition, M.A.Weiss, Pearson.

B. A. Computer (VI Semester)

Subject – Economics
(Quantative Techniques)

Unit I –

Basic Concepts of Mathematics and Linear Algebra, Concept of Variable, Parameter, Constant and Variable Function, Equations, Meaning and solution of an equation. System of Simultaneous Linear equation and their solution. Descriptive Statistics: Basic concepts, Population, Sample, Frequency Distribution, Cumulative frequency, Graphical Representation of Data, Techniques of Data Collection, Sampling v/s Population, Primary and Secondary Data. Sources of Primary and Secondary Data, Questionnaire and Schedule.

Unit II –

Measures of Central Tendencies -Mean, Median, Mode, Geometric Mean and Harmonic Mean, Measures of Dispersion: Range, Mean Deviation, Standard Deviation, Co-efficient of Variation, Quartile Deviation.

Unit III –

Correlation: Karl Pearson's Co-efficient of Correlation, and Spearman's Rank Correlation, Regression: Regression analysis, Co-efficient of Regression. Use and Application of Regression.

Unit IV –

Association of Attributes. Time Series analysis. Concept and components Additive and Multiplicative models, Methods of Moving Averages. Index Number. Concept, Laspey's, Paasche's and Fisher's Index Numbers, Problems in the construction of Index numbers and their limitations.

Unit V –

Probability: Concept, Rules of Probability (Addition and Multiplication) Conditional Probability, Binomial Distribution. Concept and Definition of Research, Selection of Research Problems, Problems in Research in Social Sciences Types of Research. Hypothesis, Meaning & Types, Research Report Writing.

Recommended Books:

- Elementary Mathemaics in Economics . Dr. Mehta and Madnani
- Elements of Statistics . Dr. Mohan Singhal
- Statistical Analysis . Dr. Shukla and Sahai
- Applied General Statistics . Croxton. F.E., D.J. Cowden and S. Klein (Prentice Hall. New Delhi)
- Quantitative Techniques . C.R. Kothari (Vidya Vikas (Vikas Publishing House Pvt. Ltd.)
- ifjek.kkRed rduhd sa & MkW- ch-,u-xIqrk ¼ lkfgR; Hkou izdk.ku&vkxjk½
- lkfa[;dh; fo'y s"k.k & MkW- 'kqDyk ,oa lgk; ¼ lkfgR; Hkou izdk.ku & vkxjk½
- ifjek.kkRed fof/k;ka & izks- Hkkj}kt ,oa izks- dkofM;k ¼ e-iz- fgUnh xzUFk vdkneh] Hkksiky½

B. A. Computer (VI Semester)
Subject – Political Science
(Public Administration)

Unit-I –

Public Administration: Meaning, Nature & Scope, Evolution, Public and Private Administration, New Public Administration.

Unit-II –

Principles of Organization. Line & Staff Agencies. Chief Executive, Democratization and Public Administration.

Unit-III –

Personnel Administration : Recruitment, Training and Promotion, UPSC. Settlement of Disputes, O and M.

Unit-IV –

Financial Administration: Budget. Audit & Accounting. Legislative Control. Finance Commission.

Unit-V –

Development Administration ; Role of Bureaucracy. Role of Panchayati Raj Institutions. Corruption; Lokpal & Lokayukt; Good Governance.

Recommended Books:

1. M.P. Sharma & B.B. Shadana. Public Administration : Theory and Practice, Kitab Mhal.
2. Moit Bhattacharya, New Horizons of Public Administration, Agra : Laxmi N. Agrawal.
3. A. Avasthi and S. N. Maheshwari, Public Administration Agra Laxmi N. Agrawal.
4. S.R. Maheshwari, Administrative Theory, New Delhi; Allied, 1994
5. M. Webet The Theory of Organization : Readings in Public Administration, New York, Harper and Ross.
6. T.N. Chaturvedi (ed) Contemporary Administration : Culture of India, New Delhi, Mittal 1997
7. M.E. Dimook, A Philosophy of Administration : Towards Creative Growth, New York Harper 1958
8. P.R. Dubhashi, Recent trends in public Administration : Kaveri Books, Delhi.
9. C.P. Bhambari. Public Administration. 10. A.H. Hanson. The Process of Planning.

BA(Computer Application) VIth Sem
Multimedia tools and application

OBJECTIVE: By this course students will be able to understand the basic functionality of multimedia like images, sound animation and video.

Unit-1

Introduction to multimedia, multimedia system, components and applications, Text, types of text, font and faces, using text in mm font designing and editing tools, hypermedia and hypertext, Ways to present text, aspects of text design, character, character set. Images, still images, bitmap, vector drawing, natural light and colors, color palettes, color models, image file formats, jpeg, bitmap, tiff, dib, eps, cif, pic, tga, aspect ratio, white balance, attributes of images, resolution, pixel depth. Photoshop: Photoshop's environment, raster and vector graphics, navigating in Photoshop, image size and resolution, cropping, selecting image areas, the rectangular and elliptical marquee tool, the lasso tools, saving selection, the magnetic lasso tools, modifying selections. Layers, floating versus fixed selections ,undoing Previous steps, copying selections, creating layers, transforming layers, copying layers between images, arranging layers , saving images in Photoshop format. Color modes, color and painting, Images modes - Mode characteristics, grayscale and bitmap modes, Selecting colors, painting tools, the clone stamp tool, text, layer effects, Brightness contrast, levels adjustments layers, Hue/saturation.

Unit-II

Sound: - Multimedia systems sounds, Basic sound concept, types of sound, digitizing sound, computer representation of sound (sampling rate, sampling size, quantization). Audio formats, MIDI, MP3, 3D sound, Digital audio, audio recording, voice recognition and response. Sound Forge:- Workspace of sound forge,. Creating timeline: - Importing, extracting audio files, basic tools of editing and shortcut commands, Recording process:- Recording attributes, fade, volume, silence.

Unit-III

Animation:- Principle of animation , animation techniques, animation development process, types of animation 2D and 3D animation, Animation technique:- 2D and 3D animation techniques , Animation file formats - .dir, .der , .fli, .max, .pics, .gif, .swf. Flash:- Workspace of flash, creating timeline, main editing tools, saving and uploading files, utilities, grouping, arranging, keyframes, frame rate, frame by frame animation, onion skins, motion tween, shape tween.

Unit-IV

Video:- How video works, Broadcast video standards:- NTSC, PAL, SECAM, ATSC, DTV, HDTV, IPTV, Analog and Digital video, Digital video standards:- ATSC,DVB,ISDB, video recording and shooting videos, video editing. Video file formats, MPEG, 3GP, AVI, Quick time, real video VHS, camera. Adobe premiere:- Workspace of adobe premiere, Creating timeline:-importing, capturing video files, basic tools of editing and shortcut commands, applying various effects, cut, fade, mix and wipe ,getting output.

Unit-V

Multimedia authoring tools:- Introduction, factors for selecting of an authoring tools, director, hyper card, Aimtech, Link way etc. Types of authoring tools, stages in designing and producing, multimedia, products, planning and distribution of multimedia project

Text Book

1. Multimedia tools 2nd edition Pragya Publication.
2. **Encyclopedia of Multimedia** 2nd edition by "BorkoFurht" Springer Publication.

List of practical:

1. Resizing, cropping and selecting a image using Photoshop.
2. Working with layers of images in the Photoshop.
3. Liquefying, Auto leveling, auto color, auto contrast and brightness of the image in Photoshop.
4. Changing mode, adding text, blurring of image, clone stamp tool in Photoshop.
5. Understanding different sound channels.
6. Mixing different sound samples using sampling of sound in Sound Forge
7. Creating a Simple Flash animation using different tools in Macromedia Flash.
8. Simple Video Editing Using Adobe Premier.

BA(Computer Application) VIth Sem

PHP Programming

Unit-1

Introduction to Web Applications , Basic Web Technologies (HTML, XHTML)

Unit-2

Introduction to PHP ,WAMP installation and Configuration, PHP Variables, Functions, Control Structures, Conditional Statements,Working with files, uploads , image and basic PHP programming concepts, Embedding PHP in HTML.

Unit-3

PHP Functions: user defined functions, Strings Concatenation, Strings functions.

Arrays: Creating Array and Accessing Array Elements, Control statements, Loops, form validation.

Unit-4

Math,Time,/Date/,Database Functions, PHP Debugging techniques, Processing Web Forms, Web Security

Unit-5

Database Practices-, DB Hand ling, Database Interfaces and Integration –Handling MYSQL Database with PHP Function

Working with forms: - CRUD – Select statements, Creating Database/Tables, Inserting values, Updating and Deleting, PHP with MYSQL, Creating Connections, Selecting Database, Perform Database (Query).

Text Books:

S.No.	Name of Book	Edition	Authors' Name	Publication
1	Web Technologies, Black Book,DreamTechPress	2010	Kogent Learning Solutions Inc	DreamTechPress

Reference Books:

S.No	Name of Book	Edition	Authors' Name	Publication
1	Beginning PHP5, Apache, and MySQL Web Development	2005	Elizabeth Naramore, Jason Gerner, Yann Le Scouarnec, Jeremy Stolz, Michael K. Glass	Wrox Publication
2	Beginning HTML, XHTML, CSS, and JavaScript	2010	Jon Duckett	Wiley Publishing, 2010

List of practical:

S.No	Name of practical
1	Create a web page by making use of the following tags: Head, Body, Bgcolor, text and submit.
2	Write a html program applying inline css.
3	write a html program using class based external style sheet

- 4 Write a java script program to design the simple Calculator
- 5 Write a java script program to find the factorial of given number
- 6 Write a javascript program to form validation in html.
- 7 Create a web form using php for login page.

- 8 Create a simple xml document with following details: Rollno, Sname, Contact, Email and Address.
- 9 Write a simple php script to perform crud operations.

- 10 Create a web form using php for enquiry details.

BA(Computer Application) VIth Sem
Operating Systems

Unit – 1

Introduction-What is operating system? System calls, types of system calls, Operating system architecture, Operating System service. Simple batch systems, multiprogrammed batches Systems, Time sharing systems, Personal computer systems, Parallel systems, distributed Systems, Real time Systems, multitasking, RTOS, Client-server system, peer-to-peer systems

Unit – 2

Process-Process concept, Process Scheduling, operation on processes, PCB, Interprocess Communication.

Thread-Concept of thread, multithreading, context switching, Scheduling criteria, types of Scheduling, long term, short term and medium term scheduling, scheduling algorithms. Multiple processor scheduling.

Unit – 3

Deadlock-Definition, deadlock characterization, handling of deadlock, deadlock prevention, avoidance, detection and recovery.

Unit – 4

Memory Management-Logical Vs. Physical Address Space, Swapping, contiguous allocation, Paging, Segmentation, Virtual Memory, demand Paging, Performance of demand paging, page replacement, Page replacement algorithm, thrashing.

Unit – 5

Secondary storage Structure-Disk structure, disk Scheduling, disk management, swap space management, disk reliability.

What is File? attributes of file, types of file, Directory structure, and RAID structure, File System-Access control, Allocation Methods, Free Space Management

Advance Topics: Network Operating System

Text Books

1. Silberschatz and Galvin, Operating System Concepts 6/ed, Addison Wesley.

Reference Books:

1. William Stalling, Operating Systems: Internals and Design Principles 5/ed, PHI.