

SCHEME OF EXAMINATION
FOR MASTER OF COMPUTER APPLICATIONS (MCA)

(Applicable w.e.f. Academic Session 2015-16)

Semester – I					
Paper No.	Title of the Paper	Duration Of Exam	Maximum Marks		Total
			Theory	Sessional*	
MCA-101	Soft Skills and Personality Development	3 Hours	80	20	100
MCA-102	Programming with C	3 Hours	80	20	100
MCA-103	Software Engineering	3 Hours	80	20	100
MCA-104	Computer Organization	3 Hours	80	20	100
MCA-105	Web Technologies	3 Hours	80	20	100
MCA-106	Software Laboratory - I C (Based on MCA-102)	3 Hours			100
MCA-107	Software Laboratory – II (Based on MCA-105)	3 Hours			100
MCA-108	Seminar				20
Total					720

Semester – II					
Paper No.	Title of the Paper	Duration Of Exam	Maximum Marks		Total
			Theory	Sessional*	
MCA-201	Object Oriented Programming Using C ++	3 Hours	80	20	100
MCA-202	Data Structures using C	3 Hours	80	20	100
MCA-203	Discrete Mathematical Structures	3 Hours	80	20	100
MCA-204	Organizational Behavior	3 Hours	80	20	100
MCA-205	Computer Networks And Data Communication	3 Hours	80	20	100
MCA-206	Software Laboratory - III C++ Language (Based on MCA-201)	3 Hours			100
MCA-207	Software Laboratory - IV C (Based on MCA-202)	3 Hours			100
MCA-208	Seminar				20
Total					720

[Signature]
25/2/15

[Signature]
25/2/15

[Signature]
25/2/15

[Signature]
25/2/15

MCA-101 SOFT SKILLS AND PERSONALITY DEVELOPMENT

Maximum marks: 100

Time: 3 hours

External: 80

Internal: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (objective type/short-answer type questions) covering the entire syllabus and will carry 24 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 14 marks.

Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

Unit I

Communication : Introduction, Need for Communication, Process of Communication - Written and Verbal Communication, Visual communication, Signs, Signals and Symbols, Silence as a Mode of Communication - Inter-cultural, Intra-cultural, Cross-cultural and International communication - Communications skills, Communication through Questionnaires, Business Letter Writing, Electronic Communication

Unit II

Presentations, Letters within the Organizations, Letters from Top Management, Circulars and Memos - Business Presentations to Customers and other stakeholders, Presenting a Positive Image through Verbal and Non-verbal Cues, Preparing and Delivering the Presentations, Use of Audio-visual Aids - Report Writing- Types of reports, Essentials of good report writing, steps in report writing, Synopsis writing, Preparing a resume.

Unit III

Barriers to Communication: Strategies to overcome the barriers; Reading skills; Listening skills; Improving Communication Skills. Preparation of Promotional Material. Non-verbal communication -Body language - Postures and gestures. Emotional IQ.

Unit IV

Personality Development : Skills; conceptual, supervisory, technical, managerial and decision making skills. Problem Solving, Lateral Thinking, Self Awareness and Self Esteem.

Leadership Skills: Working individually and in a team. Interpersonal skills – Conversation, Feedback, Feed forward. Intrapersonal skills – Delegation, Humor, Trust, Expectations, Values, Status, Compatibility and their role in building team . Work Conflict Management – Types of conflicts, how to cope with them .

R
25/2/15

Myan
25/2/15

Adarsh
25/2/15

Adarsh
25/2/2015

Adarsh
25/2/15

Adarsh
25/2/15

Adarsh
25/2/15

MCA-102 PROGRAMMING WITH C

Maximum marks: 100

Time: 3 hours

External: 80

Internal: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (objective type/short-answer type questions) covering the entire syllabus and will carry 24 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 14 marks.

Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT – I

Overview of C: Structure & Memory Layout of C Program; Elements of C, Data types; Storage classes in C: auto, extern, register and static storage class; Header files: Using pre-defined and user-defined header files, Operators: Arithmetic, relational, logical, bitwise, unary, assignment and conditional operators, side effects, precedence & associativity of operators.

UNIT – II

Input/output: Unformatted & formatted I/O function in C.

Control statements: Sequencing, Selection: if statement, switch statement; Repetition: for, while, and do-while loop; break, continue, goto statements.

Functions: Definition, prototype, parameters passing techniques, recursion, built-in functions.

UNIT – III

Arrays: Definition, types, initialization, processing an array, passing arrays to functions, returning arrays from functions, String handling.

Pointers: Declaration, operations on pointers, pointers and arrays, dynamic memory allocation, pointers and functions, pointers and strings.

UNIT – IV

Structure & Union: Definition, processing, Structure and pointers, passing structures to functions, use of union.

Data files: Opening and closing a file, I/O operations on files, Error handling during I/O operation, Random access to files. Preprocessor commands and Macro definitions.

Text Books:

1. Forouzan Behrouz, "Computer Science: A Structured Programming Approach Using C", Cengage Learning.
2. Balagurusamy E., "Programming in ANSI C", Tata McGraw-Hill.

Reference Books:

1. Gottfried, Byron S., "Programming with C", Tata McGraw Hill.
2. Jeri R. Hanly & Elliot P. Koffman, "Problem Solving and Program Design in C", Pearson Education.
3. Yashwant Kanetker, "Let us C", BPB Publications.
4. Rajaraman, V., "Computer Programming in C", Prentice Hall of India Learning.

Handwritten signature
25/2/2015

Handwritten signature
25/2/15

Handwritten signature
25/2/15

Handwritten signature
25/2/15

MCA-103 SOFTWARE ENGINEERING

Maximum marks: 100

Time: 3 hours

External: 80

Internal: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (objective type/short-answer type questions) covering the entire syllabus and will carry 24 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 14 marks.

Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT – I

Introduction: Software Crisis-problem and causes, Software Processes, Software life cycle models: Waterfall, Prototype, Evolutionary and Spiral models, Overview of Quality Standards like ISO 9001, SEI-CMM, CMMI, PCMM, Six Sigma.

Software Metrics: Size Metrics like LOC, Token Count, Function Count, Design Metrics, Data Structure Metrics, Information Flow Metrics, cyclomatic complexity, Halstead Complexity measures.

UNIT – II

Software Project Planning: Cost estimation, static, Single and multivariate models, COCOMO model, Putnam Resource Allocation Model, Risk management, project scheduling, personnel planning, team structure, Software configuration management, quality assurance, project monitoring.

Software Requirement Analysis and Specifications: Structured Analysis, Data Flow Diagrams, Data Dictionaries, Entity-Relationship diagrams, Software Requirement and Specifications, Behavioral and non-behavioral requirements.

UNIT – III

Software Design: Design fundamentals, problem partitioning and abstraction, design methodology, Cohesion & Coupling, Function Oriented Design and User Interface Design.

Coding: Programming style, structured programming.

Software reliability: Metric and specification, Musa and JM reliability model, fault avoidance and tolerance, exception handling, defensive programming.

UNIT – IV

Software Testing: Functional testing: Boundary Value Analysis, Equivalence class testing, Cause effect graphing, Structural testing: Control flow based and data flow based testing, loop testing, mutation testing, load, stress and performance testing, software testing strategies: unit testing, integration testing, System testing, Alpha and Beta testing, debugging.

Static Testing: Formal Technical Reviews, Walk Through, Code Inspection.

Software Maintenance: Types of Maintenance, Maintenance Process, Maintenance characteristics, Reverse Engineering, Software Re-engineering.

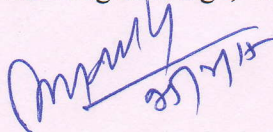
Text Books:

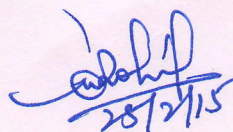
- 1.Pressman R. S. , “Software Engineering – A practitioner’s approach”, Tata McGraw Hill.
- 2.Sommerville, “Software Engineering”, Pearson Education.

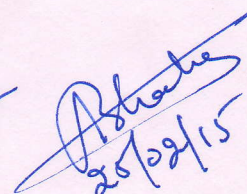
Reference Books:

- 1.Pfleeger, “Software Engineering: Theory and Practice”, Pearson Education.
- 2.P. Jalote, “An Integrated approach to Software Engineering”, Narosa Publications.
- 3.R. Fairley, “Software Engineering Concepts”, Tata McGraw Hill.
- 4.James Peter, W Pedrycz, “Software Engineering”, Wiley India Pvt. Ltd.


25/2/15


25/2/15


25/2/15


25/2/15

MCA-104 COMPUTER ORGANIZATION

Maximum marks: 100

Time: 3 hours

External: 80

Internal: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (objective type/short-answer type questions) covering the entire syllabus and will carry 24 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 14 marks.

Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT-I

Information Representation: Number systems, BCD codes, Character codes – ASCII, EBCDIC, Unicode, Error Detecting and Correcting codes, Fixed-point and Floating-point representation of numbers. Binary arithmetic, Booths multiplication.

Binary Logic: Boolean algebra, Boolean functions, truth tables, canonical and standard forms, simplification of Boolean functions- K-maps and Quine McCluskey procedures, Digital logic gates.

UNIT-II

Combinational Logic: Design procedure, Adders, Subtractors, Code Conversion, Analysis procedure, Multilevel NAND & NOR Circuits, XOR & XNOR functions Encoders, Decoders, BCD-to-Seven segment decoder. Multiplexers, Demultiplexers and Comparators, Binary Parallel Adder, BCD Adder

UNIT-III

Sequential Logic: Flip-flops, Shift registers and Counters.

Memory Organization: Hierarchical memory system, associative memory, cache memory - associative, direct and set associative mappings, replacing & writing data in cache, cache performance.

UNIT-IV

CPU Organization: Processor organization, Machine instructions, instruction cycles, instruction formats and addressing modes, microprogramming concepts, and micro program sequencer.

I/O Organization: I/O interface, Interrupt structure, transfer of information between CPU/memory and I/O devices, and IOPs.

Text Books:

1. Mano, M. Morris Digital Logic and Computer Design, Prentice Hall of India Pvt. Ltd.
2. Rajaraman, V., Radhakrishnan, T., An Introduction To Digital Computer Design, Prentice Hall of India Pvt. Ltd.

Reference Books:

1. Hayes, J.P., Computer Architecture and Organization, McGraw Hill
2. Tanebaum A.S., Structured Computer Organization, Prentice Hall of India Pvt. Ltd.
3. Stallings W., Computer Organization and Architecture, Prentice Hall of India Pvt. Ltd.

[Handwritten signatures and dates in blue ink, including dates like 25/2/15 and 27/7/15]

MCA-105 WEB TECHNOLOGIES

Maximum marks: 100

Time: 3 hours

External: 80

Internal: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (objective type/short-answer type questions) covering the entire syllabus and will carry 24 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 14 marks.

Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting one question from each Unit.

UNIT – I

Introduction to Web Engineering: Categories and Characteristics of Web Applications, Web Applications Vs Conventional Software, Need for an Engineering Approach.

Web Essentials: The Internet, Basic Internet Protocols, WWW, HTTP (Structure of Request and Response Messages), Web Browser and its functions, URL, Web Servers and their features, Defining Virtual Hosts, Secure Servers.

UNIT – II

MarkUp Languages: Introduction to HTML, Characteristics, XHTML Syntax and Semantics, Fundamental HTML Elements, Lists, Tables, Frames, Forms, XHTML Abstract Syntax, Creating HTML Pages.

Cascading Style Sheets: Features, Core Syntax, Types, Style Sheets and HTML, Style Rule Cascading and Inheritance, Text Properties, CSS Box Model, Normal Flow Box Layout, Positioning and other useful Style Properties.

UNIT – III

Client-Side Programming: Introduction to JavaScript, Perspective, Basic Syntax, Variables and Data types, Statements, Operators, Literals, Functions, Objects, Arrays, Built-in Objects, Debuggers.

Server-Side Programming: Servlet Architecture, Generating Dynamic Content, Servlet Life Cycle, Sessions, Cookies, URL Rewriting, Servlet Capabilities, Servlets and Concurrency.

UNIT – IV

XML: Relation between XML, HTML, SGML, Goals of XML, Structure and Syntax of XML, Well Formed XML, DTD and its Structure, Namespaces and Data Typing in XML, Transforming XML Documents, XPATH, Template based Transformations, Linking with XML, Displaying XML documents in Browsers.

Text Books:

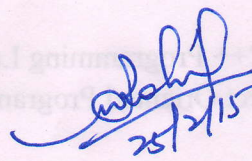
1. Andrew King, "Website Optimization", Shroff Publishers, India.
2. Achyut Godbole, "Web Technologies", Tata McGraw Hill, India.

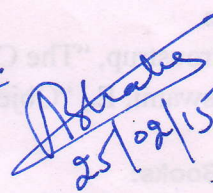
Reference Books:

1. Jeffrey C. Jackson, "Web Technologies", Pearson Education, India.
2. Thomas Powell, "The Complete Reference HTML", Tata McGraw Hill, India.
3. William Pardi, "XML in Action", IT Professional, New York, USA.


25/2/15


25/2/15


25/2/15


25/02/15

MCA-201 OBJECT ORIENTED PROGRAMMING USING C ++

Maximum marks: 100

Time: 3 hours

External: 80

Internal: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (objective type/short-answer type questions) covering the entire syllabus and will carry 24 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 14 marks. Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting One question from each Unit.

UNIT - I

Introduction: Object-Oriented features of C++, Comparison of C with C++, Class and Objects, Inline functions, Static data members and member functions, Read-Only objects, Pointers, Dynamic memory allocation and deallocation, constructors and destructors, Dynamic objects, array of pointers to object, local and global class, nested and empty class, preprocessor directives, Header files and namespaces. Console I/O: Hierarchy of console stream classes, unformatted and formatted I/O operations, Manipulators.

UNIT - II

Compile-time Polymorphism: Operator Overloading-overloading unary and binary arithmetic and relational operators, overloading subscript, insertion, extraction, new and delete operators; function overloading

Friend Function and Friend Class: Friend function, overloading operators by friend function, friend class
Type Conversion: Basic type conversion, conversion between Objects and Basic Types, conversion between objects of different classes.

UNIT - III

Inheritance: Base and Derived Classes, Protected Members, Casting Base-Class Pointers to Derived- Class Pointers, Using Member Functions, Overriding Base-Class Members in a Derived Class, Public, Protected and Private Inheritance, Using Constructors and Destructors in derived Classes, ImplicitDerived-Class Object To Base-Class Object Conversion, Composition Vs. Inheritance.

Virtual Functions & Derivations: Virtual functions and their needs, Pure virtual function, virtual destructor, virtual derivation, abstract class.

UNIT - IV

Generic Programming: Function Templates, Overloading Template Functions, Class Template, Class Templates and Non-Type Parameters.

Exception Handling: Try, Throw, Catch, Throwing an Exception, Catching an Exception, Re-throwing an Exception.

File Handling: Hierarchy of File Stream classes, Opening and Closing files, File modes, testing for errors, File pointers and their manipulations, ASCII & Binary files, Sequential and Random access files.

Text Books:

1. Bjarne Stroustrup, "The C++ Programming Language", Pearson Education.
2. Balaguruswami, E., "Object Oriented Programming In C++", Tata McGraw-Hill.

Reference Books:

1. Herbert Schildt, "C++: The Complete Reference", Tata McGraw-Hill.
2. Joyce Farrel., "Object Oriented Programming Using C++", Cengage Learning.
3. Forouzan, Gilberg, "Computer Science: A Structured Programming Approach Using C++", Cengage Learning.
4. Robert Lafore, "Object Oriented Programming in C++", Techmedia SAMS.
5. Bhave M.P., Patekar S.A., "Object Oriented Programming with C++", Pearson Education.

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]

[Handwritten signature]
25/02/15

MCA-202 DATA STRUCTURES USING C

Maximum marks: 100

Time: 3 hours

External: 80

Internal: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (objective type/short-answer type questions) covering the entire syllabus and will carry 24 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 14 marks.

Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting One question from each Unit.

UNIT – I

Introduction to Data Structures: Classification of Data Structures, Complexity of Algorithms, Asymptotic Notations, Abstract Data Types, Arrays, Representation of Arrays in memory, Operations on Array, Strings, Pointers, Sparse Matrices, Applications.

UNIT – II

Stacks & Queues: Representation of Stacks, Stack Operations, Applications, Queues, Operations on Queues, Circular Queues, Dequeue, Priority Queues, Applications.

Linked Lists: Introduction, Types, Operations (Insertion, Deletion, Traversal, Searching, Sorting), Applications, Dynamic Memory Management, Implementation of Linked Representations.

UNIT – III

Trees: Definition and Basic Terminologies, Representation of Trees, Binary Trees, Types of Tree, Representation of Binary Trees, Binary Tree Traversals, Threaded Binary Trees, Binary Search Trees and Operations, Minimum Spanning Tree, AVL Trees, Heap, m-way Search Trees, B-Trees, B+ Trees, Applications.

Advanced Trees: Introduction to 2-3 Tree, Red-black Tree, Splay Trees.

UNIT – IV

Graphs: Definitions and Basic Terminologies, Representation of Graphs, Graph Traversals, Shortest Path Problem, Applications.

Sorting and Searching: Recursive Binary Search, Types of Sorting, Implementation of Different Sorting Techniques: Selection Sort, Insertion Sort, Merge Sort, Radix Sort.

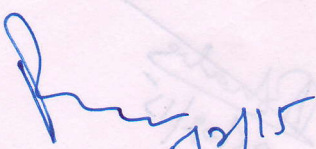
Hashing & Collision handling.

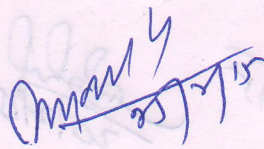
Text Books:

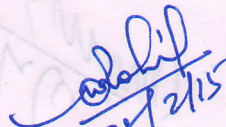
- 1.G.A.V Pai, "Data Structures and Algorithms", Tata McGraw-Hill, New Delhi.
- 2.Drozdek, "Data Structure and Algorithms in C++", Cengage Learning.

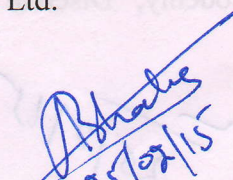
Reference Books:

- 1.Trembley, J.P. And Sorenson P.G., "An Introduction to Data Structures With Applications", Tata McGraw- Hill.
- 2.Seymour Lipschutz, "Data Structures", Tata McGraw-Hill, Schaum's Outlines, New Delhi.
- 3.Weiss, "Data Structures and Algorithm Analysis in C++", Pearson Education.
- 4.Goodrich, "Data Structures & Algorithms in C++", Wiley India Pvt. Ltd.


25/2/15


25/2/15


25/2/15


25/2/15

MCA-203 DISCRETE MATHEMATICAL STRUCTURES

Maximum marks: 100

Time: 3 hours

External: 80

Internal: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (objective type/short-answer type questions) covering the entire syllabus and will carry 24 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 14 marks.

Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting One question from each Unit.

UNIT – I

Set Theory: Basic Set Theory, Operations on Sets, Algebra of sets, Venn Diagrams.

Relations: Binary Relations, Complement of relations, Inverse of relations, Composite relations, Properties, Equivalence, Partial Order and Total order relations.

Functions: Functions on Set, Domain, Co-domain, Representation of Functions, Types, Identity and Inverse Functions, Composition of Functions, Applications

UNIT –II

Propositional Calculus: Propositional logic, Equivalences, Predicates , Quantifiers, Nested Quantifiers, Rules of Inference, Normal Forms, Proofs: Methods, Strategy.

Counting: Pigeonhole Principle, Inclusion-Exclusion Principle, Permutations and Combinations, Binomial Coefficients, Counting Principles, Applications.

UNIT –III

Advanced Counting Techniques: Recurrence Relations, Solving Recurrence Relations, Divide and Conquer Algorithms and Recurrence Relations, Solution of Recurrence Relations by the method of Generating Function..

Lattices and boolean algebra: Lattices, Hasse Diagram, Principle of Duality, Types of Lattices, Special Lattices, Boolean Expression, Equivalent circuits, Dual, Normal Forms.

UNIT –IV

Graphs: Introduction, Terminology, Types of Graphs, Representation of Graphs, Paths and Circuits, Cut-set and Cut - Vertices, Graph Isomorphism, Homomorphism, Connectivity, Bipartite Graphs, Subgraphs, Operations on Graphs, Euler and Hamiltonian Paths, Shortest Path Problem, Planar & Dual Graphs, Coloring Covering and Partitioning.

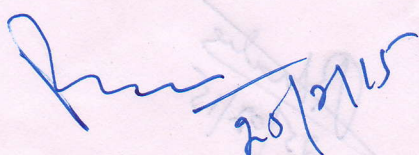
Tree: Tree Notations, Properties of tree, Types of Tree, Minimum Spanning Tree (MST).

Text Books:


- 1.Kenneth G. Rosen, "Discrete Mathematics And Its Applications", Tata McGraw Hill.
- 2.Koshy T., "Discrete Mathematics with Applications", Elsevier India.

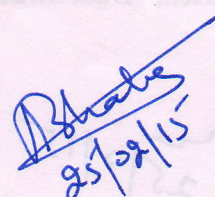
Reference Books:

- 1.Eric Gossett, "Discrete Mathematics with proof", Wiley India Pvt. Ltd.
- 2.Seymour Lipshutz, "Schaum Outlines of Discrete Mathematics", Tata McGraw-Hill.
- 3.Olympia Nicodemy, "Discrete Mathematics", CBS Publisher


25/02/15


25/02/15


25/02/15


25/02/15

MCA-204 ORGANISATIONAL BEHAVIOUR

Maximum marks: 100

Time: 3 hours

External: 80

Internal: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (objective type/short-answer type questions) covering the entire syllabus and will carry 24 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 14 marks.

Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting One question from each Unit.

UNIT - I

Introduction to OB: Origin, Nature and Scope of Organisational Behaviour, Relevance to Organisational Effectiveness and Contemporary Issues.

Personality: Meaning and Determinants of Personality Process of Personality Formation Personality Types Assessment of Personality Traits for Increasing Self Awareness.

UNIT- II

Perception, Attitude and Value Perceptual Processes, Effect of perception on Individual Decision-Making, Attitude and Behaviour. Effect of perception on Work Performance.

Motivation Concepts: Motives Theories of Motivation and their Applications for Behavioural Change.

UNIT- III

Group Behaviour and Group Dynamics: Work groups formal and informal groups and stages of group development. Concepts of Group Dynamics, group conflicts and group decision making. Team Effectiveness: High performing teams, Team Roles, cross functional and self directed teams

Organisational Design: Structure, size, technology Environment of organisation; Organizational Roles: - Concept of roles; role dynamics; role conflicts and stress. Organisational conflicts

UNIT- IV

Leadership: Concepts and skills of leadership Leadership and managerial roles, Leadership styles and effectiveness, Contemporary issues in leadership. Power and Politics: sources and Uses of power; politics at workplace, Tactics and strategies.

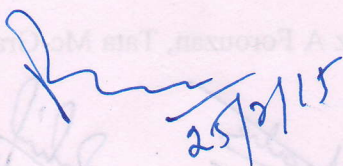
Organisation Development: Organisational Change and Culture Environment, Organisational culture and climate Contemporary issues relating to business situations Process of change and Organizational Development

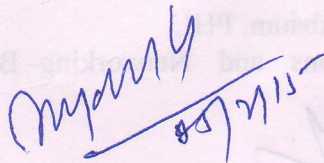
Text Books:

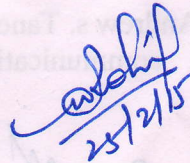
1. Organizational Behavior – L. M. Prasad (Sultan Chand)

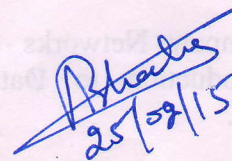
Reference Books:

1. Understanding Organizational Behavior – Udai Pareek
2. Organizational Behavior – Stephen Robbins
3. Organizational Behavior – Fred Luthans


25/09/15


25/09/15


25/09/15


25/09/15

MCA-205 COMPUTER NETWORKS AND DATA COMMUNICATION

Maximum marks: 100

Time: 3 hours

External: 80

Internal: 20

Note: Examiner will be required to set NINE questions in all. Question Number 1 will consist of total 8 parts (objective type/short-answer type questions) covering the entire syllabus and will carry 24 marks. In addition to the compulsory question there will be four units i.e. Unit-I to Unit-IV. Examiner will set two questions from each Unit of the syllabus and each question will carry 14 marks.

Student will be required to attempt FIVE questions in all. Question Number 1 will be compulsory. In addition to compulsory question, student will have to attempt four more questions selecting One question from each Unit.

UNIT-I

Introduction to Computer Networks and its uses, Network categorization and Hardware: Broadcast and point-to-point networks, Local Area Networks (LAN), Metropolitan Area Networks (MAN), Wide Area Networks (WAN), Internetworks, Topologies, Wireless networks, Network Software: Protocols, Services, network architecture, design issues, OSI Reference model, TCP/IP Reference model, Comparison of OSI and TCP/IP Models. Introduction to Example Networks: Internet, Connection-Oriented Networks – X.25, Frame Relay, ATM.

UNIT-II

Data Communication Model, Digital and Analog data and signals, bit rate, baud, bandwidth, Nyquist bit rate, Guided Transmission Media – Twisted Pair, Coaxial cable, Optical fibre; wireless transmission – Radio waves, microwaves, infrared waves; Satellite communication.

Switching: Circuit Switching, Packet Switching; Multiplexing: Frequency Division Multiplexing, Time Division Multiplexing, Synchronous and Asynchronous TDM, Modems, Transmission Impairments, Manchester and Differential Manchester encoding, ADSL Versus Cable.

UNIT-III

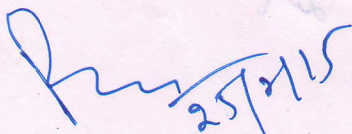
Data Link Layer Design issues: Framing, error control, Flow Control, Error Detection and correction; Elementary Data Link Protocols, Sliding Window Protocols; Medium Access Control: Aloha, CSMA protocols, Collision free protocols, Limited Contention Protocols; Wavelength division Multiple access protocol, Wireless LAN Protocol: MACA; IEEE 802.3 Ethernet, IEEE 802.4 Token Bus; IEEE 802.5 Token ring, Binary Exponential Backoff algorithm, Digital Cellular, Radio: Global System for Mobile Communication (GSM), Code Division Multiple Access(CDMA), Fiber Distributed Data Interface, Distributed Queue Dual Bus (DQDB).

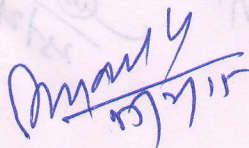
UNIT-IV

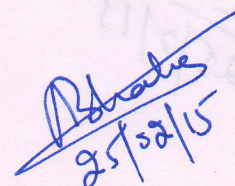
Network Layer, Design issues , Virtual Circuit and Datagram Subnet, Routing Algorithms, Optimality principle, Shortest path Routing, Flooding , Distance Vector Routing, Link State Routing, Hierarchical Routing, Broadcast and Multi Cast Routing, Routing for Mobile hosts, Routing in Adhoc Networks,, congestion Control Algorithms, General Principals Traffic Shaping, Leaky bucket token bucket, choke packets, Load Shedding.

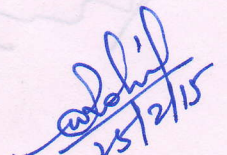
Text Books

- (1) Computer Networks - Andrew s. Tanenbaum, PHI.
- (2) Introduction to Data communications and Networking- Behrouz A Forouzan, Tata Mc-Graw Hill.


25/2/15


25/2/15


25/2/15


25/2/15