Ordinance, Scheme & Syllabus for (B.Sc. /(IT)

Examination

Course Title:	**Bachelor of Science**
Abbreviation:	**B.Sc. (Pass)**
Type of Course:	**Three Year Degree Course**
Pattern;	**Yearly**
Award of Degree:	**Bachelor of Science Degree will be awarded for those who successfully complete all the components and declared pass in the programme after three Years.**

- ✓ It is a three year degree programme. Examination shall be conducted at the end of each year or semester as per the academic calendar notified by the university.
- ✓ There will be two components of the examination: (a) Internal Assessment (IA), & (b) External or Term End examination (EA). The weight of IA will be 20 percent and EA will be 80 percent in each paper unless otherwise specified.
- ✓ The minimum marks required to pass any subject in an examination shall be 36% in both the components and in practical separately unless otherwise specified.
- ✓ Students who do not obtain the required minimum percentage shall be declared fail and will be eligible for reappear next year. However, they will have the option to retain the marks in the papers in which they have secured pass marks i.e. 36% or more. There will be no supplementary examination.
- ✓ In case of re-appearance the result will be prepared on the basis of the candidate's performance in current examination.
- ✓ Re-appearance in passed practical is not permitted.
- ✓ The duration of the under graduate degree programme is 3 years. The time span period to complete the course shall be t+2 years from the year of admission. Where 't' is the minimum period of the programme.
- ✓ The term-end examination papers will be divided into 3 Sections.
- ✓ The number of papers in each elective subject and the maximum marks for each paper together with the minimum marks required for a pass are shown against each subject separately in the table given below.
- ✓ Division will be awarded at the end of final year examinations (a) Part I (b) Part II Examination and (c) Part III examination, taken together. First Division 60% and Second Division 48% of the aggregate marks prescribed at Examinations. All the rest shall be declared to have passed the examination, if they obtain the minimum pass marks in each subject viz. 36% of marks. No division shall be awarded at the Part I and Part II of the under graduate examination.
- ✓ However the marks obtained in compulsory papers will not be counted while awarding the division.

Admission Eligibility:

For admission in B.Sc. the eligibility condition is 10+2 or equivalent pass with 48% aggregate in Science Stream.

Attendance:

Every student shall be required to complete 75% attendance in classes. A student with less than 75% attendance will be detained from appearing at the examinations of the relevant course. A student who cannot attend classes because of participation in inter-university games & sports, cultural activities, etc. will be given attendance as per rules

Mid-term examinations: The internal Assessment will carry 20 percent marks. The number of mid-term examinations (one or two) will be decided by the university authorities and notified to the students. There will be no internal assessment in practical examination.

Marking Scheme:

The marking scheme will be different for different faculties. In Faculty of Science the university will follow the numerical marling scheme.

Compulsory Qualifying Subjects

In the Bachelor's Degree there will be four Compulsory qualifying subjects.

(i) The Marks secured in the paper of Gen Hindi or Gen. English and Computer Application and Environmental Studies shall not be counted in awarding the division to a candidate. The candidates have to clear compulsory paper in three chances.

(ii) Non appearing or absent in the examination of compulsory paper will be counted a chance.

Scheme of Examination

The term end examination papers will be divided into 3 sections:

Section- A (10x1=10) consists of 10 questions. Each question carries one mark. Attempt all questions.
Section- B (5x3 =15) consists of five questions with internal choice in each unit. Attempt all questions. Each question carries 3 marks. Word limit (300 -500 words)
Section- C (3x 5 = 15) consists of 5 questions one from each unit. Students are required to attempt any 3 questions. Each question carries 5 marks. (Word limit 500 words & more)
There will be no internal marks in Practical. The paper will be of as per the maximum marks allotted in the syllabus.
The number of paper and the maximum marks for each paper together with the minimum marks required for a pass are shown against each subject separately. It will be necessary for a candidate to pass in each paper separately by securing 36% marks in both Internal evaluation as well as term-end examination.

DISTRIBUTION OF MARKS FOR B.Sc./(IT)

S.No.	Name of the No. of Papers	Duration Hours	Marks Internal		Maximum Marks Term End exams	
			Max.	Min	Max	Min
1	General Hindi	3	20	8	80	28
2	General English	3	20	8	80	28
3	Elementary Computer Application	2	20	8	80	28
4	Environmental Studies	2	20	8	80	28

NOTE:
(i) The Marks secured in the paper of Gen Hindi or Gen. English and Computer Application and Environmental Studies shall not be counted in awarding the division to a candidate. The candidates have to clear compulsory paper in three chances.
(ii) Non appearing or absent in the examination of compulsory paper will be counted a chance.

B.Sc. (IT) Part-I

1 सामान्य हिन्दी

यह प्रश्न पत्र सभी प्रथम वर्ष के विद्यार्थियों के लिए अनिवार्य है।

गद्य भाग

अधिकतम अंक 100 मुल्यांकन आंतरिक मूल्याकन 20 सत्रांत परीक्षा 80 अंक

नोट– इस प्रश्न पत्र के प्राप्ताक सत्रांत परीक्षा के उपरांक्त क्षेणी की गणना हेतु सम्मिलित नही किये जायेगे।विद्यार्थियों को अनिवार्य पेपर अधिकतम तीन वर्ष में उर्तीण करने होगें।परीक्षा में सम्मिलित नही होने अथवा अनुपस्थित रहने को भी प्रयास माना जायेगा।

इकाई – 1

1. भारतवर्ष की उन्नति कैसे हो – भारतेन्दु हरिश्चन्द्र
2. आचरण की सभ्यता – अध्यापक पूर्णसिंह
3. मेघदूत – महावीर प्रसाद द्विवेदी
4. भारतीय संस्कृति की देन – हजारी प्रसाद द्विवेदी
5. गिल्लू – महादेवी वर्मा
6. सवालों की नोक पर – मोहन राकेश
7. निन्दा रस – हरिशंकर परसाई
8. नेता नहीं नागरिक चाहिए – रामधारी सिंह दिनकर
9 हमारा समय और विज्ञान – गुणाकर मुले
10. साफ माथे का समाज – अनुपम मिश्र

इकाई – 2

1. कर्मवीर – अयोध्या सिंह उपाध्याय हरिऔंध
2. भू–लोक का गौरव – संदेश यहॉ मैं नहीं स्वर्ग का लाया – भारत भारती
मैथिलीशरण गुप्त
3. बीती विभावरी जागरी । अरुण यह मधुमय देश हमारा – जय शंकर प्रसाद
4. तोड़ती पत्थर – सूर्यकांत त्रिपाठी निराला
5. पथ की पहचान – हरिवंश राय बच्चन
6. प्रेत का बयान – नागार्जुन 7. जब–जब मैंने उसको देखा । धरती उस किसान की – केदारनाथ अग्रवाल
8. गीत फरोश –भवानी प्रसाद मिश्र
9. देश की नस्लें, बात करो, अपने – सरल विशारद

इकाई – 3

1. संक्षेपण
2. पल्लवन
3. शब्द युग्म
4. लोकोक्ति
5. शुद्धिकरण – शब्द , वाक्य मुहावरें

इकाई – 4

1. अनुवाद – अर्थ और सिद्धान्त, महत्त्व, आदर्श, अनुवाद की विषेशताएं
2. राजस्थानी एवं अंग्रेजी से हिन्दी अनुवाद एक अनुच्छेद

इकाई – 5

1. किसी एक विषय पर निबंध
2. पत्र–प्रारूप

परीक्षकों के लिए निर्देष :–

1. प्रश्न–पत्र इकाइयों में विभक्त हों।
2. प्रत्येक इकाई से निर्देशानुसार व्याख्यात्मक एवं आलोचनात्मक प्रश्न पूछे जाएगें।
3. प्रश्न–पत्र वर्तमान में निर्धारित पाठयक्रमानुसार हो।

2. General English

Compulsory in 1st year for all streams at undergraduate level

Max. Marks: 100 Internal Evaluation 20 Marks Term-End Examination 80Marks

Note.

1. The marks secured in this paper shall not be counted in awarding the division to a candidate.
2. The candidate has to clear compulsory paper in three years.
3. Non appearing or absent in the examination of compulsory paper will be counted a chance.
4. It is essential to pass in both internal as well as external evaluation separately by securing 36% marks in each.

The syllables and scheme of examination is as under:

A. Grammar

Determiners
Tenses and Concord
Auxiliaries
Prepositions
Basic Sentence Patterns

B. Transformations

Active to Passive Voice
Simple to Compound / Complex
Declarative into Negative/ Interrogative
Direct to Indirect Speech

C. Comprehension

Comprehension of an Unseen Passage
Comprehension (from the following Texts): Comprehension based Questions of 10 Marks each will be asked from Prose, Short Stories, One Act Play and Poetry [40 Marks]

Prose

Digital India
A.P.J. Abdul Kalam: The Power of Prayer
Martin Luther King: I have a Dream
Albert Einstein: The World as I see it

Short Stories

Leo Tolstoy: The Three Questions
Nachiketa

One Act Play

Cedric Mount: The Never Never Nest

Poetry

R.N. Tagore : Heaven of Freedom
John Donne : Death be not Proud
Swami Vivekanand : Kali the Mother

Required Readings: *Emerald* (Macmillan)

D. Written Composition

Precis Writing
Paragraph Writing
Letter Writing(Formal and Informal)
Report Writing

Suggested Readings:

Murphy, Raymond: *Intermediate English Grammar* (OUP)
Huddleton, Rodney: *English Grammar: An Outline* (OUP)
Greenbaum, Sidney: *The Oxford English Grammar* (OUP)

3. ELEMENTARY COMPUTER APPLICATIONS

Compulsory in 1st year for all streams at undergraduate level

Max. Marks: 100 Internal Evaluation 20 Marks Term-End Examination 80Marks

Note.

1. The marks secured in this paper shall not be counted in awarding the division to a candidate.
2. The candidate has to clear compulsory paper in three years.
3. Non appearing or absent in the examination of compulsory paper will be counted a chance.
4. It is essential to pass in both internal as well as external evaluation separately by securing 36% marks in each.

The syllables and scheme of examination is as under:

Introduction to Information Technology, Generation of Computers, Types of computers: Micro, Mini, Mainframe, Super, Architecture of Computer System: CPU, ALU Primary Memory: RAM, ROM, Cache memory, Secondary Memories, Input/Output device, Pointing device.
Number System (binary, octal, decimal and hexadecimal) and their conversions, Logic gates,
Languages: machine, assembly and high level languages including 3GL, 4GL,
Concept of Operating System, need and types of operating systems: batch, single user, Multiprocessing, and time sharing, introduction to Windows.

Internet: Concept, email services, www, web browsers, search engines, simple programs in HTML, type of HTML document, documents structures: element, type and character formatting, tables, frames and forms, Styli sheet

Computer Networking: Type of networks, LAN, MAN and WAN, concept of topology, bridges, routers, gateways, modems, ISDN leased lines, teleconferencing and videoconferencing.
E-Commerce: Concept of e-commerce, benefits and growth of e-commerce, e-commerce categories, e-Governance, EDI, electronic funds transfer on EDI networks Electronic payment system.

Suggested Books :

1. Computer Fundamental By P.K. Sinha (BPB Publications)
2. Computer Made Easy For Beginners (in Hindi) By Niranjan Bansal, Jayshri Saraogi
3. IT Tools and Applications By Satish Jain, Shashank Jain, Dr. Madhulika Jain (BPB Publication).
4. Rapidex computer Course, Vikas Gupta, Pustak Mahal.

4. ENVIRONMENTAL STUDIES

Compulsory in 1st year for all streams at undergraduate level

Max. Marks: 100 Internal Evaluation 20 Marks Term-End Examination 80Marks

Note.

1. The marks secured in this paper shall not be counted in awarding the division to a candidate.
2. The candidate has to clear compulsory paper in three years.
3. Non appearing or absent in the examination of compulsory paper will be counted a chance.
4. It is essential to pass in both internal as well as external evaluation separately by securing 36% marks in each.

The syllables and scheme of examination is as under:

SCHEME OF EXAMINATION

1. The term-end paper will be of 80 marks.
2. There will be no practical/Field work, instead student should be aware of ecology of local area; the question related to field work of local area can be asked by paper setter.
3. There will be 80 questions in the paper of multiple choice, each question of 1 mark.
4. There will be no negative marking in the assessment. Core Module syllabus for Environmental Studies for Under Graduate Courses of All Branches of Higher Education

Unit-1 : The multidisciplinary nature of environmental studies.

- Definition scope and awareness.
- Need for public awareness.

Unit-2 : Natural Resources :

- Renewable and non-renewable resources
- Natural resources and associated problems.
- Forest resources.
- Use and over-exploitation.
- Deforestation.
- Timber exploitation.

Mining

- Dams and their effects on forests and tribal people.
- Water resources.
- Use and over utilization of surface and ground water.
- Floods, - Drought, - Conflicts over water
- Dams benefits and problems.
- Mineral resources.
- Use and exploitation.
- Environmental effects of extracting and using mineral resources.
- Food resources.
- World food problems.
- Changes caused by agriculture and overgrazing.
- Effects of modern agriculture.
- Fertilizer, pesticide problems.
- Water logging.
- Salinity

Energy resources :

- Growing energy needs.
- Renewable and non-renewable energy resources.
- Use of alternate energy resources.

Land resources :

- Land as a resource.
- Land degradation.
- Man induced land slides.
- Soil erosion & desertification.

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

Unit-3 : Ecosystem:

- 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.
- Forest ecosystem.
- Grassland ecosystem
- Desert ecosystem.
- Aquatic ecosystems (ponds, streams lakes, rivers, oceans estuaries).

Unit-4 : Biodiversity and its conservation:

- Introduction, definition and diversity at genetic, species and ecosys tem level.
- Biogeographically classification of India.
- Value of biodiversity, consumptive use productive use, social, ethical, aesthetic and option values.
- Biodiversity at global, national & local levels.
- India as a mega-diversity nation. - Hot-spots of biodiversity.
- Threats to biodiversity - habital loss poaching of wild life, man-wild life conflicts.
- Endangered and endemic species of India.
- Conservation of biodiversity – In situ and Ex-situ conservation of biodiversity.

Unit-5 : Environmental Pollution :

- Definition, causes, effect and control measures of
- Air pollution. - Water pollution - Soil pollution. - Marine pollution - Noise pollution - Thermal pollution - Nuclear hazards.
- Solid waste management : Causes, effects and control measures of urban industrial wastes.
- Role of an individual in prevention of pollution.
- Disaster management : Flood, earthquake, cyclone and land slides.

Unit-6 : Social issues and the environment :

- From unsustainable to sustainable development
- Urban problems related to energy.
- Water conservation, rain water harvesting, water shed management.
- Settlement and rehabilitation of people, its problem of concerns.
- Environmental ethics-issues and possible solutions. Ozone layer depletion, nuclear accidents.
- Wasteland reclamation., - Consumerism and waste products., - Environmental protection Act.

i. Air ( ) prevention and control of pollution Act , ii. Wild life protection Act, iii. Forest conservation Act.

- Issues involved in enforcement of environmental legislation.
- Public awareness.

Unit-7 : Human Population and the Environment :

- Population growth, variation among nations.
- Population explosion-Family welfare programme.
- Environment and Human health.
- Human rights.
- Value education.
- HIV/AIDS, - Women & child welfare.
- Role of information technology in environment and human health.

Field Work

- Visit to a local area to document environmental assets-river/forest/grassland/ hill/ mountain.
- Visit to local polluted site- Urban/rural/industrial/agricultural.
- Study of common plants, insects. Birds.
- Study of simple ecosystem-Pond, river, hill slope etc.

Suggested Books :

1 पर्यावरण अध्ययन – वर्मा, गैना, खण्डेलवाल, रावत
2 पर्यावरण विज्ञान – पी.सी. त्रिवेदी, गरिमा गुप्ता
3 पर्यावरण अध्ययन – सुरेष आमेता, षिप्रा भारद्वाज
4 Environmental studies - Pratap Singh, N.S. Rathore, A.N. Mathur
5 पर्यावरण अध्ययन – बाकरे, बाकरे वाधवा
6 पर्यावरण अध्ययन – मनोज यादव, अनूपमा यादव

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B.Sc. (IT)

DISTRIBUTION OF MARKS FOR

S.No	Subjects/Paper	Paper	Hrs.	Int	Min	Ext	Min
1.	**B.Sc (IT) Part-I**						
2.	B.Sc (IT) 101	I	3	10	4	40	14
3.	B.Sc (IT) 102	II	3	10	4	40	14
4.	B.Sc (IT) 103	III	3	10	4	40	14
5.	B.Sc (IT) 104	IV	3	10	4	40	14
6.	B.Sc (IT) 105	V	3	10	4	40	14
7.	B.Sc (IT) 106	VI	3	10	4	40	14
8.	Practical	P	5	-	-	150	54
9.	**B.Sc (IT) Part-II**						
10.	B.Sc (IT) 201	I	3	10	4	40	14
11.	B.Sc (IT) 202	II	3	10	4	40	14
12.	B.Sc (IT) 203	III	3	10	4	40	14
13.	B.Sc (IT) 204	IV	3	10	4	40	14
14.	B.Sc (IT) 205	V	3	10	4	40	14
15.	B.Sc (IT) 206	VI	3	10	4	40	14
16.	Practical	P	5	-	-	150	54
17.	**B.Sc (IT) Part-III**						
18.	B.Sc (IT) 301	I					
19.	B.Sc (IT) 302	II	3	10	4	40	14
20.	B.Sc (IT) 303	III	3	10	4	40	14
21.	B.Sc (IT) 304	IV	3	10	4	40	14
22.	B.Sc (IT) 305	V	3	10	4	40	14
23.	B.Sc (IT) 306	VI	3	10	4	40	14
24.	B.Sc (IT) 307	VII	3	10	4	40	14
25.	Project Report	P	5			150	54

BIT 101 Papers-I: Foundation Course in IT

Max.Marks 40

Term end examination will be of three hours. Total marks allotted for each theory papers are 50 consisting of internal evaluation 10 marks and term-end examination of 40 marks. It is compulsory to pass in both internal evaluation as well as in term-end examination by securing 36% of marks.

Unit I-

Introduction to Computer: Definition, Characteristics, Classification of Computers, Analog Computers, Digital Computers, Hybrid Computers, Classifications of computer on the basis of size and speed, different type of computers, generation of computers. Computer keyboard, pointing devices, mouse, track ball, touch pad, joystick, touch – sensitive screens, pen – based systems, digitizer, data scanning devices, optical recognition systems, bar code readers, optical mark readers, optical scanners, drum scanners, hand scanner, flatbed scanner, web camera, game pad, digital camera.

Unit II -

Hard copy devices: Printer, impact printers, daisy wheel, dot matrix printer, line printer, chain printers, comb printers, non-impact printers, DeskJet, inkjet printers, laser printer, thermal transfer printer, barcode printers. Computer Display: CRT, LCD, projection displays, plasma display panel,

display standard, monochrome display adapter, HGA, CGA, EGA, VGA, MGA, SVGA, XGA, QVGA, SXGA, UXGA.

Unit III-

Introduction to memory, classifications, random-access memory, volatile memory, non-volatile memory, flash memory, read-only memory, secondary memory, the cache memory, auxiliary storage memory, memory hierarchy, storage devise, magnetic tape, magnetic disk, floppy disk, hard disks, CD, DVD, magneto-optical. Number system, binary, octal, hexadecimal, addition, subtraction, multiplications.

Unit IV-

Computer code: BCD, ASCII, EBCDIC code, Excess-3 code, gray code, software, User interface, system software, programming software, application software logic gates and Boolean algebr. Computer Viruses: Introduction, history, types of computer viruses, classification of viruses ways catch a computer virus, symptoms of a computer virus.

Application of computer: Desktop publishing, sports, design and manufacturing research and design, military, robotics, planning and management, marketing, medicine and health care, arts, communications, scientific, education.

Unit V-

Introduction of internet, history, IP, TCP and UDP, application protocol, world wide web, how the web works, web standards, website, overview, types of websites, electronic mail, internet, e-mail header, saved message file extension, messages and mailboxes, introduction to intranet, uses, advantages, disadvantages

Books:

1. Computer Fundamentals By P.K. Sinha
2. O' Level Module 1 by V.K. Jain
3. O' Level Mode Simple By Satish Jain
4. Essential of IT (Hindi Medium) – Pragya Publication

BIT 102 Paper-II: C Programming & Data Structure

Max.Marks 40

Unit-I

Basic concepts of programming: Characteristic & Implementation of Algorithm, Flow Chart Symbols, Benefit and Limitations; Decision Table, Pseudo Code. Programming Techniques: Top down, Bottom up, Modular, Structured, Features, Merits, Demerits and their Comparative study.

Unit-II

Structure of C Program; Character Set, Tokens, Variable, Constant; Data Types; Operator, Expressions, Type Conversions; Console Input-Output functions; Control Flow Statements and Blocks, Branching statements and Labels.

Unit-III

Loop Structure: While, Do while, For, Modular programming: Basic types of function, Declaration and definition, Function call, Parameter passing, Recursion, Scope of variables, Storage classes.

Unit-IV

Arrays: Declaration and use of Array, Array manipulation; Searching, Insertion, Deletion of an element, Strings as array of characters, Standard library string functions. Pointer: Declaring & Initializing pointers, Accessing a variable and address of a variable, Pointer expressions, Pointers and Function Arguments, Pointers and Arrays,

Unit-V

Structures-Declaring and Initializing, Nested structure, Array of Structure, PassingStructures to functions, Unions, type def enum, Bit fields. Data Structures: Arrays, stacks, queues, d-queue, linked lists, single link list, double link list, trees, threaded tree, b-tree, graphs, depth first search, breath first search, kruskal algorithm, prism algorithm, prefix, postfix, infix, in-order, pre-order, post-order, recursive functions. Sorting: Internal and external sorting, Quick Sort, merge sort, bubble, insertion,

selection sorting. Shortest path, travel salesman problem Searching techniques and merging algorithms

Suggested Readings

1. D. Ravichandran, programming in C New Age International, 1996.
2. E. Balaguruswamy, Tata McGraw Hill Pub.
3. Y.Kanitkar, Let us C. BPB Publication, 4th Ed. 2002.
4. Rajiv Dharaskar, Hidden Treasure of C, BPB Publication, 1995.
5. Shridhar B. Dandin, Programming in C – Pragya Publication (Hindi Medium)

Paper-103: DATA BASE MANAGEMENT SYSTEM with PL/SQL

Max.Marks 40

Unit I

Data, Data Processing, Merits and demerits of file organisation. Database Overview, Purpose of the Database system, File systems Vs. Database Systems, View of Data: Data Abstraction, Instances, Schema, Data Models: Overview of Network, Hierarchical, and Relational Model,

Unit II

ER Model: Basic Terminology, Entity, Entity sets, attributes and keys, Relation and Relationship sets, Entity-Relationship Diagram, Weak and Strong entity types, Features of E-R Model, Specialization, Generalization Aggregation, Creating table from ER diagram. Basic Concept of Normalization up to BCNF.

Unit III

Implement Database concepts using Access, Creating Tables, Data Types, Entering Data, Table Design, Indexing, Importing Data, Operators and expressions, expression builder, various functions of Access, Import and Export Table, Creating Queries, Setting Relationship between Tables, Creating Forms, Controls and components of form, Master table and transaction table. Join property, various join options available in access, Creating & Printing Reports.

Unit IV

Query Languages: DDL, DML, DCL, Introduction to SQL, Data Types, Basic SQL commands like Create, Alter, Drop, Truncate, Insert, Update, Delete etc, Basic SQL Queries, Union, Intersect and Except, Nested Queries.

Unit V

Importance of Writing Procedures, Declaring Variables:, About PL/SQL Block Structure, Program Consturcts, Use of Variable, Handling Variables in Pl.SQL, Types of Variables, Declaration, Naming Rules, Assigning Values to Variable, Initialization, and Keywords,

Scalar Data Types, Base Scalar Data Types, Scalar Variable Declaration, % TYPE attribute: for variable declaration, Declaring Boolean Variables, PL/SQL Record Structure, Referencing Non-PL/SQL variables, DBMS_ OUTPUT._LINE;

Writing Executable Statements: PL/SQL Block Syntax and Guidelines, SQL functions in Code, SQL functions in PL/SQL, PL/SQL functions, Data type Conversion, Nested Blocks and variable Scope, Operators in PL/SQL, Using Bind Variable, Programming Guidelines, Determining Variable Scope, SQL, Inserting Data, Uptating Data, Deleting Data, Naming oConventions, Commit and Rollback Statement, SQL Cursor, and Cursor Attributes;

Suggested Readings

1. Database Management System By A. Silberschatz, Henry F.Korth, S. Sudershan (McGraw-Hill)
2. An Introduction to Database System By C.J. Date (Addision Wesley)
3. Fundamentals of DBMS By Gupta, Dhillon, Magho, Sharma (Lakhanpal Publishers)
4. Teach yourself Access. Sieglel, BPB

5. Introduction to Computer Data Processing and System Analysis By V K Kapoor (Sultan Chand and Sons)

BIT 104 Paper-IV: Internet & Web Programming

Max.Marks 40

Unit I

Data communication, Transmission Media- Coaxial, UTP, Optical-Fiber, Wireless, Components of Computer Networks, Transmission Mode- Simplex, Half Duplex, Full Duplex, LAN, MAN, WAN, the OSI Model, TCP/IP and others main protocols used on the Web;Types of wireless communication (Mobile, WiFi, WiMAX, Bluetooth, Infrared – concept and definition only).
Software Piracy, Firewall, Threats, Hacking and Cracking (basic concepts only for these topics).

Unit II

Evolution of Internet, Introduction to the terms LAN, WAN, MAN, Basic internet terms (Client, Server, MODEM, Web page, Web site, Home page, Browser, URL, ISP, Web server, Download & Upload, Online & Offline etc), Internet applications (Remote login, VoIP, Video Conferencing, Audio-Video streaming, Chatting etc). Identify and solve basic problems related to connecting to networks and the Internet. E-Mail, Advantages, How it's Works? Anatomy of an e-mail Message, basic of sending and receiving, E-mail Protocol.

Unit III

Introduction to World Wide Web: History, Working of Web Browsers, Its functions, Search engine category, Concept of Hyper Text Transfer Protocol (HTTP), Web Servers, Internet Explorer, Web publishing Document Interchange Standard, Component of Web Publishing, Site and Domain Name, Overview of Intranet and its applications.

Unit IV

HTML, Designed Tools, HTML Editors, Issue in Web Site Creations and Maintenance, FTP S/W for Upload Website, Elements of HTML & Syntax, Building HTML Documents, Use of Font Size and Attributes, Backgrounds, Formatting tags, Images, Hyperlinks, div tag, List Type and its Tags, Table Layout, , Use of Frames and Forms in Web Pages. Working with Style sheet: Elements and different Type of style sheet

Unit V

Basic of Cyber Security and Cyber Crime: Computer Ethics and Application Programs, Cyber Law, Introduction to IT laws & Cyber Crimes – Internet, Hacking, Cracking, Viruses, Virus Attacks, Software Piracy, Intellectual property, Legal System of Information Technology, Social Engineering, Mail Bombs, Bug Exploits

Suggested Readings

1. Internet and Web Page Designing By V.K Jain (BPB)
2. Internet & Web Design By A. Mansoor, Pragya Publications.
3. Web Enabled Commercial Application Development Using HTML, DHTML , java script, Perl CGI By Ivan Bayross (BPB)
4. Cyber Security by Nina Godbole & Sunit Belapure
5. Computer Forensics by Marie- Helen Maras

BIT 105 Paper-V: Data Communication and Networking

Max.Marks 40

Data Communication and Networking: Overview, Network Types, LAN Technologies, Topologies, Models- OSI Model, TCP/IP Stack

Unit - II

Physical Layer: Introduction, Digital Transmission, modes, digital to digital, analog to digital, Analog Transmission, digital to analog, analog to analog, Transmission media, Wireless Transmission, **Switching techniques:** Circuit Switching, Packet switching, Message switching.

Unit - III

Data Link Layer: Introduction, Data Link Control: Line Discipline- Enq/Ack, Poll/Select, **Flow Control** : Stop And Wait, Sliding Window, **Error Control :** ARQ, Stop and Wait ARQ, Sliding Window ARQ.

Unit - IV

Network Layer: Introduction, Network Addressing, Routing, Internetworking, Tunneling, Packet Fragmentation, Network Layer Protocols, ARP, ICMP, IPv4, IPv6

Unit V

Transport Layer: Introduction, Transmission Control Protocol, User Datagram Protocol

Application Layer: Introduction, Client-Server Model, Application Protocols.

BIT 106 Paper-VI : MATHEMATICS FOR COMPUTER

Max.Marks 40

Unit-I

Matrices: Basic Definitions, matrix operations- addition, multiplication, transpose, Adjoint and inverse. Determination of a square matrix (up to 3X3 matrix)

Unit-II

Statements (Propositions), Logical Operations, Truth Table, Tautologies, Contradiction, Logical Equivalence, Algebra of Propositions, Conditional and bi-conditional Statement, Argument, Logical Implication, Propositional Functions, Quantifiers, Negation of Quantifiers Statements, Normal.

Unit-III

Integers: Properties of integers, order and inequalities, Absolute value, Mathematical Induction, Division Algorithm, Divisibility, Primes, Greatest Common Divisor(GCD),Euclidean Algorithm, Fundamental Theorem of Arithmetic, congruence Relation

Unit-IV

Sets: Introduction, Sets and their representations, empty set, Finite & infinite sets, equal sets, subsets, power sets, universal sets, complements of a set. Cartesian products of sets.

Unit-V

Relations: Types of relations, reflective, symmetric, transitive and equivalence relations. Functions: one to one and onto functions, composite functions, inverse of a function, Binary operations, recursively defined functions.

Suggest Readings:

1. Mathematics Volume I By R.D. Sharma (Dhanpat Rai Publication)
2. Mathematics Volume II By R.D. Sharma (Dhanpat Rai Publication)
3. Engineering Mathematics Volume I By S.S. sastry (Prentice-Hall of India)
4. Discrete mathematics Schaum's Series By Seymour LipSchutz, Marc Lipson (Tata McGraw Hill)
5. Discrete mathematics By Vinay Kumar (BPB)
6. Discrete mathematical Structure By Dr. K.C. Jain, Dr. M.L. Rawat
7. NCERT Mathematics Textbook for class XI and XII

Practical Papers

Practical Papers will be of 150 marks and the duration will be of three hours.

C Language	50 Marks
DBMS	50 Marks
Internet & Web Programming	50 Marks
Total	**150 Marks**

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B.Sc. IT PART-II

Paper-I : Programming With C++

Object Oriented System: Difference Between Procedural and Object Oriented Languages, Object Oriented Paradigm, Inheritance, Polymorphism, Abstraction, Encapsulation, Benefits and Application of Oops. Introduction to C++, Character Set, Constants, Variables and Data Types, Enumeration Types, Operators, Arithmetic Expressions, Operator Precedence and Associatively, Integer Overflow and Underflow, Input, Output, Conditional Statements, Conditional Operator, Scope of Variables, Type Conversion.

UNIT II

Iteration: While, Do While, For. Break, Continue, Goto Functions - Standard and User-Defined Function, Recursive Function, Passing By Value And Reference, Pointers and Functions, Reference and Functions.

UNIT III

Array: One, Two and Multidimensional, Passing Array to a Function, Pointers and References. Array and Pointers - Dynamic Arrays, String Processing, Pointer to One and Two Dimensional Arrays, Array of Pointer. Pointer and Function, Function Returning Pointer, Structures and Pointers, Dynamic Structures.

UNIT IV

Class: Definitions, Declaring Members and Methods in Functions, Functions Returning Objects, Static Data Members and Methods, Inline Function, Offline(Outline) Function, Virtual Function, Abstract Class, Friend Function, Function Overloading and Overriding. Constructors- Needs and Its Usage, Types of Constructors, Destructor, Pointer to Objects, Pointers to Members, Dynamic Class Objects, Friend Functions and Its Usage, Inheritance - Needs of Inheritance, Usage, Types of Inheritance.

UNIT V

Operator Overloading: Needs and Rules of Operator Overloading, Overloading Through Member

Function and Friend Function. Type Conversion- Basic to Class, Class to Basic, One Class to Another Class. Compile Time and Run Time Polymorphism. String Class, Stream Classes In C++, Manipulators, Templates, File Handling.

Suggested Readings

1. Object Oriented Programming With C++ By E. Balagurusamy (Tata McGraw Hill)
2. C++ The Complete Reference By Herbert Schildt (Tata Mcgraw Hill)
3. Object Oriented Programming With C++ By Schaum Series (Tata McGraw Hill)

PAPER-II : PHP

Unit - I

PHP: Versions of PHP, Installation of PHP, Php.ini basics. Testing Installation. Building Blocks of PHP: Variables, data types, Operators & Expressions, Constants, Switching, Flow, Loops, Code Blocks and Browser Output.

Unit - II

Functions: Meaning, Calling, Defining a function. Return value from user defined function. Saving state with „static" function. Arrays: Creating arrays, Array related functions.Working with String, Date & Time: Formatting String with PHP, Using Date and time Functions with PHP.

Unit - III

Forms: Creating simple input Form. Accessing Form input with user defined arrays, HTML and PHP Code on a single page. Redirecting User. Working with File Upload. Uploading & Downloading.

Unit- IV

State management: Using query string(URL rewriting), Using Hidden field, Using cookies, Using session. String matching with regular expression: What is regular expression, Pattern matching in Php, Replacing text, Splitting a string with a Regular Expression. Email: Sending Email, Headers, Reviewing SMTP, PHP Mailer, Building Notifications

Unit - V

Connecting to the MYSQL: Selecting a database, Adding data to a table, Displaying returned data on Web pages, Inserting data, Deleting data, Entering and updating data, Executing multiple queries.

Suggested Readings

Deitel, Deitel and Nieto : Internet & WWW. How to program, 2 nd Edition, Pearson Education Asia.
Teach Yourself PHP, MYSQL &Apache ByMeloni, Pearson Education.
Open Source Development with LAMP: Using Linux, Apache, MySQL, Perl & PHP By James Lee,Pearson Education.
PHP: A Beginner‟s Guide ByVaswani, Vikram Tata Mc-Graw Hill.

PAPER-III : OPERATING SYSTEM

UNIT I

Introduction to Operating System: Operating System structure: CPU management, File management, memory management, I/O management, types of Operating Systems: Simple batch operating system, multiprogramming batch mode operating system, time-sharing system, parallel system, distributed system, real time system. Process concept, Process control block (PCB), process states and relationship, process switch, threads.

UNIT II

CPU scheduling: FCFS, SJF, SRTM, Time sharing, MLQ, MLQ with feedback Scheduling criteria: CPU utilization, Throughput, Turnaround time, waiting time, response time, Memory management: Static, dynamic, paging, demand paging, virtual memory, segmentation, replacement policies and algorithms.

FIFO, LRU, Optimal. File Concept: Access methods, and directory structure: Single Level and two levels tree structure, protection.

UNIT III

Process synchronization: Critical section, semaphores, mutual exclusion, Classical problems of Synchronization: Bounded buffer problem, Readers and Writers problem, Dead locks, Dead locks characterization, prevention, avoidance, detection, recovery, Banker's Algorithm.

UNIT IV

Unix: features of Unix, Types of shell, Unix file system, inode and block storage of file, file and directory structure and permission. File related commands. Process: killing, changing priority, scheduling, communication in Unix, Unix tools.

UNIT V

Shell script, Shell variables, system variables, positional parameter, arithmetic in shell script, decision making, looping control structure, and programming.

Suggested Readings

1. Operating Systems Concepts and Design, Milan Milenkovic, TMH
2. Operating System Concepts, Abraham Silberschatz, Peter Baer Galvin Addison-Wesley.
3. Operating Systems Concepts, by Silberschatz, Galvin and Gagne.
4. P.K. Sinha, Distributed Operating Systems, PHI, 1998, R2.

PAPER-IV COMPUTER ORGANISATION

Unit I

Components of a Computer: Processor, Memory, Input-Output Unit, Difference between Organization and Architecture, Hardware Software Interaction. Number System: Concept of Bit and Byte, types and conversion. Complements: 1‟s complement, 2‟s complement. Binary Arithmetic: Addition,

overflow, subtraction.

Unit II

Logic gates: Boolean Algebra, Map Simplification. Combinational circuits: Half Adder, Full Adder, Decoders, Multiplexers. Sequential circuits: Flip Flops- SR, JK, D, T Flip-Flop.

Unit III

Central Processing Unit: Introduction, General Register Organization, Stack Organization, Instruction Formats, Addressing Mode, Data Transfer and Manipulation, Program Control.

Unit IV

Input Output Organization: Peripheral devices, I/O Interface, Asynchronous Data Transfer, Modes of Data Transfer, Direct Memory Access, I/O Processor.

Unit V

Memory Organization: Types and capacity of Memory, Memory Hierarchy, Cache Memory, Virtual M*emory***Suggest Reading**

Computer System Architecture, By M. Morris Mano (Pearson, Prentice Hall)

Carter Nicholas, "Computer Architecture", Schaun outline Sevies , Tata McGraw-Hill.

J.P. Hayes, "Computer Architecture & Organization", Tata McGraw Hill

Digital Computer Electronics By Malvino Leach, Jerald A. Brown(McGraw Hill)

PAPER-V: OOP WITH VISUAL BASIC

Unit I-

Introduction, Integrated Development Environment, Event Driven Programming, Controls and Events, Variables, Constants, , Collections, procedures, Function Return Values.

Unit II-

Control Flow Statements, Loop Statements Exit Statements, Arrays ,Controls Array; Working With Forms, Controls-Textbox, Progress Bar, Tool Bar , List Box, Combo Box , Option & Check Button, Scroll Bar, Slider, Tree View & List View Controls.

Unit III

MDI and SDI form; Design Menu: Popup Menu, Program Menu Command, Using access and shortcut keys, Msg Box, Input Box, Common Dialogs Control, File: open, save, print, help dialog box; Text Box Control: Text selection, search, replace;

Unit IV-

Graphics with VB; Image Box, Picture Box, coordinates system, scale properties and methods, drawing methods: Drawing text, Box, Fill, Curves, timer control,; Dynamic link library. Unit – V Recursive Functions, Modules, Testing And Debugging Techniques, Data base programming -Data controls, Data Aware Controls, Data Manager, DAO (Direct Access Objects) Methods and Connectivity

Unit V

ADO (ActiveX Data Objects), Connectivity with Oracle, Advantages of ADO over DAO, ODBC, Reports Writing, Using Crystal Reports, and Data Report.

Suggested Readings

Mastering Visual Basic 6 By Evangelos Petroutsos (BPB)

Visual Basic 6 programming- Black Book By Steven Holzner (Dream Tech Press)

BIT 206 PAPER-VI : CLOUD COMPUTING

Unit I

Introduction to Client – Server Computing, Peer-to-Peer Computing, Distributed Computing, Collaborative Computing, Cloud Computing Unit II Functioning of Cloud Computing, Cloud Architecture, Cloud Storage, Cloud Services – SaaS, IaaS, PaaS, DaaS and VDI etc.

Unit II

Cloud as Web-Based Application, Cloud Service Development: Pros and Cons, Types, Software as a

Service, Platform as a Service, Web Services, On-Demand computing Discovering Cloud Services, Development Services and Tools, overview of major Cloud Service providers- Amazon Ec2, Google App Engine, IBM Clouds, Eucalyptus etc.

Unit III

Application of Cloud Computing for Centralizing Email communications, collaborating on Schedules, Calendars, To-Do Lists, Contact Lists. Cloud for the Community, Group Projects and Events; Cloud Computing for the Corporation. Cloud Computing for Schedules and Task Management, Exploring Online Scheduling Applications and Online Planning and Task Management;

Unit IV

Cloud Computing Collaborating on Event Management, Contact Management and Collaborating on Project Management. Cloud Collaborating on Word Processing, Databases, Storing and Sharing Files; Evaluating Web Mail Services, Evaluating Web Conference Tools; Cloud computing and Social Networks, Groupware, Blogs and Wikis.

Unit V

Data privacy and security Issues and other risks in Cloud Computing

Suggested Readings

Cloud Computing Concepts Technology and Architecture by Thomas Erl, Prentice Hall

Cloud Computing Principles and Paradigm by Rajkumar Buyya, James Broberg, Andrzej Goscinski, Wiley Publications

Cloud Computing Theory And Practice by Dan C. Marinescu, Morgan Kaufman Publications

Practical Papers

Practical Papers will be of 150 marks and the duration will be of three hours.

C Language	50 Marks
PHP	50 Marks
Oop with Visual Basic	50 Marks
Total	**150 Marks**

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B.Sc. IT Part-III
Paper Code: B.Sc.IT 301
Paper Name: Relation Data Base Management System

Duration: 3 Hours Max Marks: 40

UNIT I

Introduction to DBMS: Components, Structure, Different Views of Data, Advantages, Data Models: Hierarchical, Network, Relational, Object relational models, Codd's Rules. E-R Model: Entities, Attributes, Associations, Relationship, Keys. Normalization: 1NF, 2NF, 3NF, 4NF, BCNF, E-R Diagram. set theoretical operations: Selection, Projection, Join Division, Cartesian Product, Referential Integrity.

UNIT II

Relational Calculus: Structure of Relational database, Relational algebra, Modification of a database, Deletion, Insertion, updation, Selection, View, Tuple Relational Calculus, Domain Relational Calculus, File Organization: Heap, serial, Sequential, index sequential, hash-Indexing, B-Tree file organization.

UNIT III

Introduction to SQL: DDL, DML, DCL, Data Types, Table: Constraint, Domain, Entity, Referential integrity, Create, After, Drop Table, Commands: Insert, Update, Delete with Where, Queries and SQL Functions, Sequence, View, Index, Locks, Granting privilege, Report writing.

UNIT IV

Introduction to PL/SQL: Advantages, Character Set, Data types, Attribute, Control Structure, concept of Exception, User defined exceptions, Cursors, Composite data types, Tables vs Array. Database Triggers, Operators, Query and Sub-queries.

UNIT V

Recovery, Reliability, Types of Failures, audit trails, transaction, Failure anticipation and recovery in centralized DBMS, Buffer management Serializability, concurrency control, Locking scheme, deadlock detection, recovery, avoidance, Database Security.

Suggested Readings

1. Database management system : Korth, Tata McGraw Hill Publishing
2. Relational database management system : Bipin Desai, Galgotia Publications
3. PL/SQL, Ivan Bayross, Tata McGraw Hill
4. SQL, PL/SQL Programming Language, Ivan Bayross, BPB Publications.

6. Database Management System, Navathe, Pearson Education Asia.

PAPER CODE: B.Sc.IT 302
PAPER NAME : JAVA

Duration: 3 Hours

UNIT I

Introduction to java, history, characteristics, Object oriented Programming, data types, variables. Arrays, control statements: Selection, interaction, jump statements, operators. Introduction to classes, class fundamentals, constructor, methods, stack class, inheritance creating multilevel hierarchy, method overriding.

UNIT II

Inheritance of procedures and Data, packages and interface, exception handling, multithreaded programming thread priorities, synchronization, messaging, creating and controlling of threads. String handling and various string functions. Java utilities like java.Lang, java.util and their uses, java.io, basics of networking using Java.

UNIT III

Java applets and their use – Event Handling – AWT and working with Windows – Event Handling – Event Handling Mechanisms, Delegation Event Model, Event Class, Event Listener Interfaces,Adapter Classes, Inner Class. AWT and working with windows – AWT Classes, Window fundamentals, frame windows, frame window in An Applet, Working with Graphics, color, fonts and

text.

UNIT IV

Swings, Java beans, beans architecture, JBDC class methods, JDBC Components, driver, connectivity to database, processing result and interfaces. Creating and executing SQL statements, Resultset and Resultset MetaData Object.

UNIT V

Servlet fundamentals – architecture, life cycle of a Servlet, initialization, Servlet and HTML, retrieving data in Servlet, servicing he GET and POST requests, Servlet sessions – session tracking, cookies. JDBC and Inter Servlet communications. JSP fundamentals – architecture, implicit objects, standard actions, JSP errors.

Suggested Readings

1. The Complete reference Java 2 By Patrick Naughton, Herbert Schildt (Tata McGraw Hill)
2. The Java Handbook, Patrik Naughton, Tata McGraw Hill
3. Introduction to Java Programming, E. Balaguruswamy, PHI.
4. Programming Java, Decker & Hirshfield, Vikas Publication.
5.

Paper Code: B.Sc.IT 303

PAPER NAME : DATA WAREHOUSING AND DATA MINING

Duration: 3 Hours

UNIT I

Introduction to Data Warehouse, Data warehouse uses, Data Warehouse Planning stages and Designing approaches. Delivery Process-Data Warehouse Delivery Methods. System Processes; data in Flow Process, Extract and load process, Clean and transform Process, Backup and Archive process and Query Management Process. Process Architecture - Load manager, Warehouse manager, Query manager.

UNIT II

Database Schema-Star flake schema, Identifying facts and dimensions, Designing fact tables and dimension tables, Design Star flake schema, Multi-dimension schemas. Horizontal and vertical partitioning, Hardware partitioning. Aggregations and aggregation summary table Data Marts, Designing Data Marts. Metadata-Data transformation and load Managers.

UNIT III

Hardware architecture-Process, Server, Network and Client hardware. Physical Layout-Parallel technology Disk technology, Contents of data warehouse database, Database structures and layout and file systems. Security- Security requirements, impact of security on design and performance, Backup strategies and disaster recovery. Service agreement and operations of Warehouse.

UNIT IV

Capacity Planning (Process Estimate load), Tuning the data warehouse (Aggregate performance, data load and queries). Testing data warehouse-Develop test plan Testing backup recovery, Testing operational environment, testing database, testing of the application. Data warehouse futures.

UNIT V

Data Meaning concepts, Business Technical and Social context for Data mining. Data Mining apaproaches, Data mining methodologies. Data mining techniques (Automatic cluster detection, Decision tree), Building good effective models, Working with model set, multiple models. Case studies of data mining mode for an online bank, Wireless communication corporation.

Suggested Readings

1. Sam Anahory, Dennis Murray, "Data Warehousing", Pearson Education pub.
2. Michel A. Berry, Gordon S. Linoff, " Mastering Data Mining", Wiley Publishing.
3. Mallach G, Fredn E, "Decision Support System and Data Warehouse Sustems", TMH
4. John Poole, Dan Chang, Dauglas Talbert,"Common Warehourse Metadata Developer's Guide",

Paper Code: B.Sc.IT 304
PAPER NAME : COMPUTER GRAPHICS

UNIT I

Interactive graphics, Passive graphics, advantage of interactive graphics, classification of application, hardware and software requirement of computer graphics, Input and Output Devices of Computer Graphics, Scanners, Touch Panels, Data Gloves, Joystick, Monitors:-CRT and flat Panels etc. Working Characteristics of CRT, Raster Scan Display, Random Scan Display, Frame Buffer and Other Flat Panel Displays.

UNIT II

Scan Conversion, Point, Line, Circle, Ellipse, Representation of Various Line Drawing Algorithm, Circle Drawing Algorithm, Ellipses and Polygon Drawing Algorithm, Implementation of graphics Algorithm using C and visual basic programming, filling of polygons and various filling algorithms (flood fill and boundary fill algorithms).

UNIT III

2D Transformation, Translation, Rotation, Scaling, Homogenous Coordinates and Matrix Representation of 2D Transformation, Composite Transformation (co-ordinate axis based, pivot point based transformations), Windows to view port transformations, Clipping, need of clippings, Types of clipping, Method of Line Clipping, Polygon Clipping, interior and Exterior Clipping.

UNIT IV

3D Graphics, Matrix Representation of 3D transformations, Translation, Rotation, Scaling, Composite Transformation, Projection, Curves: Bezier curves and surfaces, B-Spline Curve and surfaces, Geometric and parametric continuity.

UNIT V

Solid Modelling, Representation of object vertices, edges and surfaces, Priority algorithm, Boolean set operations for solid modelling, Primitive instances, boundary representation, Graphics Standards: GKS, PHIGS and requirements of Graphics software Standards, GUI and concepts of graphics in windows environments, various tools of graphics in GUI concept **Suggested Readings**

1. Computer Graphics By Hearn and Baker (Prentice Hall India)
2. Introduction to Computer Graphics By Krihsnamurthy N (Tata McGraw Hill)
3. Theory and Problems of Computer Graphics (Schaum's Outline) By Zhigang X. and Plastock Ra. (Tata McGraw Hill)

Paper Code: B.Sc.IT 305
Paper Name: E-Commerce

Unit I

Introduction to E-Commerce: Defining Commerce; Main Activities of Electronic Commerce; Benefits of E-Commerce; Broad Goals of Electronic Commerce; Main Components of E-Commerce; Functions of Electronic Commerce – Communication, Process Management, Service Management, Transaction Capabilities; Process of E-Commerce; Types of E-Commerce; Role of Internet and Web in E-Commerce; Technologies Used; E-Commerce Systems; Pre-requisites of E-Commerce; Scope of E-Commerce; E-Business Models.

Unit II

E-Commerce Activities: Various Activities of E-Commerce; Various Modes of Operation Associated with E-Commerce; Matrix of E-Commerce Types; Elements and Resources Impacting E-Commerce and Changes; Types of E-Commerce Providers and Vendors; Man Power Associated with E-Commerce Activities; Opportunity Development for E-Commerce Stages; Development of E-Commerce Business Case; Components and Factors for the Development of the Business Case; Steps to Design and Develop an E-Commerce Website.

Unit III

Internet – The Backbone for E-Commerce: Early Ages of Internet; Networking Categories; Characteristics of Internet; Components of Internet – Internet Services, Elements of Internet,

Uniform Resource Locators, Internet Protocol; Shopping Cart, Cookies and E-Commerce; Web Site Communication; Strategic Capabilities of Internet.

Unit IV

E-Commerce & Online Publishing: This unit explains the concept of online publishing, strategies and approaches of online publishing, and online advertising

E-Marketing: Traditional Marketing; E-Marketing; Identifying Web Presence Goals – Achieving web presence goals, Uniqueness of the web, Meeting the needs of website visitors, Site Adhesion: Content, format and access; Maintaining a Website; Metrics Defining Internet Units of Measurement; Online Marketing; Advantages of Online Marketing.

Unit V

Implementation of E-Commerce: WWW.EBAY.COM - B2C Website – Registration, Time factor, Bidding process, Growth of eBay; PayPal – New Trend in Making Payments Online; National Electronic Funds Transfer.

Paper Code: B.Sc.IT 306
Paper Name : Web Application Development using ASP.Net

Duration 3 Hours

UNIT I

Introduction to Web Application Development: Life Cycle of Web Application. Introduction to .NET Framework, Features of .Net, .Net Versions, Microsoft Intermediate Language – Meta Data, .Net types and .Net name spaces, Common Language Runtime, Common Type System, Common Language Specification, .Net Applications using command line compiler and visual studio .Net IDE.

UNIT II

Basics of ASP.NET: Introducing ASP .NET, Creating ASP .NET applications, Web forms, Web controls, working with events, Rich web controls, Custom web controls, Validation controls, Debugging ASP .NET pages. Advanced ASP .NET: ASP .NET configuration, Business objects, State Management: Query String, Session, Cache, Cookies.

UNIT III

ASP .NET security: Authentication and authorization, Deployment projects. Basics of ADO .NET, ADO vs. ADO.NET, ADO.NET Namespaces, ADO .NET Providers – OLEDB & SQL, Connected and Disconnected Mode, Dataset, Data Adapter, Command Object's Method, Programming with ADO.NET

UNIT IV

Web Services: Introduction to Web Services, Web services Infrastructure, Building a web service, Deploying and publishing web services, finding web services, Consuming web services.

UNIT V

Cyber Security: definition, cybercrime and information security, classification of cybercrime, cybercriminals, phishing, password cracking, keyloggers steganography, DoS and DoS attacks, SQL Injection, Cyber Law, The Indian IT Act, Digital Signatures and IT Act, Cyber security and organizational implications, Cyber crisis management.

Suggested Readings

Asp.net with C# by Chirs Hart, John Kauffman, Chris UllmanWorx Publication
ASP.NET 2.0 Black Book By Rudraksh Batra, Charul Shukla (Dream Tech Press)
ASP. NET Bible By Mridula Parihar and et al. (Hungry Minds, New York)
Cyber Security by Nina Godbole & sunit Belapure
Computer Forensics by Marie- Helen Maras

Parctical Papers: Practicl Papers will be of 50 marks. Examination duration will be 3 hours.

BIT 307 JAVA

BIT308ASP.net

BIT309 Project

Paper Code: B.Sc. IT 309
Paper Name : Project

Scheme of Examination
Maximum Marks: 50 Duration: 3 Hours
Minimum Passing Marks: 18
Marks distribution for Project of 50 marks is as under

a) Research Project/ Case Study and Presentation 35 marks
b) External Viva Voce 15 marks

Practical Training and Project Work:

1.Project Work may be done individually or in groups in case of bigger projects. However if project is done in group each student must be given a responsibility for a distinct module and care should be taken to monitor the individual student.
2.Project Work can be carried out in the University or outside with prior permission of University.
3.The Student must submit a synopsis of the project report to the University for approval. The Project Guide can accept the project or suggest modification for resubmission. Only on acceptance of draft project report the student should make the final copies.

Submission Copy:

The Student should submit spiral bound copy of the project report.
Format of the Project:
(a)Paper:
The Report shall be typed on White Paper of A4 size.

(b)Final Submission:

(c)Report to be submitted must be original.
(d)Typing:
Font:- Times New Roman Heading:- 16 pt., Bold Subheading:- 14 pt, Bold Content:- 12 pt.
Line Spacing:- 1.5 line. Typing Side :-One Side Font Color:- Black.
(e)Margins:
The typing must be done in the following margin:
Left : 0.75”
Right: 0.75”
Top: 1”
Bottom: 1”
Left Gutter: 0.5”
(f) Binding:
The report shall be Spiral Bound.

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