

SYLLABI

FOR

STANDARDS XII

(For the Higher Secondary Certificate Examination)

H. S. C. VOCATIONAL SUBJECTS

(Volume I)

COMPUTER TECHNOLOGY GROUP



**Maharashtra State Board of Secondary and Higher Secondary Education,
Pune – 411004**

SYLLABI

FOR

STANDARDS XI AND XII

(For the Higher Secondary Certificate Examination)

**(To be implemented in Standards XII for the
academic year 2016-2017 respectively)**

H. S. C. VOCATIONAL SUBJECTS
(Volume I)

TECHNOLOGY GROUP
AND



As sanctioned under Government of Maharashtra School Education and Sports Department.
Letter No.

H. S. C. Competency Vocational Subjects

STANDARDS XI AND XII

SCHEME OF TEACHING

Sr. No.	Subjects	Periods per week		Total
		Theory	Practical	
1.	English	5	--	5
2.	A Modern Indian Language Or A Modern Foreign Language Or A Classical Language	5	--	5
3.	Environmental Education	2	--	2
4.	General Foundation Course	5	--	5
	VOCATIONAL SUBJECT For subjects under - Engineering and Technology Group And Commerce Group			
5.	Paper I Web Page Designing (X4)	4	8	12
6.	Paper II Database System (X5)	4	8	12
7.	Paper III Multimedia and Animation (X6)	4	8	12
	Total	29	24	53

Std. – XII

Sr. No	Title of the Paper	Theory		Practical		Project	Student	Oral	Total
		Marks	Time (Hours)	Marks	Time (Hours)	Report	Activity		Marks
1	Entrepreneurship Development	60	2 $\frac{1}{2}$	-	-	20	10	10	100
		60	-	-	-	20	10	10	100

Note:

20 marks are allotted for Project Work (One Project Reports should be prepared by every student.)

10 marks are allotted for Student Activity (Every student should maintain a file)

10 marks are allotted for oral.

Std. XII
Paper: Entrepreneurship Development
Theory

Sr. No	Unit	Sub Unit	Periods	Students Activity
01	Entrepreneurial Career	1.1 Need & scope for self employment 1.2 Types of business in different trading sectors 1.3 Importance of skill 1.4 Qualities of good entrepreneur 1.5 Dynamics of entrepreneurship 1.6 Entrepreneurial competencies 1.7 Entrepreneurial goal setting	10	Collect any two success stories of:- entrepreneur/business icons and present it in class room
02	Market Assessment	2.1 Meaning 2.2 Understanding consumer and consumer behavior 2.3 Need and importance of market assessment	12	Conduct actual market survey of any one product

		2.4 Techniques of market assessment 2.5 Market & market segments 2.6 Concept of publicity and advertisement		
03	Project Selection	3.1 Meaning of Project 3.2 Product identification 3.3 Classification of project 3.4 Selection of project 3.5 SWOT Analysis	12	Make SWOT analysis of minimum one project
04	Resource Mobilization	4.1 Meaning of resource and resource mobilization 4.2 Various resources 4.3 Network analysis 4.4 Role of various schemes and institutions for self employment	10	Collect information from various organizations, institutions for self employment schemes i.e. I) DIC II) MCED III) MSSIDC IV) KVICV) MITCON
05	Project Formulation	5.1 Need for project report 5.2 Elements of project report 5.3 Determining project size 5.4 Selection of place and machineries 5.5 Determining labour and raw materials	20	Prepare a project report on any one project.

		<p>5.6 Estimation of project cost</p> <p>5.7 Break Even Analysis and Profitability.</p> <p>5.8 Time schedule, project monitoring and review techniques. (Network Analysis)</p> <p>5.9 Requirements of banks and financial institutions</p> <p>5.10 Project Appraisal</p>		
06	Initiation of Project	<p>6.1 Procedure for setting of an enterprises as per local requirement</p> <p>6.2 Registration and legal formalities of firm</p> <p>6.3 Investment procedure</p> <p>6.4 Identification of Financial Agencies and bank</p>	09	<p>Identify five licensing authorities business/industry and list out the various license, collect format</p> <p>OR</p> <p>Prepare a dummy loan proposal for business/industry/shop</p>
07	Operation Management	<p>7.1 Concept of Purchasing and Planning materials</p> <p>7.2 Techniques of material storage analysis</p> <p>a) ABC b) EOQ</p> <p>7.3 Issue and Accounting of Stores & Materials</p> <p>7.4 Flow and control of material</p> <p>7.5 Quality Control and Operation of materials</p>	09	<p>Prepare a report based on issue of material of cottage/small industry/business house.</p>
08	Financial Management	<p>8.1 Book-keeping and Accounting</p> <p>8.2 Principles of double entry book-keeping</p>	18	<p>Prepare formats of the following</p> <p>a) Journal</p>
		<p>8.3 Understanding financial statement</p> <p>8.4 Compilation of final accounts</p> <p>8.5 Cost concept</p> <p>8.6 Budgetary control</p>		<p>b) Ledger</p> <p>c) Trading Account</p> <p>d) Profit and Loss Account</p> <p>e) Balance Sheet</p>
09	Marketing Management	<p>9.1 Meaning and concept of Marketing Management</p> <p>9.2 Functions of marketing</p> <p>9.3 Channels of distribution</p> <p>9.4 Salesmanship</p>	08	<p>Prepare a layout of an advertisement of any product (Print Media)</p>
10	Industrial Relations and Personnel Management	<p>10.1 Methods and process of recruitment</p> <p>10.2 Wages and incentives</p> <p>10.3 Training & appraisal</p> <p>10.4 Employer and employee relations</p>	06	<p>Prepare an application form with detail bio-data for the post of salesman/clerk/supervisor/technician/skilled worker</p>
11	Transportation	<p>11.1 Meaning and importance of transport</p> <p>11.2 Means of transport</p> <p>11.3 Advantages and disadvantages of transport</p>	06	<p>Prepare a chart of means of transportation and commodities to be transported.</p>

Std. XII

Paper	Title of the Paper	Theory		Practical		Term work	Project work	I.V.*	OJT**	Total Marks
		Marks	Time (Hrs)	Marks	Time (Hrs)					
1	Web Page Designing	80	3	80	3	10	10	10	10	200
2	Database System	80	3	80	3	10	10	10	10	200
3	Multimedia and Animation	80	3	80	3	10	10	10	10	200

* IV = Industrial Visits

** OJT = On Job Training

Std. XII
Paper I: Web Page Designing (X4)
Theory

No.	Unit	Sub Unit	Periods
1.	HTML	1.1 Introduction of HTML 1.2 HTML Basic Tags and Attributes 1.3 Hyperlinks 1.4 Physical Style Tags 1.5 Images 1.6 Tables and Lists 1.7 Multimedia Objects	20
2.	Advanced HTML	2.1 Frames 2.2 Forms	30

		2.3 Image Mapping 2.4 Embedding Multimedia 2.5 Applets 2.6 Web Server 2.7 Browsers 2.8 CSS- Cascading Style Sheet	
3.	Macromedia Dreamweaver	3.1 Introduction to Dreamweaver 3.2 Exploring the basic interface 3.3 Formatting 3.4 Using Property Inspector 3.5 Using Object Panel 3.6 Working with Web Page files	30

		3.7 Creating Hyperlink, Tables and frames	
4.	Introduction to JavaScript	4.1 Limitation of plain HTML 4.2 Difference between Java and JavaScript 4.3 Variables and Operators 4.4 Selection and Iteration 4.5 HTML Program using JavaScript	40
		4.6 JavaScript Programs	
		Total	120

Practical

Sr. No.	Unit	Sub Unit	Periods
1.	HTML	1. Study of HTML tags 2. Creating A simple Web page and saving the same 3. Use of various text formatting options Heading and paragraph with alignment 4. Physical style, font type, color and size,	80
		bold, italic, underline, superscript and subscript 5. List ordered, unordered and nested, paragraph indenting 6. Insertion of hyperlink and book mark, hyperlink properties 7. Image insertion formatting and image properties 8. Creation of tables with various border formatting 9. Page property setting title, background sound etc.	
2.	Advanced HTML	10. Header, footers, page no, selection break 11. Creation of HTML forms and related objects 12. Frames and working with frames	60

		13. Design a web page using CSS 14. Use of buttons, labels, text box	
3.	Macromedia Dreamweaver	15. Study of Dreamweaver environment 16. Creating a simple website using text, graphics, sound	40
4.	Introduction to JavaScript	17. Use of control structures 18. Write a program to display message on the screen using JAVA script 19. Mathematical calculation using JAVA 20. Program using control structure and looping structure	60
		Total	240

Paper II: Database System (X5) Theory

Sr. No.	Unit	Sub Unit	Periods
1.	Database Concepts	1.1 Introduction to database 1.2 Database Components 1.3 Differences between database and spreadsheet 1.4 Database Management System	20
2.	Introduction to RDBMS	2.1 Introduction of DBMS and RDBMS	35

		2.2 Shortcoming 2.3 Benefits of Database 2.4 The Database Management System 2.5 The Database Administrator 2.6 Database Users	
3.	Introduction to	3.1 Introduction	

	MS-ACCESS	3.2 Database Terminologies 3.3 Data Types in Ms-Access 3.4 Rules for Field Name 3.5 Creating a simple database 3.6 Viewing and Editing Data 3.7 Relationships 3.8 Utilities in Access 3.9 Querying Database 3.10 Report in Access	35
4.	Database in Network Environment	4.1 Operating system 4.2 Client Server application 4.3 ODBC DSN 4.4 Introduction to SQL	30
		Total	120

Note:

After completion of HSC vocational course (Computer Technology) most of the students do not continue their education they are interested in job or self employment. So that they must know these professional software during the course.

Practical

Sr. No.	Unit	Sub Unit	Periods
1.	Database concept	1. Create a database to store records of students performance in std. XI	60

		2. Create an appropriate form to fill data into a database in practical 1 3. Write an appropriate query to display records of database in practical 1 in various order	
2.	Introduction to	4. Copy one table form a database to	

	RDBMS	another database with/ without data	40
3.	Introduction to MS-Access	5. Import different file of different formats into an Access database 6. Export an Access database to different files of different format 7. Create a multiplex database with tables representing carrier records of cricketers. Use relationship to access identity in both tables (Separate tables for batting, bowling, fielding) 8. Study of compact feature on a sample database and comparison with the original 9. Application of password and encryption to a database	80
4.	Database in Network Environment	10. Create and ODBC DSN for Access database to use the same over a network	60
		Total	240

Paper III: Multimedia and Animation (X6) Theory

Sr. No.	Unit	Sub Unit	Periods
1.	Multimedia Objects	1.1 Image Formats 1.2 Audio formats 1.3 Video Formats	10
2.	Presentation Techniques	2.1 Creation of presentation 2.2 Animation for presentation	10

		2.3 Animation techniques.	
3.	Macromedia FLASH	3.1 Introduction 3.2 Basic functions 3.3 Creating objects	30

		3.4 Editing objects 3.5 Frames and layers 3.6 Bitmaps and sound 3.7 Animation	
4.	Macromedia Director	4.1 Introduction 4.2 Cast 4.3 Working with Cast 4.4 Files and their types 4.5 Shortcuts, menus and toolbar 4.6 Director scripting 4.7 Working with message 4.8 Stage and score 4.9 Scripts 4.10 Creating interactivity 4.11 Editing media 4.12 Creating movies	30
5.	2D & 3D animation	5.1 Definition 5.2 Basic Animation 5.3 Introduction	

		5.4 Drawing 5.5 Coloring 5.6 Color schemes 5.7 Texturing	40
		Total	120

Practical

Sr. No.	Unit	Sub Unit	Periods
1.	Multimedia Objects	1. Demonstration of Image, Audio, Video formats 2. Conversion of Image, Audio, Video format	10
2.	Presentation Techniques	3. Presentation with sound effect 4. Presentation with video clips 5. Study of selection of appropriate format of a file (Graphics, sound, animation for web application) 6. Simple project on multimedia presentation	20
3.	Macromedia Flash	7. Study of layers in flash 8. Study of time line in flash 9. Study of transition / background in flash 10. Simple presentation using flash 11. Study of Flash plug-ins	60
4.	Macromedia Director	12. Study of Director Environment 13. Study of cast and a score 14. Design a web page embedding Audio and Video effect	60
5.	2D &3D animation	15. Demonstration of various basic tools used in 2D &3D animation 16. Drawing lines, 2D &3D shapes, object drawing, cartoon drawing 17. Simple animation with GIF animator 18. Coloring - color wheel, primary,	90

		secondary and tertiary colors	
		19. Texturing – visual and feel textures	
		20. Creation of movie clip as a mini project	
		Total	240

REFERENCE BOOKS

Book Name	Author	Publisher
Fundamentals of Microprocessors and Micro Computers	B. RAM	Dhanpat Rai Publications
Microprocessor Architecture, Programming and Applications with	Ramesh S. Gaonkar	Penram International

the 8085		Publishing
Networking	Steve Rackley	DreamTech Press
Networking A Beginners guide	Bruce A. Hallberg	Tata McGraw Hill Edition
Operating Systems	J. Archer Harris	Schaum's Outlines
Internet an Introduction	Manish Dixit	Tata McGraw Hill Series
Multimedia Technology and Applications	David Hillman Ashok Banerji Anand Mohan Ghosh	Galgotia Publications Tata McGraw Hill
Multimedia Making it Work	Tay Vaughan	Tata McGraw Hill
Web Publishing	Monica D 'souza Jude D'souza	Tata McGraw Hill Publishing company Ltd
Web Page Design	Brian Austin	DreamTech Press
Working in Microsoft Office	Ron Mansfield	C-DAC-Tata McGraw Hill series

CorelDraw in easy steps	Stepen Copestake	DreamTech Press
CorelDraw in Simple steps	Kogent Solutions Inc.	DreamTech Press
Photoshop [for Windows and Mac] in easy steps	Robert Shufflebotham	DreamTech Press
Dreamweaver	Nick Vandome	DreamTech Press
Flash	Nick Vandome	DreamTech Press
Data Structures	Seymour Lipschutz	Schaum's Outlines Series
Concepts of Database Management	Philip J. Pratt Joseph J. Adamski	Vikas Publishing House
Tally 9	A.K.Nadhani,	BPB Publishing

	K.K.Nadhani	Company
Tally 9 in simple steps	Kogent Solutions INC	DreamTech
JavaScript in 24 hours	Michael Moncur	Techmedia