SYLLABUS FOR COMPUTER OPERATOR (MIMER)
EXAMINATION UNDER HEALTH & FAMILY WELFARE
DEPARTMENT-2018

GENERAL ENGLISH

(Full Marks : 100)

(a) Essay Writing (Conventional)................................................................. 20 Marks
(b) Idioms & Phrases (Objective Type).......................................................... 16 Marks
(c) Comprehension of given passages (Objective Type)........................... 16 Marks
(d) Grammar (Objective Type) ................................................................. 16 Marks
   Parts of Speech : Nouns, Adjective, Verb, Adverb, Preposition, etc.
(e) Composition (Objective Type).............................................................. 16 Marks
   i) Analysis of complex and compound sentences
   ii) Transformation of sentences
   iii) Synthesis of sentences
(f) Correct usage and vocabularies (Objective Type) ................................ 16 Marks

TECHNICAL PAPER – I (150 MARKS)

Unit – I  Fundamentals of Computer ....................................................... 64 Marks
Unit – II Operating Systems ................................................................. 24 Marks
Unit – III Word Processing ................................................................. 24 Marks
Unit – IV Electronic Spreadsheet ......................................................... 24 Marks
Unit – V Presentation Software ........................................................... 14 Marks

TECHNICAL PAPER – II (150 MARKS)

Unit – I  Computer Networking .............................................................. 16 Marks
Unit – II Database Management System ................................................ 50 Marks
Unit – III Web Development using HTML ............................................. 50 Marks
Unit – IV Business Communication skills .......................................... 14 Marks
Unit – V Aptitude Test ............................................................................ 20 Marks
UNIT-I FUNDAMENTALS OF COMPUTER (64 Marks)

1. INTRODUCTION

2. BASIC COMPUTER ORGANIZATION
Input Unit, Output Unit, Storage Unit, Arithmetic Logic Unit, Control Unit, Central Processing Unit, The System Concept.

3. PROCESSOR AND MEMORY
Central Processing Unit (Control Unit, Arithmetic Logic Unit, Instruction Set, Registers, Processor Speed, Types of Processors), Main Memory (Storage Evaluation Criteria, Main Memory Organization, Main Memory Capacity, Types of Memory Chips, Cache Memory).

4. SECONDARY STORAGE DEVICES
Sequential and Direct-Access Devices, Magnetic Tapes, Magnetic Disks, Optical Disks, Memory Storage Devices - Flash Memory ; Flash Drive/Pen Drive & Memory Card, Data Backup, On-line, Near-line, and Off-line Storage, Hierarchical Storage System (HSS), Flash Memory.

5. INPUT-OUTPUT DEVICES

6. COMPUTER SOFTWARE

7. COMPUTER LANGUAGES
Machine Language, Assembly Language, High-Level Language, Object-Oriented Languages, Some High-Level Languages (FORTRAN, COBOL, BASIC, PASCAL, C and C++), Some More High-Level Languages (Java, C#, RPG, LISP, SNOBOL), Characteristics of a Good Programming Language, Selecting a Language for Coding an Application, Subprogram.

8. CLASSIFICATION OF COMPUTERS
Notebook Computers (Laptops), Personal Computers (PCs), Workstations, Mainframe Systems, Supercomputers, Client and Server Computers, Handheld Computers (Tablet PC, PDA/Pocket PC, Smartphone)
9. INFORMATION TECHNOLOGY AND SOCIETY

UNIT-II OPERATING SYSTEMS (24 Marks)

1. INTRODUCTION
What is an Operating System, Main Functions of an Operating System.

2. MICROSOFT WINDOWS
An Overview of Different Versions of Windows, Main Features of Windows Operating System.

3. BASIC ELEMENTS OF OPENING SCREEN OF WINDOWS
The Desktop, Icons and their Types, The Taskbar, Elements of a Window.

4. FILE MANAGEMENT IN WINDOWS
File, Folder, Folder Tree, Selecting Files and Folders, Creating Files and Folders, Naming and Renaming Files and Folders.

5. WINDOWS START MENU
All Programs, My Recent Documents, Control Panel, Printers and Faxes, Help and Support, Search, Run, Log Off, Turn off Computer.

6. WINDOWS SHORTCUTS
Creating a Shortcut, Renaming a Shortcut, Deleting a Shortcut.

7. ESSENTIALS WINDOWS ACCESSORIES

8. COMMAND PROMPT AND MS-DOS COMMANDS
The DIR Command, MD, RD, REN, ATTRIB, TREE, PATH.

UNIT-III WORD PROCESSING (24 Marks)

1. An Introduction
Introduction, The Word Screen, Creating documents, Editing documents, Printing documents, Quitting documents

2. Formatting a Document
Text style, Changing the font type and size, Alignment of text, Formatting paragraphs with line of paragraphs with line of paragraph spacing, Adding headers, footers and page numbers
3. Using AutoCorrect
   Introduction to AutoCorrect, Using AutoCorrect

4. Proofing a Document with Spell and Grammer Check
   Spell and grammer check the entire document, Readability statistics, Using the thesaurus, Using word count

5. Finding and Replacing Text
   Replacing occurrences of text, Finding and replacing formatting

6. Improving the Look of a Document
   Adding borders and shading, Bullets and numbering, page setting, Format painter, Inserting symbols, Using superscript and subscript

7. Inserting Graphics
   Inserting a graphic, Inserting WordArt

8. Inserting Table
   Understanding tables, Table AutoFormat

9. Mail Merge
   The basic concept of merging documents, Working with master documents, Merging documents

UNIT-IV   ELECTRONIC SPREADSHEET  (24 Marks)

1. Introduction to Spreadsheets
   Getting Started, The worksheet, saving the worksheet, closing a worksheet, exiting Excel

2. Using Formulas in Excel
   Opening a worksheet, entering formula, copying formula, some more calculations using formula, concept of worksheets and workbook

3. Understanding Cell Referencing in Excel
   Relative referencing, Absolute referencing, Mixed referencing

4. Editing a Worksheet, Formatting and Printing a Worksheet
   Formatting a worksheet, printing a worksheet

5. Use of Simple Statistical Functions
   Statistical functions, Adjusting the worksheet size, Conditional function

6. What-if Analaysis and Data Tables in Excel
   What-if analysis, Data tables, Creating a one-variable data table, Creating a two-variable data table

7. Working with Graphs and Charts
   Creating charts using ChartWizard, Sizing and moving charts, Updating charts, changing the chart type, previewing and printing charts
UNIT-V   PRESENTATION SOFTWARE   (14 Marks)

Introduction to Powerpoint
An introduction to presentation graphics, Basic elements of a slide, Different types of slide
layouts, Getting stated, Creating a presentation

Different Views of a Presentation
Opening an existing presentation, Switching views

Editing a Presentation
Adding slides, Deleting slides, Rearranging slides, Changing the presentation design,
Changing slide layouts, Printing a presentation

Adding Special Effects in a presentation
Inserting pictures from files, Animating slides, Adding sound effects, Setting slide timings,
Rehearse timings, Grouping and ungrouping pictures
PAPER-II (Full Mark – 150)

UNIT-I COMPUTER NETWORKING (16 Marks)

1. NETWORKING FUNDAMENTALS
   What is Computer Networking (Advantages of Networking, Types of Networks),
   Client/Server Method of Connecting Computers, Peer to Peer Computer Network (How
   Peer-to-Peer Network Works, Comparison of Client/Server Architecture with Peer-to-Peer
   Architecture), Local Area Network (LAN), Baseband vs Broadband, Media Access
   Control, LAN Hardware, LAN Operating Systems, Transmission Media (Twisted Pair,
   Coaxial Cables), Implementing LAN, Fast LANs, Nonstandard LANs, Extending LAN
   (Fiber Optic Extension, Repeaters, Bridges, Routers, Gateways, Wi-Fi Router, Hubs,
   Switches, Switching Hub), Virtual LANs, Metropolitan Area Network (MAN), Wide Area
   Network (WAN), Using WAN and Network Services, Network Management, Network
   Elements, IP Address, Network Interface Cards, Cabling Concepts, Transmission Media,
   Guided Media, Unguided Media, Fiber Optics Communication, Transmission Modes,
   Network Topologies, Logical Types of Topology, Wireless LAN, Open System Inter
   Connection (OSI), Network Architectures, Protocol, Layering the Communication Process,
   Open System Inter Connection (OSI) Model, TCP/IP Protocol (Internet Protocol (IPv4),
   Services provided by TCP), MAC Address (MM-MM-MM-SS-SS-SS), Subnetting (How
does Subnetting Work).

2. NETWORK ADMINISTRATION
   Introduction to Windows NT, Introduction to Windows 2000, Windows 2003 and XP
   2000/XP System as a Client to Windows 2000/2003/XP Network (Verifying Network
   Configuration, Joining a Domain, Configuring Windows 2000/2003 Professional
   Workstations, Connecting Windows 9x and Windows ME Workstations), Creating of User
   and Groups, Rights Assigned to Built-in Groups, File Sharing (Sharing Permissions, Creating
   Shares, Hidden Shares, Administrative Shares), Windows 2000/2003/XP Policies, Printer
   Sharing (Setting Printer Permissions).

UNIT-II DATABASE MANAGEMENT SYSTEM (50 Marks)

1. AN OVERVIEW OF THE DATABASE MANAGEMENT SYSTEM
   What is Database, Why Database, Characteristics of Data in Database (Field, Record, File,
   Database, Key Field), Database System, Database Management System (DBMS), Types of
   DBMS (Hierarchical DBMS, Network DBMS, Relational DBMS, Object Oriented DataBase,
   Distributed DBMS), Advantages of DBMS.

2. AN ARCHITECTURE OF THE DATABASE SYSTEM
   Three Levels of Architecture, Database Models, Mapping, Database Design, Role of DBA
   (Database Administrator), E-R Model, Components of E-R Model, Symbols of E-R Model,
   Superclass and Subclass Types, Attribute Inheritance, Generalization, Specialization,
   Aggregation, Categorization, Three Approaches of DBMS.

3. RELATIONAL DATABASE MANAGEMENT SYSTEM (RDBMS)
   Introduction, RDBMS Terminologies, Relational Data Integrity, Relational Model, Base

Computer Operator Syllabus
Tables, Relational Data Manipulation, Codd’s Rules, Keys.

4. DATABASE APPLICATION USING MICROSOFT ACCESS
USING ACCESS (Basic Concepts, Components of a Database, Concept of Database Management System, An Introduction to Access, What can Access Do?, Getting Started with Access, Creating a Database using Wizard, Opening an Existing Database, Using Table Wizard to Create a Table), ADVANCE ACCESS FEATURES (Opening a Table, Opening a Table in Datasheet View, Opening a Table in Design View, The Field Grid Pane, The Field Properties Pane, Input Mask, Creating a Caption, Default Value, Data Validation, Required, Allow Zero Length, Indexed), QUERIES, REPORTS AND FORMS (Opening a Table, Queries – Asking Database a Question, Displaying Data Using Reports, Entering Data using Forms)

UNIT-III WEB DEVELOPMENT USING HTML (50 Marks)

1. WEB PUBLISHING AND BROWSING

2. HTML PROGRAMMING BASICS
Introduction, Head Element, Block Oriented Elements, Lists, Inline Elements, Visual Markup, HTML Links, Creating Tables, Table Attributes, Frames, <FRAMESET> Tag, <FRAME> Tag, IMAGES, Multimedia, Music and Sound for Multimedia, Virtual Reality on the Internet, VRML (Virtual Reality Modeling Language), Authoring Tools For Graphic.

3. INTERACTIVITY TOOLS
ASP (Active Server Page), VB Script, JavaScript and Java, Microsoft FrontPage, Flash.

UNIT-IV BUSINESS COMMUNICATION SKILLS (14 Marks)

OFFICE CORRESPONDENCE
Receipt and Dispatch of Mail, Noting on the Files, Filing Systems, Classification of Mail, Role & Function of Correspondence, Types of Correspondence.

LETTER WRITING

RESUME WRITING

INTERVIEW PREPARATION
What is an Interview? Preparing for an Interview, Interview Questions, General Questions, How to nail the behavioural interview, Situational Questions, Asking the Interviewer
Questions, Dressing for the Interview, How to Nail the Telephone Interview, Top 10 Job Interview Blunders, How to Answer Illegal Interview Questions, Following Up From the Interview.

UNIT-V APTITUDE TEST

1. Numerical and Figure work Test
These tests are reflections of fluency with numbers and calculations. It shows how easily a person can think with numbers. The subject will be given a series of numbers. His /Her task is to see how the numbers go together to form a relationship with each other. He /She has to choose a number which would go next in the series.

2. Verbal Analysis and Vocabulary Tests
These tests measure the degree of comfort and fluency with the English language. These tests will measure how a person will reason with words. The subject will be given questions with alternative answers that will reflect his /her command of the rule and use of English language

3. Visual and Spatial / #-D Ability Tests
These tests are used to measure perceptual speed and acuity. The subject will be shown pictures where he/she is asked to identify the odd one out; or which comes next in the sequence or explores how easily he/she can see and turn around objects in space

4. Abstract and Reasoning Test
This test measures the ability to analyze information and solve problems on a complex, thought based level. It measures a person’s ability to quickly identify patterns, logical rules and trends in new data, integrate this information, and apply it to solve problems