

**MAHARASHTRA STATE BOARD OF VOCATIONAL EDUCATION EXAMINATION,
MUMBAI - 51**

1	Name of Course	CERTIFICATE COURSE IN COMPUTER SOFTWARE (101204) (w.e.f. 2018-19)																																															
2	Max. Nos. of Student	25 Students																																															
3	Duration	1 Year																																															
4	Type	Part Time																																															
5	Nos. of Days / Week	6 Days																																															
6	Nos. of Hours /Days	7 Hrs																																															
7	Space Required	Theory Class Room – 200 sqft Practical – 600 sqft																																															
8	Entry Qualification	S.S.C. Passed																																															
9	Objective Of Syllabus/ introduction	To develop professional competency in the use of computers and related hardware equipment. Also to develop the programming skills and DTP techniques. To train the students to acquire skills and mastery in the use and development of different softwares. To prepare for self and wage employment.																																															
10	Employment Opportunity	(a) Wage Employment: Junior Programmer Computer operator Computer Instructor Software marketing personal Computerized Accounts Assistant (b) Self Employment: DTP operator. Internet and E-mail center maintenance Maintaining and establishment of small networks																																															
11	Teacher’s Qualification	Degree / Diploma in Computer Science & Engg.																																															
12	Training System	<table><tr><th colspan="3">Training System Per Week</th></tr><tr><td>Theory</td><td>Practical</td><td>Total</td></tr><tr><td>6 Hours</td><td>18 Hours</td><td>24 Hours</td></tr></table>						Training System Per Week			Theory	Practical	Total	6 Hours	18 Hours	24 Hours																																	
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13	Exam. System	<table><tr><th>Sr. No.</th><th>Paper Code</th><th>Name of Subject</th><th>TH/PR</th><th>Hours</th><th>Max. Marks</th><th>Min. Marks</th></tr><tr><td>1</td><td>10120411</td><td>Computer Fundamentals, P. C. Software Tools & RDBMS</td><td>TH-I</td><td>3 hrs</td><td>100</td><td>35</td></tr><tr><td>2</td><td>10120412</td><td>Computer Networking & Data communications</td><td>TH-II</td><td>3 hrs</td><td>100</td><td>35</td></tr><tr><td>3</td><td>10120421</td><td>Computer Fundamentals, P. C. Software Tools & RDBMS</td><td>PR-I</td><td>6 hrs</td><td>200</td><td>100</td></tr><tr><td>4</td><td>10120422</td><td>Computer Networking & Data communications</td><td>PR-II</td><td>6 hrs</td><td>200</td><td>100</td></tr><tr><td></td><td></td><td>Total</td><td></td><td></td><td>600</td><td>270</td></tr></table>						Sr. No.	Paper Code	Name of Subject	TH/PR	Hours	Max. Marks	Min. Marks	1	10120411	Computer Fundamentals, P. C. Software Tools & RDBMS	TH-I	3 hrs	100	35	2	10120412	Computer Networking & Data communications	TH-II	3 hrs	100	35	3	10120421	Computer Fundamentals, P. C. Software Tools & RDBMS	PR-I	6 hrs	200	100	4	10120422	Computer Networking & Data communications	PR-II	6 hrs	200	100			Total			600	270
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SYLLABUS :- COMPUTER SOFTWARE

Computer Fundamentals, P. C. Software Tools & RDBMS
THEORY & PRACTICAL - I

PART - A

Sr. No.	Topic
1.	Introduction to Computer systems and Overview of Operating Systems <ul style="list-style-type: none">* Introduction to Computers, generations of computer* Classification of Computers based on Purpose, Operation & Size* Anatomy of Computers* Number Systems* Basic I/O Devices* Block Diagram of CPU* Memory units- Primary and Auxiliary memory* Operating Systems* Programming Languages, general software features and trends.* DOS and Working with DOS Commands* Configuring DOS and Batch files* Windows Operating System
2.	MS-Word <ul style="list-style-type: none">* Introduction to Word Processing* Editing a Document* Move and Copy Text and Help System* Formatting Text and Paragraph* Finding and Replacing Text and Spell Checking* Using Tabs* Enhancing Document* Columns, Tables and Other Features* Using Graphics, Templates and Wizards* Using Mail Merge* Miscellaneous features of Word
3.	MS-Excel <ul style="list-style-type: none">* Introduction to Spreadsheet* Creating Worksheets & feeding data* Using functions* Editing Cells and Using commands and functions* Moving and Copying, Inserting and Deleting Rows and Columns* Formatting a Worksheet* Opening, Saving and Printing a Worksheet* Working with Charts* Working with Macros

4.	MS-PowerPoint * Creating Presentations using AutoContent Wizard, Template & Blank Presentation * Working with Master's Slide, Title handout and Notes * Viewing a Presentation * Drawing Objects & Inserting OLE * Drawing freeform shapes * Rotating Objects
5.	MS-Access * Creating Database * Creating Tables, Forms and Queries

PART - B

Sr. No.	Topic
1.	Concept of DBMS : Purpose of Data Base Systems – Data abstraction –Data models –Instances, Schemes-Data Independence –Data Integrity –DDL, DML. DCL –Data Base Manager –Data Base Administrator.
2.	Entity and relationship : Entity and Entity sets – Attributes – Relationship and Relationship sets – Mapping constraints – E-R representation symbols – Drawing E-R diagrams – Reducing E-R diagrams into tables.
3.	Relational Data Model : Structure - formal query languages – commercial query languages – CODD rules – Network data model:- Basic structure - DSD's - DBTG Codasyl Model-Hierarchical data model: Basic structure – tree structured diagrams.
4.	Concept of SQL : Making the objects and parts – Literals: texts, integers, Number, Data Types, character type, long data type, date data type, RAW data type, long RAW data type, rowid, Null, Pseudo columns Unary and binary operators, arithmetic operators, logical operators and functions SQL commands, DDL commands, DML commands, DCL commands, and some simple queries.
5.	Software Development and Life cycle : Definition of system, analysis and design - Study of software life cycle – requirement analysis , design , development, testing, implementation and maintenance.

Books:

1. Data Base Management Systems — Korth and Sudershan
2. Data Base Management — C.J. Date
3. Software Engineering — Roger Pressman

Computer Networking & Data communications
THEORY & PRACTICAL – II

PART - A

Sr. No.	Topic
1.	Introduction to Computer Networking <ul style="list-style-type: none">• Introduction to Computer Networks• Client Server Model• Types of Networks
2.	Transmission Media * Introduction to transmission media, Characteristics of Transmission media, Cable media, Wireless media and the merits and demerits
3.	Network connectivity devices: *OSI Model in detail. Explanation of different layers with its functions. * Various Network connectivity devices: Gateways, Hub, Bridges, Switches, Routers, Repeaters, Multiplexers, Modem etc.
4.	TCP/IP Fundamentals * Introduction to TCP/IP (internet) protocol * Purpose of layers in TCP/IP Model * Network Classes * DHCP * DNS (Domain Name System) * IP Address and Subnet mask

PART - B

Sr. No.	Topic
1.	Data communications: Definition – Types of communication – Band width – Communication channels- modes of transmission – multiplexing
2.	Network topologies: Definition – Types of Networks (Private, LAN, WAN, MAN, Value Added) – Network topologies(Bus, Ring, Star, Mesh and Hybrid)
3.	LAN Components : * Work station * File Server * Gateways * NIC(Lan Cables, Lan Cards, Ethernet cards, etc) * Hubs/ Switches
4.	Communication Hardware: Adopters - Multiplexers – Modems - V-SAT - ATMS
5.	Network Environment & Web Applications: UNIX WIN-NT Messaging - E-Mail – FTP - Gopher - Telnet – Web Browsers - Internet Explorer - Netscape Navigator - Mosaic

List of Tools, Machinery, Equipments etc. (Course Code – 101204)

Sr. No.	Name Of Item	Quantity (Nos.)
1	Intel core 2 duo or higher processor, 2 GB RAM, Intel Motherboard, 500 GB Hard Disk, 17" Monitor, Keyboard, Mouse, DVD Combo Drive or latest configuration	08+01 (1 Computer for Teacher)
2	Server	01
3	24 port unmanaged switch	02
4	LAPTOP	01
5	LCD Projector	01
6	MODEM	01
7	Dot matrix printer	01
8	Inkjet printer	01
9	Laser printer	01
10	Scanner	01
11	UPS 5 KVA	01
12	MS SQL latest version	01
13	Linux operating system	01
14	MS Office latest version	01
15	Antivirus latest version	As required
16	ISDN/Broad Band Internet Connection	01
17	Speaker	01
18	Computer Table	09
19	Chair	26

Reference Books :

1. Fundamentals of Information Technology — Galgotia Publications
2. Computer Networks — A.Tenenbaum
3. NetWork Concepts — BPB Publications
