

Mr. M Niphadkar		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
	Sem V Theory	Revision of concepts on sequences and introduction to topics in ty syllabus	Definition and examples on point wise convergence of sequences on functions	More examples	Definition and examples on Uniform convergence of sequence of functions	Theorem on boundedness and continuity	Theory on differentiability and uniform convergence	Revision of concepts and more examples	More examples	Point wise and uniform convergence in case of series of functions	Absolute convergence and Weierstrass test	Theory on uniform convergence and continuity and boundedness, R-integration and differentiaition	Theory on power series and examples	more complicated problems on power series and special functions	Illustrations on solving a differential equation by power series, Activities	Revision of entire syllabus assigned	
	Sem V Prac	Revising pre-requisites	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	Revision	
Mr. Prabhakar Kumar Upadhyay	Sem V Theory	Definition and examples of metric Space	Space of sequence and $C[a,b]$	Metric induced by norm	metric subspace and product space	Examples of open balls and open sets	interior of a set, properties of open sets	equivalent metric	distance between sets	definition and examples of closed balls and closed sets	limit point, isolated points	sequence in a metric space	Cauchy sequence	characterization of limit points in terms of sequence	Density and separability	Revision	
	SemV Pract	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	Revision	
	SemI Theory	Real numbers and their basic properties	Cauchy Schwartz and AM GM inequality	Absolute value function	intervals and neighborhood	supremum and infimum	properties of sup and inf	Archimedean property and density theorem	series of real numbers and partial sum	summability	divergent series without involving test	properties of convergent series	Geometric series	convergence test	absolute convergence	revision	
	Sem I Pract	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	revision
	Sem V Pract																
Mr. Prashant Agre	Sem I Theory	Module 3- Natural numbers and Integers : Well ordering principle. 1 is the smallest natural number. There is no natural number	First and second principle of mathematical induction.	Binomial theorem and related identities.	Pascal's law and Pascal's triangle.	Definition and elementary properties of divisibility in \mathbb{Z} . Division Algorithm	G.C.D. of two integers and its basic properties including G.C.D. of two integers 'a' and 'b' (not both zero) can be expressed as $ma + nb$.	L.C.M of two integers and its basic properties, Proof of the lemma 'If $a = bq + r$ then $\text{GCD}(a, b) = (b, r)$ '.	Euclidean Algorithm, Euclid's Lemma.	Module 4 Prime numbers and linear Diophantine equation : Prime numbers and its basic properties.	The set of primes is infinite. The set of primes of the type $4n - 1$ and $4n + 1$ is infinite.	Linear Diophantine equation $ax+by = c$	The linear Diophantine equation $ax+ by = c$ has solution iff $d c$, where $d=\text{GCD}(a,b)$	If x_0, y_0 is any particular solution then any solution of the given Diophantine equation is given by $x= x_0 + (bd)t$ and $y=y_0 - (ad)t$, for varying t.	Problems based on prime numbers	Solving simple examples on Diophantine equation	
	Sem I Pract	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	
	Sem I FYBCom tutorial	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught
	Sem III Pract Paper I	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught
	Sem III Pract Paper III	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught	practical based on the theory taught
	SemV Theory	Module I: Prime numbers and Congruence Review: Divisibility, Definition and elementary properties of	The Fundamental Theorem of Arithmetic, Number of primes are infinite,	Distribution of Primes, Definition and examples of Twin primes,	Complete Residue system modulo m, Reduced residue system modulo m, Euler's Phi Function,	Euler's Phi function is multiplicative. Fermat little Theorem,	Euler's generalization of Fermat Little Theorem, Wilson Theorem, Linear Congruence and its solution,	Chinese Remainder Theorem, For prime p, $x^2 \equiv -1 \pmod{p}$ has a solution iff p is of the form $4k+1$	Module II Continued Fractions and Pell's Equations: Definition of finite continued fraction . Representation of a rational number as a	Value of a finite continued fraction is always rational. Solving linear Diophantine equation using Continued Fraction.	Kth convergent (Ck) of a continued fraction. Representation of Ck as p_k/q_k .	The convergents with even subscript forms a strictly increasing sequence and convergents with odd subscript forms a strictly decreasing sequence.	Definition of infinite continued fraction. Representation of an irrational number as an infinite simple continued fraction.	Value of an infinite continued fraction is always irrational. Every irrational number has a unique representation as an infinite continued fraction.	Rational approximation of an irrational number. Revision	If $1 \leq b \leq qn$ then p_n/q_n is better rational approximation for irrational number x than any rational number a/b.	
	Sem V Pract I	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic	practical based on above topic
Ms. S Waghmare	Sem III Pract			Filtering data and Graphical representation of data using Spread sheet	Use of Sorting and subtotal	Use of Mathematical functions using Spread sheet	Use of Pivot table and pivot report using Spread sheet	Calculation of DA, HRA, PF, Gross Salary and Net Salary Using spreadsheet	Calculation of DA, HRA, PF, Gross Salary and Net Salary Using spreadsheet	Calculation of Income Tax using Spread Sheet	Use of VLOOKUP and HLOOKUP using Spread sheet	Use of Financial functions using Spread sheet	Use of Macro				
	Sem V Pract			Use of Excel Template	Use of Multiple Spreadsheets	Use of various Functions in Excel	Graphical representation of data in Excel	PowerPoint presentation	Creating database and tables	Use of simple functions in SQL	Creating Simple Queries	Creating Nested Queries	Creating queries from multiple tables				

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Ms. Sheetal Waghmare	SY BCOM Sem IV Theory	Module 1 Data Communication, Networking and Internet Data Communication Component, Data representation, Distributed processing. (Concepts only) 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 and Wireless. Network Hardware: Hubs, Bridges, Switches, Routers.	Network Protocols – TCP/IP, OSI Model. Internet: Definition, Types of connections, sharing internet connection. Services on net- WWW, Email- Blogs. IP addresses, Domain names, URLs.	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.	Module 2 Database Management System Database, Relational databases (Relation, Attribute, Instance, Relationship, Join) ,Database capabilities (Data definition, data manipulation, Access as an RDBMs)	Case Study of DBMS using MS-Access MS-Office workspace basics, Exploring the Office menu, Working with ribbon, Opening an access database, Exploring database objects, Creating database , Changing views. Printing database objects. Saving and closing database file.	Working with datasheets, Moving among records, Updating records, adding records to a table, Finding records, sorting records, Filtering records, Using the PIVOT chart View. Saving and closing tables. Adding a table to a database, Adding fields to a table, adding a Lookup field, setting a Primary Key, Using the input mask wizard. Saving design changes, Importing data (From Excel).	MODULE 3 MS-Access Queries Query, Creating a query, working with queries, saving and running a query, creating calculated fields, using aggregate functions, Understanding query properties, Joining Tables.	What is a Form, Using the form tool, Creating a form with form wizard, Working in design view, Changing the form layout, Using calculated controls, Working with records on a Form. What is a report tool, Printing report, saving a report, designing a report, changing report layout, creating mailing labels.	Introduction to Visual Basic, Introduction Graphical User Interface (GUI). Programming Language (Procedural, Object Oriented, Event Driven), Writing VB Projects. The Visual Basic Environment, Finding and fixing errors	Introduction to VB Controls Text boxes, Frames, Check boxes, Option button, Images, Setting a Border & Styles. The Shape Control, The line Control, Working with multiple controls and their properties, Designing the User Interface, Keyboard access keys, Default & Cancel property, tab order, Coding for controls using Text, Caption, Value property and Set Focus method Variables, Constants, and Calculations Variable and Constant, Data Type (Boolean, Byte, String, Integer, Currency, Single, Double, Date)	Naming rules/conventions, Constants (Named & Intrinsic), Declaring variables, Scope of variables, Val Function, Arithmetic Operations, Formatting Data.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, Nested If Statements, LCase and Ucase function, Using If statements with Option Buttons & Check Boxes. MsgBox (Message box) statement Input Validation: Is Numeric function. Planning the project.	Menus, Sub-procedures and Sub-functions, Defining/Creating and Modifying a Menu, Using common dialog box, Creating a new sub-procedure, Passing Variables to procedures, Passing Argument By Val or By Ref,	Writing a Function procedure Lists, Loops and Printing List boxes and Combo Boxes, Do/ Loops, For/ Next loops, Functions: MsgBox with multiple buttons, Strings. Sending information to the printer using Printer.
	Sem III Pract			MS-Office 2007 basics: Office menu, ribbon, quick access tool bar.	Opening an access database, creating blank database, using featured online templates, familiarizing all Access objects in navigation pane, opening an existing database and closing database.	Creating tables and adding details.(design view)(Learners should be made to enter at least 10 meaning full records to the table. These tables should be common to all the learners so that continuity is maintained) Using a form as object for data entry.	Adding a table to a database, Adding fields to a table, adding a Lookup field, setting a Primary Key, using the input mask wizard, saving design changes.	Understanding different views.	Adding and saving records to an existing table, adding fields, deleting fields, modifying fields	Sorting & Filtering tables	Creating a query, running a query and saving a query sheet	Importing data from Excel sheet	Designing, changing report.	Write a project in VB to design a calculator	Write a project in VB using nested-if statement	Write a project in VB using sub-procedure.
	TYBCOM Sem VI Theory	Module 1 R-SOFTWARE	Module 2 Introduction to Python Reasons for Python as the learner's first programming language. Introduction to the IDLE interpreter (shell) and its documentation. Expression evaluation: similarities and differences compared to a calculator; expressions and operators of types int, float, boolean. Built-in function type. Operator precedence.	Enumeration of simple and compound statements. The expression statement. The assert statement, whose operand is a boolean expression (values true or false). The assignment statement, dynamic binding of names to values, (type is associated with data and not with names);	Automatic and implicit declaration of variable names with the assignment statement; assigning the value None to a name. The del (delete) statement. Input/output with print and input functions. A statement list (semicolon-separated list of simple statements on a single line) as a single interpreter command.	The import statement for already-defined functions and constants. The augmented assignment statement. The built-inhelp() function. Interactive and script modes of IDLE, running a script, restarting the shell. Compound data types str, tuple and list (enclosed in quotes, parentheses and brackets, respectively).	Indexing individual elements within these types. Strings and tuples are immutable, lists are mutable. The iterative for statement. The conditional statements if, if-else, if-else-else.	The iterative statements while, while-else, for-else. The continue statement to skip over one iteration of a loop, the break statement to exit the loop. Nested compound statements	Module 3 Functions in Python I : The compound statement def to define functions; the role of indentation for delimiting the body of a compound statement; calling a previously defined function. Built-in functions min, max, sum.	Interactive solution of model problems, (e.g., finding the square root of a number or zero of a function), by repeatedly executing the body of a loop (where the body is a statement list).	Advantages of functions, function parameters, formal parameters, actual parameters, global and local variables. The range function.. Dictionaries: concept of key-value pairs, techniques to create, update and delete dictionary items. Problem-solving using compound types and statements.	Module 3 Functions in Python II : Anonymous functions. List comprehensions. Gentle introduction to object-oriented programming;	using the built-in dir() function, enumerate the methods of strings, tuples, lists, dictionaries.	Using these methods for problem-solving with compound types		
TY BCOM Sem VI Pract			Use Of R-Software	Installing and setting up the Python IDLE interpreter. Executing simple statements like expression statement (numeric and Boolean types)	Script and interactive modes; defining a function in the two modes; executing a script interactively executing a statement list	Programs based on lists, conditional constructs, the for statement and the range function;	Programs related to string manipulation	Programs based on the while statement;	Programs using break and continue statements.	Programs related to dictionaries	Programs using list comprehensions and anonymo	Programs using the built-in methods of the string, list and dictionary classes				

