GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATION

Programme	BACHLOR OF SCIENCE IN INFORMATION TECHNOLOGY (INFRASTRUCTURE MANAGEMENT SERVICES) – BSC-IT (IMS)	Branch/Spec.	Computer Applications
Semester	II	Version	1.0.0.1
Effective from Academic Year	2017-18	Effective for the batch Admitted in	Jan – 2018
Subject code	U42A1DM1	Subject Name	DATABASE MANAGEMENT SYSTEM-I

Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	-	2	-	4	Theory	40	60	100
Hours	2	-	4	-	6	Practical	20	30	50

Pre-requisites:

Basic knowledge of computer, basic programming language like C, any one basic database application-MS access or Excel is preferable

Learning Outcome:

Will be able to learn design and manage database, transactions, RDBMS, transaction management, database security, efficient searching as well as normalization in database.

Theory syllabus

Unit	Content	Hrs
1	**Database Concepts and Architecture** • Introduction of Database, Benefits of Database Approach(01) • Structure of the Database System, Types of Database Users and Roles of Database Administrator(01) • Introduction to RDBMS?, Codd's rules for RDBMS, DBMS Vs. RDBMS (02) • Overview of Database System Architecture, Introduction to Distributed Database(02) • Database terms: Relation, Entity, Attribute, Attribute Value, Primary key, Candidate key, Alternate key (01)	7
2	**Normalization & Transaction Control** **Normalization(4)** • First, second and third normal forms (2) • Boyce / Codd normal form(1) • multi-valued dependencies and fourth normal form (1) • Join dependencies and fifth normal form **Transaction Control(11)** •Transaction concepts, properties of transactions(02) •serializability of transactions, testing for serializability(02) •System recovery, Two- Phase Commit protocol (02) ● Recovery and Atomicity, Log-based recovery, concurrent executions of transactions and related problems(03)	15

3	**Interactive SQL Part – I** • Introduction to SQL, Logging into SQL * Plus, Naming Rules and Conventions, Data Types (03) • Creating a Table, Viewing data in the tables, Sorting data in a table, Delete operations, Updating contents of a table, Modifying the structure of tables, Renaming, Truncating and Destroying tables (10) • Examining objects created by a user (01) • Constraints (I/O and Business rule constraints) (04) • DDL, DML, DCL/TCL, DQL(Select Clause) (01) • Computations on table data(Range Searching Pattern Matching) (02) **User Management** : Creating a new user in Oracle, Assigning rights to the user & changing the password of an existing user(01) **Security Management using SQL** Security using Grant and Revoke Statements (02)	24
4	**Interactive SQL Part – II (14 sessions)** • Oracle Built-in Functions (Single row Functions and Group Functions) (03) • Set Operators, Sub query(03) • Group by Clause, Having Clause, Group by using ROLLUP and CUBE operator, EXISTS/ NOT EXISTS operator (03) • Different Types of Joins(02) • Index, View, Sequence(03) • Setting environment using SET command(01) **Advance features in SQL * Plus (02)** • Code a tree structured Query, Code a Matrix Report in SQL , Dump function(02)	14

Practical content	
List of programs on the above mentioned topics as per decided by subject faculty	
Text Books	
1	Database Systems Using ORACLE by Nilesh Shah (Second Edition), Prentice Hall of India SQL,
Reference Books	
1	Database System Concepts- Silberschatz, Korth, Sudarshan, Fifth Edition, McGraw Hill
2	Introduction to Database Systems by C.J.Date (Eighth Edition)
3	PL/SQL The Programming Language of Oracle by Ivan bayross(4 th Edition), BPB Publications
Paper Structure	
	Q-1 (Attempt any Six Out of Eight : each question must be 5 marks) --- 30 Questions must be covered from all possible section. **Q-2 (Must be From topics: Database Concepts and Architecture (07marks))** **Q-3 (Must be From topics: Normalization & Transaction Control (07marks))** **Q-4 (Must be From topics: Interactive SQL Part – I (08marks))** **Q-5 (Must be From topics: Interactive SQL Part – II (08marks))**

GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATION

Programme	BACHLOR OF SCIENCE IN INFORMATION TECHNOLOGY (INFRASTRUCTURE MANAGEMENT SERVICES) – BSC-IT (IMS)	Branch/Spec.	Computer Applications
Semester	II	Version	1.0.0.1
Effective from Academic Year	2017-18	Effective for the batch Admitted in	JAN – 2018
Subject code	U42A2OOP	Subject Name	OBJECT ORIENTED CONCEPTS AND PROGRAMMING

Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	0	2	-	4	Theory	40	60	100
Hours	2	0	4	-	6	Practical	20	30	50

Pre-requisites:

Basic knowledge of the C Programming.

Learning Outcome:

- Implement Object Oriented Programming Concepts
- Use and create packages and interfaces in a Java program

Theory syllabus

Unit	Content	Hrs
1	**Introduction to Java and Basic Concepts** Introduction to Java, Object-Oriented Paradigm, Basic Concepts: Data Abstraction, Encapsulation, Inheritance, Polymorphism, Dynamic Binding, What is Java, JDK and JRE ? , The main() method, A First Java Program, Compiling and Interpreting Applications **Data types and Variables:** Primitive Data types, Declarations and scope, Variables and constants, Numeric Literals, Character Literals, String, String Literals, Arrays, Non-Primitive Data types **Operators and Expressions:** Expressions, Assignment Operator, Arithmetic Operators, Relational Operators, Logical Operators, Increment and Decrement Operators, Operate-Assign Operators (+=, etc.), The Conditional Operator, Operator Precedence. Implicit Type Conversions , The Cast Operator , Generic type casting	13
2	**Decision Making, Branching and Looping** If..Else statements, Nesting of IF... Else statements, Else...if ladder. Switch, break and continue Statement, While loop, do-while, for loop , Enhanced for loop	4
3	**Introduction to Class, Method and Object** Creating class and Methods, Calling Methods, Defining Methods, Method Parameters, Creating objects, new keyword, Scope, Constructors, destructors and garbage collector, Accessing class members and member functions, method overloading, method overriding, Static, final, abstract methods and classes, interface, Public, private, protected, default, friend access, **Inheritance :** Extending classes, Subclass, Multilevel inheritance, Hierarchical inheritance	8
4	**Array, String, Vectors, Interfaces** **Arrays, Strings, Vectors:** Creating and initializing array, Two-dimensional array, Variable size array String, String array, String methods, StringBuffer class Vectors ,Wrapper classes , autoboxing and Unboxing **Interfaces :**	11

	Introduction, Defining and extending interfaces, Implementing interfaces , Accessing interface variables, Concept of multiple inheritance	
5	**Packages, Exception** **Packages** Using system package, Naming conventions, creating packages, accessing package, Static import **Managing errors and Exceptions:** Types of error, Compile time and run time errors , Exceptions, Exception handling code and syntax , Try-catch blocks, multiple catch statements. Finally block , User-defined exceptions, difference between throw and throws	8
Practical content		
List of programs on the above mentioned topics as per decided by subject faculty		
Text Books		
1	Programming java by Sachin Malhotra & Saurabh Chaudhary, Oxford Publication	
2	http://www.javatpoint.com/	
Reference Books		
1	Programming with Java by E. Balagurusamy, Tata McGraw Hill Publication	
2	Head first java by Kathy Sierra & Bert Bates, O'Reilly	
3	Complete reference Java by Herbert Schildt, Tata McGraw Hill	
4	The Unified Modeling Language User Guide By Booch, Rumbaugh, Jacobson	
Paper Structure		
	Q-1 (Attempt any Six Out of Eight: each question must be 5 marks) --- 30 **Questions must be covered all possible section.** **Q-2 (Must be From topics: Introduction to Java and Basic Concepts (7)** **Q-3 (Must be From topics: Decision Making, Branching and Looping (3)** **Q-4 (Must be From topics: Introduction to Class, Method and Object (7)** **Q-5 (Must be From topics: Arrays, Strings, Vectors, Interfaces (7)** **Q-6 (Must be From topics: Packages, Exception (6)**	

GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATION

Programme	BACHLOR OF SCIENCE IN INFORMATION TECHNOLOGY (INFRASTRUCTURE MANAGEMENT SERVICES) – BSC-IT (IMS)	Branch/Spec.	Computer Applications
Semester	II	Version	1.0.0.1
Effective from Academic Year	2017-18	Effective for the batch Admitted in	JAN - 2018
Subject code	U42A3BWP	Subject Name	Basic Web Programming

Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	-	2	-	4	Theory	40	60	100
Hours	2	-	4	-	6	Practical	20	30	50

Pre-requisites:

Basic knowledge of HTML4, Java Script and CSS

Learning Outcome:

Knowledge of HTML5, CSS3 & jquery concept and Develop websites.

Theory syllabus

Unit	Content	Hrs
1	**HTML5 Basic:** What is HTML5?, New features of HTML5, Browser support(1) New Elements in HTML5, (3)The New <canvas> Element(1), New Media Elements(1), New Form Elements(1), New Semantic/ Structural Elements(3), Removed Elements, HTML5 Semantic Elements(2) HTML5 New Input Types, HTML5 form elements, HTML 5 form attributes(1)	13
2	**HTML5 Advanced :** HTML5 canvas(2), HTML5 SVG (Scalable Vector Graphics)(2), HTML5 media: embedding video on web(2), embedding Audio(1) HTML5 API: Geolocation, handling errors and rejections, Drag and Drop elements, HTML5 web storage object, local storage object, session Storage object, Application cache, updating cache, cache manifest file (3)	10
3	**CSS3 :** CSS3 introduction (1), Styling tables with Pseudoclassess(2), Making Links Printable with: after and content(2), Creating multi column Layouts(2), Building mobile interface with media queries(2), 2D transforms, 3D transforms(1)	10
4	**jQuery :** Loading jquery to web pages(1), Jquery basic syntax(1), methods to modify content (1), creating elements(2), jquery selectors(2), event methods(2), effects: hide/show, fade, slide, animate, callback, stop() (3)	12

Practical Content

List of programs on the above mentioned topics as per decided by subject faculty	
Text Books	
1.	HTML5 & CSS3 by Brian P. Hogan
Reference Books	
1.	Introduction to Internet and HTML scripting (Fourth Edition) By Bhaumik Shroff
Paper Structure	
	Q-1 (Attempt any Six Out of Eight: each question must be 5 marks) --- 30 **Questions must be covered all possible section.** **Q-2 (Must be From topics: Unit-1 (8 marks))** **Q-3 (Must be From topics: Unit-2 (8 marks))** **Q-4 (Must be From topics: Unit-3 (8 marks))** **Q-5 (Must be From topics: Unit-4 (6 marks))**

GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATION

Programme	BACHLOR OF SCIENCE IN INFORMATION TECHNOLOGY (INFRASTRUCTURE MANAGEMENT SERVICES) – BSC-IT (IMS)	Branch/Spec.	Computer Applications
Semester	II	Version	1.0.0.0
Effective from Academic Year	2017-18	Effective for the batch Admitted in	JAN - 2018
Subject code	U42A4BCN	Subject Name	BASIC OF COMPUTER NETWORK

Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	3	-	-	-	3	Theory	40	60	100
Hours	3	-	-	-	3	Practical	-	-	-

Pre-requisites:

Student should have basic knowledge of Computer and Technologies

Learning Outcome:

The basic objective of this course is to create awareness about the Computer networks, it's component, protocols and basic design principles

Theory syllabus

Unit	Content	Hrs
1	**Introduction To Computer Network (4)** Need of Computer Network, Advantages of Computer Network, Uses of Computer Network(1), Network Models, Categories of Networks and Internetworks(1), Line Configurations, Network Topologies (Bus, Star, Ring, Star Bus, Star Ring and Physical Mesh) (2)	4
2	**Study of Reference Models (8)** Study of Reference Models, Need of Layers, Design Issues of Layers, ISO/OSI Model(5), TCP/IP Model(1), A Comparison of OSI and TCP Reference Model(1), Asynchronous Transfer Mode (ATM) (1)	8
3	**Network Concepts And Components (7)** Network Concepts : Wireless Networks(1), Layered Approach, Interfaces, Services, Protocols(1), Brief Study of X.25 Protocol(1), Intranet and Extranet(1) Network Components : Cabling and Connector Standards(1), Network Interface Card, Concentrators, Hubs, Repeaters, Gateways(1), SDN, Bridges/Switches, Routers(1)	7

4	**TCP/IP protocols (12)** IP Addressing, sub netting (2), ARP, IARP, ICMP, IGMP, UDP, TCP, Client-server model, BOOTP, DHCP, DNS, Telnet, FTP, TFTP, SMTP, SNMP, HTTP, WWW. (10)	12

Practical content
N/A

Text Books	
	Computer Network, S. S. Shinde, New Age International (P) Limited, Publishers B.A. Forouzan: Data Communication and Networking, Tata McGraw Hill.

Reference Books	
1	Computer Network, S. S. Shinde, New Age International (P) Limited, Publishers B.A. Forouzan: Data Communication and Networking, Tata McGraw Hill.

Note for Examiner

Q-1 must be common from any topics from syllabus.

Q-2 and onwards must be from specific topics and internal choice or option can be given

Paper Structure

Q-1 (Attempt any Six Out of Eight: each question must be 5 marks) --- 30

Questions must be covered all possible section.

Q-2 (Must be from topics: Introduction to Computer Network (5))

Q-3 (Must be from topics: Study of Reference Models (8))

Q-4 (Must be from topics: Network Concepts and Components (8))

Q-5 (Must be From topics: TCP/IP protocols (9))

Note:

Version 1.0.0.0 (First Digit= New syllabus/Revision in Full Syllabus, Second Digit=Revision in Teaching Scheme, Third Digit=Revision in Exam Scheme, Forth Digit= Content Revision)

L=Lecture, TU=Tutorial, P= Practical/Lab., TW= Term work, DT= Direct Teaching, Lab.= Laboratory work

CE= Continuous Evaluation, SEE= Semester End Examination

GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATION

Programme	BACHLOR OF SCIENCE IN INFORMATION TECHNOLOGY (INFRASTRUCTURE MANAGEMENT SERVICES) – BSC-IT (IMS)	Branch/Spec.	COMPUTER APPLICATION
Semester	II	Version	1.0.0.1
Effective from Academic Year	2019-20	Effective for the batch Admitted in	June 2019
Subject code	U42B5CS2	Subject Name	LANGUAGE & COMMUNICATION SKILLS-II

Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	-	1	-	3	Theory	40	60	100
Hours	2	-	2	-	4	Practical	20	30	50

Pre-requisites:

Knowledge of English Grammar.

Learning Outcome:

To acquire proficiency in English language among the students.

Theory syllabus

Unit	Content	Hrs
1.	**Remedial English Grammar, Usage and Vocabulary:**	
	Modals, Conditionals, Concord, Commonly Confused Pairs of words, One Word Substitutes, Synonyms and Antonyms, Word Formation: Prefixes, Roots and Suffixes (Derivational & Inflectional), Error Analysis (Correction of Errors in a given sentence - errors in the use of words - errors of Indianisms - use of slang - errors in punctuation)	**12**
2.	**Skills for Career Building – I**	
	Presentation Skills: Definition of presentation, Components of presentation, planning to prepare effective presentation, steps for preparing effective presentation, Boredom Factors in presentation, Attention grabbers in presentation **Group Discussion:** Definition and nature of group discussion, Pre-requisites for group discussion, Objectives of group discussion, Characteristics of group discussion, how to prepare for group discussion, Dos and don'ts in group discussion	**10**
3.	**Skills for Career Building – II**	
	Official Correspondence - Letters to higher authorities, Notice, Memo writing, E-Mail writing, Press release	**08**
	PRACTICAL	
1.	**Oral Communication in Context**	**10**
	Asking for and giving information, offering and responding to offers, requesting and responding to requests, congratulating people on their success, expressing sympathy, expressing condolences, apologizing and forgiving, giving instructions, seeking and giving permission, expressing opinions (likes and dislikes), agreeing and disagreeing.	
2.	**Practical Training for Oral communication**	**05**

	Group Discussion, Role Plays and Group Presentation skill.	

Practical content	
Text Books	
1	
Reference Books	
1	Refer Materials provided by Faculty Member
Note for Examiner	
	Q-1Must be common from any topics from syllabus. Q-2 And onwards must be from specific topics and internal choice or option can be given
Paper Structure	
	Q-1 (Attempt any**Six** Out of**Eight:** each question must be 5 marks) **--- 30** Questions must be covered all possible section. **Q-2** (Must be From topics:**Remedial English Grammar, Usage and Vocabulary:(12 marks))** **Q-3** (Must be From topics:**Skills for Career Building – I:(10marks))** **Q-4** (Must be From topics: **Skills for Career Building – II: (8 marks))**

Note:

Version 1.0.0.0 (First Digit= New syllabus/Revision in Full Syllabus, Second Digit=Revision in Teaching Scheme,Third Digit=Revision in Exam Scheme, Forth Digit= Content Revision)

L=Lecture, TU=Tutorial, P= Practical/Lab., TW= Term work, DT= Direct Teaching, Lab.= Laboratory work

CE= Continuous Evaluation, SEE= Semester End Examination

GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATION

Programme	BACHLOR OF SCIENCE IN INFORMATION TECHNOLOGY (INFRASTRUCTURE MANAGEMENT SERVICES) – BSC-IT (IMS)	Branch/Spec.	DEPARTMENT OF COMPUTER SCIENCE
Semester	II	Version	0.0.0.0
Effective from Academic Year	2015-16	Effective for the batch Admitted in	June 2015
Subject code	U42A6FOS2	Subject Name	Fundamentals of Operation System – II

Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	2	-	2	-	4	Theory	20	30	50
Hours	2	-	4	-	6	Practical	40	60	100

Pre-requisites:

Student should have basic knowledge of Operating System

Learning Outcome:

At the end of this paper, students should be able to familiarize Server management. Students are also able to develop service, securing service and Server, user quota, and Remote Access.

Theory syllabus

Unit	Content	Hrs
1	**Deploying, Configuring Network Connectivity in Windows Server 2008** Hardware requirement , editions of 2008 servers , Installing windows 2008 server , Planning bit locker Deployment , Automate server deployment , Limitation of IPv4 , Planning an IPv4 to IPV6 Compatibility , IPv6 tools , DHCPv6 , implementing IPv6 connectivity , DNS configuration and Management	18
2	**Active Directory, Group policy, Application Server and Services** Introduction to AD , Domain and Forest functionality , Functional level , Server Roles , Trusts , Planning and managing group policy , GPMC , group policy files , troubleshooting group policies , Application Availability , Implement application accessibility , application deployment , SCCM , IIS	17
3	**Terminal Services, Server Virtualization, File and Print Servers** Planning and configuring terminal server , terminal service web access , session broker , monitoring terminal services , terminal service gateway , introducing , managing and installing Hyper – V , File Services Server Role , FSRM , configuring quotas , File screen policy , DFSR structure , Offline data access	15
4	**Management, monitoring, Delegation and patch management in 2008 server** Admin tools of windows 2008 server , remote admin technologies , event logs , reliability and performance , delegation : policies-procedures-administrations , implementing and managing WSUS	20

5	**Remote & Network Access Protection, Certification services, High Availability, Backup-Recovery** VPN protocols and Authentication , Network policy server , Remote Access Accounting , NAP with DHCP , certificate authority , configuring and monitoring CS , CA health , LUN , VDS , Storage manager for SANs , multipath I/O , DNS round robin and Load Balancing , cluster tools , shadow copies of shared folders , webadmin tools , remote backup of system , System center data protection manager	14
Practical content		
Text Books		
1	Windows Server Administration By Ian McLean and Orin Thomas-Microsoft Press Publisher	
Reference Books		
1		

Note:

Version 1.0.0.0 (First Digit= New syllabus/Revision in Full Syllabus, Second Digit=Revision in Teaching Scheme, Third Digit=Revision in Exam Scheme, Forth Digit= Content Revision)

L=Lecture, TU=Tutorial, P= Practical/Lab., TW= Term work, DT= Direct Teaching, Lab.= Laboratory work

CE= Continuous Evaluation, SEE= Semester End Examination

GANPAT UNIVERSITY

FACULTY OF COMPUTER APPLICATION

Programme	BACHLOR OF SCIENCE IN INFORMATION TECHNOLOGY (INFRASTRUCTURE MANAGEMENT SERVICES) – BSC-IT (IMS)	Branch/Spec.	Department of Computer Science
Semester	II	Version	1.0.0.0
Effective from Academic Year	2017-18	Effective for the batch Admitted in	JAN-2018
Subject code	U42B7IP1	Subject Name	Industrial Project - I

Teaching scheme						Examination scheme (Marks)			
(Per week)	Lecture(DT)		Practical(Lab.)		Total		CE	SEE	Total
	L	TU	P	TW					
Credit	-	-	4		4	Theory	-	-	-
Hours	-		8		8	Practical	40	60	100

Pre-requisites:

Basic Knowledge of system analysis and design and database technology and also core technology the networking like Microsoft Server, Linux, Unix.

Learning Outcome:

Will be able to or manage network of any small and large organization

Theory syllabus

Unit	Content	Hrs
1		
2		
3		
4		

Practical content

Text Books

1	-

Reference Books

1	
2	
	Note for Examiner Project Dissertation
	Paper Structure Project Dissertation include Presentation and Report.