

**DETAILED SYLLABUS FOR THE POST OF PROGRAMMER CUM OPERATOR IN KERALA STATE CO-OPERATIVE COIR MARKETING FEDERATION LIMITED-DIRECT RECRUITMENT (Cat.No:058/2022)**

<b><u>Module NO</u></b>	<b><u>TOPICS</u></b>	<b><u>MARKS</u></b>
<b>1</b>	<p><b><u>Computer Organization</u></b>            Basic Structure of computers, Boolean algebra and logic gates, methods of minimization of logic functions, Processing unit, I/O organization, Standard I/O interfaces, Memory system, Software Installation, components and peripherals - hardware and software faults.</p>	<b>8</b>
<b>2</b>	<p><b><u>C &amp; C++ programming languages</u></b>            Introduction to C Programming - Overview and Importance of C, C Program Structure, Sample programs. Elements of C Language and Program Constructs: Character Set, C Tokens, Keywords and Identifier, Constants, Variables, Data types, Variable Declaration and Assignment of Values, C operators, flow control and decision making statements, looping statements, Arrays and Strings, Functions, structures and unions, pointers</p> <p><b><u>OOP Concepts</u></b>            Principles of Object-oriented Programming: Object-Oriented Programming Paradigm, Basic Concepts of Object Oriented Programming, Benefits of OOPs, Essentials of OOP (Objects, Class, Encapsulation, Data Abstraction, Inheritance, Reusability, Polymorphism, Delegation, Message Communication), Structure of C++ Program, C++ Basics - Preprocessors, comments, Data types, Operators, Expressions, Identifiers, Key words, Symbolic constants, Variable declaration And</p>	<b>10</b>

	dynamic initialization, C++ statements, Control structures, Arrays and String handling, Specifying a Class, Defining Member Functions& its scope.	
<b>3</b>	<p><b><u>OFFICE AUTOMATION</u></b></p> <p><u>Introduction to MS-Office</u> Introduction to MS -WORD Introduction to Word Processing, Introduction to MS Word: features, Creating, Saving and Opening documents in Word, Interface, Toolbars, Ruler, Different Menus, Keyboard Shortcut. Editing a Document. Opening Multi document Windows, Editing Text - Selecting, Inserting, deleting, moving text, Previewing, Documents, Printing documents. Formatting Documents: Paragraph formats, Aligning Text and Paragraph, Borders and Shading, Headers and Footers, Multiple Columns.</p> <p><u>Introduction to MS-Excel</u> Worksheet basics- Creating worksheet, Definition of cell, columns and rows. Saving &amp; protecting worksheet. Opening and moving around in an existing Worksheet. Toolbars and Menus-Functions, keyboard shortcuts. Cell Formatting, changing alignment, character styles, column width, date format, Borders &amp; colors. Working with formulas &amp; cell referencing. Functions. Previewing &amp; Printing worksheet - Page setting, Print titles, Adjusting Margins, Page break, headers and footers.</p> <p><u>Introduction to MS-PowerPoint</u> Purpose of PowerPoint. Working with different views and menus of power Point. Working with slides - Make new slide, move, copy, delete, duplicate, Designing and lay outing of slide. Editing and formatting text, Printing ,Presentation - Print slides, notes, handouts</p>	<b>16</b>

	and outlines. Inserting Objects - Drawing and inserting objects using Clip Art's pictures and charts. Adding Graphics, multimedia and special effects. Custom Animation - slide transition Effects and other animation effects.	
<b>4</b>	<b><u>Data structures and algorithms:</u></b> Asymptotic notations, analysis of time complexity. Stack, queue, linked list, binary tree, AVL tree, binary heap. Graph data structure - DFS, BFS, minimum spanning tree algorithms. Searching and sorting algorithms. Algorithm design techniques - divide and conquer, greedy strategy, dynamic programming.	<b>10</b>
<b>5</b>	<b><u>Database Management Systems:</u></b> Data models, ER diagram, DDL, DML, SQL, trigger, views, functional dependency, normal forms, transactions, concurrency, RDBMS, OODBMS.	<b>8</b>
<b>6</b>	<b><u>Data communication &amp; computer networks</u></b> Computer networks, types of networks, topology, ISO/OSI reference model, TCP/IP model, network protocols, Communication model - Simplex, Half duplex, Full duplex transmission, Guided Transmission Media - Twisted pair, Coaxial cable, Optical fiber. Unguided media , -manchester encoding - ASK, FSK, PSK - Quadrature Amplitude Modulation - transmission media - multiplexing domain name service, wireless LAN, Bluetooth.	<b>10</b>
<b>7</b>	<b><u>Visual Basic.Net</u></b> Introduction to .NET- .NET Framework features ,architecture, CLR, Introduction to Visual studio,	<b>10</b>

	<p>Project basics, types of project in . Net, IDE of VB.NET-MenuBar, Toolbar, Solution Explorer, Toolbox, Properties Window, Form Designer, Output Window, Object Browser. Visual development &amp; event driven Programming -Methods and events.</p> <p>The VB.NET Language- Variables -Declaring variables, Data Type of Variables, Forcing variables declarations, Scope &amp; lifetime of a variable,Constants, Arrays, types of array, control array, Collections, Subroutines,Functions, Passing variable, Number of Argument, Optional Argument,Returning value from function. Control flow statements: conditional statement,Loop statement. GUI programming with Windows Forms, MsgBox &amp; Inputbox,TextBox, Label, Button, Listbox, Combobox, Checkbox, Radio button etc</p>	
<p><b>8</b></p>	<p><b><u>Software Engineering</u></b></p> <p>Software process models , Process Framework Models. Phases in Software development- requirement analysis,.Planning phase , Design phase, Testing, Software testing strategies, Software quality assurance, Process improvement.</p>	<p><b>8</b></p>
<p><b>9</b></p>	<p><b><u>Java Programming</u></b></p> <p>Introduction to Java: History, Versioning, The Java Virtual Machine, Byte code, Writing simple java program, Language Components: Primitive Data Types, Comments, Keywords, literals, The break Statement, The continue Statement, Operators - Casts and Conversions, Arrays. Introduction to classes and methods, constructors, Passing Objects to Methods, Method Overloading, Static and final, The this Reference, finalize, inner and nested classes.</p>	<p><b>10</b></p>

	Inheriting class, extends, member access and inheritance, super keyword, Object class. Dynamic method dispatch, method overriding, abstract class, interface, packages, import statement, threads, exception handling in Java	
<b>10</b>	<p><b><u>Web designing concepts &amp; Javascript</u></b></p> <p><u>HTML</u>  Concepts Of Hypertext, Versions of HTML, Elements of HTML, Syntax, Head &amp; Body Sections, Building HTML Documents. Inserting Texts, Images, Hyperlinks, Backgrounds And Color Controls, Different HTML Tags, Table Layout and Presentation, Use of Font Size &amp; Attributes, List Types and Its Tags, Use of Frames and Forms in Web Pages.</p> <p><u>JavaScript</u>  JavaScript Overview, syntax &amp; conventions. Variables, Expressions, Branching &amp; Looping statements, Functions, Arrays Objects, Events &amp; Document Object Model</p>	<b>10</b>

**NOTE: - It may be noted that apart from the topics detailed above, questions from other topics prescribed for the educational qualification of the post may also appear in the question paper. There is no undertaking that all the topics above may be covered in the question paper**