The Kelkar Education Trust's

V G Vaze College of Arts, Science and Commerce

(Autonomous)

Syllabus for T.Y.B.COM

(June 2020 Onwards)

Program: B.Com

Semester 5

Course: Computer Systems and Applications Paper - I

Course Code	Paper Title	Credit
	Computer Systems and Applications Paper - I	03

1. Syllabus as per **Choice Based Credit System**

i) Name of the Programme	:	T.Y.B.COM
ii) Course Code	:	
iii) Course Title	:	**Semester 5**
		Computer Systems and Applications
iv) Semester wise Course Contents	:	Copy of the syllabus Enclosed
v) References and additional references	:	Enclosed in the Syllabus
vi) Credit structure	:	
No. of Credits per Semester	:	03
vii) No. of lectures(Unit I+ Unit II+ Unit III)	:	18 + 18 + 09
viii) No. of lectures per week	:	03
ix) No. of Praticals per week	:	01 (One Practical =3 Lectures)
2 Scheme of Examination	:	**Semester End Exam:60 marks** (4 Questions of 15 marks) **Internal Assessment: 40 marks** Test 15 marks, Project/ Assignment 15 marks, Class Participation 10 marks
3 Special notes, if any	:	No
4 Eligibility, if any	:	As laid down in the College Admission brochure / website
5 Fee Structure	:	As per College Fee Structure specifications
6 Special Ordinances / Resolutions, if any	:	No

Programme: TYBCOM **Semester: 5**

Course : Mathematical and Statistical Techniques-I **Course Code : CM1MST**

Teaching Scheme (Hrs/Week)				Continuous Internal Assessment (CIA) 40 marks					Semester End Examination	Total
L	**T**	**P**	**C**	**CIA-1**	**CIA-2**	**CIA-3**	**CIA-4**	**Lab**	**Written**	
03	-	01	-	15	15	10		-	60	100
Max. Time, End Semester Exam (Theory) -2Hrs.										

Modules at a Glance

Sr.No.	Unit/ Modules	No. of Lectures
1	Data Communication, Networking and Internet	18
2	Database and MySQL	18
3	Spread Sheet	09
	Total	**45**

Unit No.	Modules/ Unit	No. of Lectures
Unit-I	**Data Communication, Networking and Internet** **a)** Data Communication Component, Data representation, Distributed processing. (Concepts only) **b) Network Basics and Infrastructure** • Definition, Types (LAN, MAN, WAN) Advantages. • Network Structures – Server Based, Client server, Peer to Peer. • Topologies – Star, Bus, Ring. • Network Media, Wired – Twisted Pair, Co-axial, Fiber Optic and Wireless – Radio and Infrared. • Network Hardware: Hubs, Bridges, Switches, Routers.	18

	• Network Protocols – TCP/IP, OSI Model. **c) Internet** • Definition, Types of connections, sharing internet connection, Hot Spots. • Services on net- WWW, Email-Blogs. • IP addresses, Domain names, URLs, Hyperlinks, Web Browsers • Searching Directories, Search engines, Boolean search (AND, OR, NOT), Advanced search, Meta Search Engines. • Email – POP/SMTP accounts in Email, Different parts of an Email address. Receiving and sending emails with attachments by scanning attachments for viruses. • Cyber Crime, Hacking, Sniffing, Spoofing.	
Unit-II	**Database and MySQL** **a) Introduction :** Introduction to Databases, Relational and Non-relational database system MySQL as a Non-procedural Language. View of data. **b) MySQL Basics :** Statements (Schema Statements, Data statements, Transaction statements), names (table & column names), data types (Char, Varchar, Text, Mediumtext, Longtext, Smallint, Bigint, Boolean, Decimal, Float, Double, Date, Date Time, Timestamp, Year, Time), Creating Database, inserting data, Updating data, Deleting data, expressions, built-in-functions – lower, upper, reverse length, Itrim, rtrim, trim, left, right, mid, concat, now, time, date, curdate, day, month, year, dayname, monthname, abs, pow, mod, round, sqrt missing data(NULL and NOT NULL DEFAULT values) CREATE,USE, ALTER (Add, Remove, Change columns), RENAME, SHOW, DESCRIBE (CREATE TABLE, COLUMNS, STATUS and DATABASES only) and DROP (TABLE, COLUMN, DATABASES statements), PRIMARY KEY FOREIGN KEY (One and more columns) Simple Validity checking using CONSTRAINTS. **c) MySQL Simple queries :** The SELECT statement (From, Where, Group By, Having, Order By, Distinct, Filtering Data by using conditions. Simple and complex conditions using logical, arithmetic and relational operators (=, !,=, <, >, < >, AND, OR, NOT, LIKE) Aggregate Functions: count, sum, avg, max, min. **d) Multi-table queries:** Simple joins (INNER JOIN), SQL considerations for multi table queries (table aliases, qualified column names, all column selections self joins). **e) Nested Queries (Only up to two levels) :** Using sub queries, sub query search conditions, sub queries & joins, nested sub queries, correlated sub queries, sub queries in the	1 8

	HAVING clause. Simple Transaction illustrating START, COMMIT, and ROLLBACK.	
Unit-III	**Spread Sheet** **a) Creating and Navigating worksheets and adding information to worksheets** • Types of data, entering different types of data such as texts, numbers, dates, functions. • Quick way to add data Auto complete, Autocorrect, Auto fill, Auto fit. Undo and Redo. • Moving data, contiguous and non contiguous selections, Selecting with keyboard. Cut-Copy, Paste. Adding and moving columns or rows. Inserting columns and rows. • Find and replace values. Spell check. • Formatting cells, Numbers, Date, Times, Font, Colors, Borders, Fills. **b) Multiple Spreadsheets** • Adding, removing, hiding and renaming worksheets. • Add headers/Footers to a Workbook. Page breaks, preview. • Creating formulas, inserting functions, cell references, Absolute, Relative (within a worksheet, other worksheets and other workbooks). **c) Functions** • Financial functions: FV, PV, PMT, PPMT, IPMT, NPER, RATE • Mathematical and statistical functions. ROUND, ROUNDDOWN, ROUNDUP, CEILING, FLOOR, INT, MAX, MIN, MOD, SQRT, ABS, SUM, COUNT, AVERAGE **d) Data Analysis** • Sorting, Subtotal. Pivot Tables- Building Pivot Tables, Pivot Table regions, Rearranging Pivot Table.	0 9

Course Learning Outcomes: This course will enable the students to:

1. Understand the basic network structures such as LAN, MAN, WAN.
2. Understand various protocols, web browsers and its uses.
3. Understand the various database structures.
4. Create database, and perform various commands related to database.
5. Understand how to use excel and its features.

Reference Books

1. "Applied Data Communications and Networks" by B Buchanan.
2. Mysql: The Complete Reference by VASWANI, McGraw Hill.
3. Computer Systems and Applications Faiyaz Gadiwala , Sheth Publication.
4. Computer Systems and Applications, Verus D'sa, Marvel Publication.

THEORY EXAMINATION PATTERN

Que.1 A)	Attempt any two sub-questions from a, b, c in Spreadsheet (True/False)	(2 Marks)
	a) Spreadsheet b) Spreadsheet c) Spreadsheet	
B)	Attempt any four sub-questions from d, e, f, g, h, i in MySQL (Multiple Choice)	(4 Marks)
	d) MySQL e) MySQL f) MySQL g) MySQL h) MySQL i) MySQL	
C)	Attempt any four sub-questions from j,k,l,m,n,o, in Data Communication, Networking and Internet (True/False)	(4 Marks)
	j) Data Communication, Networking and Internet	
	k)Data Communication, Networking and Internet	
	l) Data Communication, Networking and Internet	
	m) Data Communication, Networking and Internet	
	n) Data Communication, Networking and Internet	
	o) Data Communication, Networking and Internet	
D)	Attempt any five sub-questions from p,q,r,s,t,u,v,w in Data Communication, Networking and Internet (Multiple Choice)	(5 Marks)
	p) Data Communication, Networking and Internet	
	q) Data Communication, Networking and Internet	
	r) Data Communication, Networking and Internet	
	s) Data Communication, Networking and Internet	
	t) Data Communication, Networking and Internet	
	u) Data Communication, Networking and Internet	
	v) Data Communication, Networking and Internet	
	w) Data Communication, Networking and Internet	
Que.2)	Attempt any Three	(15 Marks)
	i) Data Communication, Networking and Internet	
	ii) Data Communication, Networking and Internet	
	iii) Data Communication, Networking and Internet	
	iv) Data Communication, Networking and Internet	
Que.3)	Attempt any Three	(15 Marks)
	i) MySQL	
	ii) MySQL	
	iii) MySQL	
	iv) MySQL	
Que.4)	Attempt any Three	(15 Marks)
	i) Spreadsheet	
	ii) Spreadsheet	
	iii) Spreadsheet	
	iv) Spreadsheet	

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(June 2020 Onwards)

Program: B.Com

Semester 6
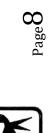
Course: Computer Systems and Applications Paper - II

Course Code	Paper Title	Credit
	Computer Systems and Applications Paper - II	**03**

2. Syllabus as per **Choice Based Credit System**

i) Name of the Programme	:	T.Y.B.COM
ii) Course Code	:	
iii) Course Title	:	**Semester 6** Computer Systems and Applications
iv) Semester wise Course Contents	:	Copy of the syllabus Enclosed
v) References and additional references	:	Enclosed in the Syllabus
vi) Credit structure	:	
No. of Credits per Semester	:	03
vii) No. of lectures (Unit I+ Unit II+ Unit III)	:	18 + 18 + 09
viii) No. of lectures per week	:	03
ix) No. of Praticals per week	:	01 (One Practical =3 Lectures)
2 Scheme of Examination	:	**Semester End Exam:60 marks** (4 Questions of 15 marks) **Internal Assessment: 40 marks** Class Test 15 marks, Practical exam 15 marks, Class Participation 10 marks
3 Special notes, if any	:	No
4 Eligibility, if any	:	As laid down in the College Admission brochure / website
5 Fee Structure	:	As per College Fee Structure specifications
6 Special Ordinances / Resolutions, if any	:	No

V G Vaze College of Arts, Science and Commerce
(Autonomous)

Programme: TYBCOM   **Semester: 6**
Course : Mathematical and Statistical Techniques-II   **Course Code :**

Teaching Scheme (Hrs/Week)				Continuous Internal Assessment (CIA) 40 marks					Semester End Examination	Total
L	**T**	**P**	**C**	**CIA-1**	**CIA-2**	**CIA-3**	**CIA-4**	**Lab**	**Written**	
03	-	01	-	15	15	10		-	60	100
Max. Time, End Semester Exam (Theory) -2Hrs.										

Modules at a Glance

Sr.No.	Modules	No. of Lectures
1	E – Commerce	18
2	Advanced Spread Sheet	18
3	Visual Basic	09
	Total	**45**

Unit No.	Modules/ Unit	No. of Lectures
Unit-I	**E – Commerce** a) Definition of E-commerce b) Features of E-commerce c) Types of E-commerce (B2C, B2B, C2C, P2P) d) Business Models in E-commerce (Advertising, Subscription, Transaction Fee, Sales Revenue, Affiliate Revenue) e) Major B2C models (Portal, Etailer, Content Provider, Transaction Broker, Market Creator, Service Provider, Community Provider). f) E-Commerce Security: Integrity, Non repudiation, Authenticity, Confidentiality, Privacy Availability. g) Encryption: Definition, Digital Signatures, SSL. h) Payment Systems: Digital Cash, Online stored value, Digital accumulating balance payment, Digital credit accounts, digital checking. i) How an Online credit card transaction works. SET protocol. j) Limitation of E-commerce. k) M-commerce (Definition and Features).	18

Unit-II	**Advanced Spread Sheet** **a) Multiple Spread sheets** • Creating and using templates, Using predefined templates, Adding protection option. • Creating and Linking Multiple Spreadsheets. • Using formulas and logical operators. • Creating and using named ranges. • Creating Formulas that use reference to cells in different worksheets. **b) Functions** • Database Functions LOOKUP, VLOOKUP, HLOOKUP • Conditional Logic functions IF, Nested IF, COUNTIF, SUMIF, AVERAGEIF, String functions LEFT, RIGHT, MID, LEN, UPPER, LOWER, PROPER, TRIM, FIXED • Date functions TODAY, NOW, DATE, TIME, DAY, MONTH, YEAR, WEEKDAY, DAYS360 • Statistical Functions COUNTA, COUNTBLANK, CORREL, LARGE, SMALL **c) Data Analysis** • Filter with customized condition. • The Graphical representation of data Column, Line, Pie and Bar charts. • Using Scenarios, creating and managing a scenario. • Using Goal Seek, Using Solver • Understanding Macros, Creating, Recording and Running Simple Macros. Editing a Macro(concept only)	**18**
Unit-III	**Visual Basic** a) Introduction to Visual Basic, Introduction Graphical User Interface (GUI). Programming Language (Procedural, Object Oriented, Event Driven), Writing VB Projects. The Visual Basic Environment b) Introduction to VB Controls Text boxes, Frames, Check boxes, Option button, Designing the User Interface, Default & Cancel property, tab order, Coding for controls using Text, Caption, Value property and Set Focus method c) Variables, Constants, and Calculations Variable and Constant, Data Type (String, Integer, Currency, Single, Double, Date), Naming rules/conventions, Constants (Named & Intrinsic), Declaring variables, Val Function, Arithmetic Operations,	**09**

	Formatting Data. d) Decision and Condition Condition, Comparing numeric variables and constants, Comparing Strings, Comparing Text Property of text box, Compound Conditions (And, Or, Not). If Statement, if then-else Statement, LCase and Ucase function, Using If statements with Option Buttons & Check Boxes. Msgbox (Message box) statement Input Validation : Is Numeric function. Sub-procedures and Sub-functions, Using common dialog box, Creating a new sub–procedure, Writing a Function procedure. Simple loops using For Next statements and Do while statement and display output using MsgBox Statement.	

Course Learning Outcomes:

This course will enable the students to:

1. Understand various types of E-commerce.
2. Plot Column, Line, Pie and Bar charts for the given data.
3. Design, formulate, and construct applications with visual basic.
4. Integrate variables and constants into calculations applying visual basic.
5. Determine logical alternatives with visual basic decision structures.
6. Implement lists and loops with visual basic controls and iteration.

Reference Books

5. "Applied Data Communications and Networks" by B Buchanan.
6. Excel Vba Programming For Dummies.
7. Computer Systems and Applications Faiyaz Gadiwala , Sheth Publication.
8. Computer Systems and Applications, Verus D'sa, Marvel Publication.

Que.1 A)	Attempt any two sub-questions from a, b, c in Spreadsheet (True/False)	(2 Marks)
	a) Spreadsheet b) Spreadsheet c) Spreadsheet	
B)	Attempt any four sub-questions from d, e, f, g, h, i in Visual Basic (Multiple Choice)	(4 Marks)
	d) Visual Basic e) Visual Basic f) Visual Basic g) Visual Basic h) Visual Basic i) Visual Basic	
C)	Attempt any four sub-questions from j,k,l,m,n,o, in E-commerce (True/False)	(4 Marks)
	j) E-commerce	
	k) E-commerce	
	l) E-commerce	
	m) E-commerce	
	n) E-commerce	
	o) E-commerce	
D)	Attempt any five sub-questions from p,q,r,s,t,u,v,w in E-commerce (Multiple Choice)	(5 Marks)
	p) E-commerce	
	q) E-commerce	
	r) E-commerce	
	s) E-commerce	
	t) E-commerce	
	u) E-commerce	
	v) E-commerce	
	w) E-commerce	
Que.2)	Attempt any Three	(15 Marks)
	i) E-commerce	
	ii) E-commerce	
	iii) E-commerce	
	iv) E-commerce	
Que.3)	Attempt any Three	(15 Marks)
	i) Spreadsheet	
	ii) Spreadsheet	
	iii) Spreadsheet	
	iv) Spreadsheet	
Que.4)	Attempt any Three	(15 Marks)
	i) Visual Basic	
	ii) Visual Basic	
	iii) Visual Basic	
	iv) Visual Basic	

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