

LCIT PUBLIC SCHOOL

Session 2019-20

Subject - English

SPLIT-UP SYLLABUS

Class – XII

Pre – Mid term (30 Marks)	Mid – Term (80 Marks)	Post – Mid term (30 Marks)	Annual Exam. (80 Marks)
<p>FLAMINGO The Last Lesson</p> <p>Poem My mother at sixty six</p> <p>VISTAS The Tiger King</p> <p>WRITING Drafting Posters Notice</p>	<p>FLAMINGO The Last Lesson Lost Spring Deep water The Rattrap</p> <p>Poem My mother at sixty six An Elementary school classroom in the slum Keeping Quiet</p> <p>VISTAS The Tiger King The Enemy Should Wizard hit Mommy</p> <p>WRITING Notice Drafting Posters Letter Writing Debate</p>	<p>FLAMINGO Indigo The last lesson Poem A Thing of Beauty</p> <p>VISTAS On the face of it Journey to the End of the world</p> <p>WRITING Advertisements</p>	<p>FLAMINGO The Last Lesson Lost Spring Deep water The Rattrap Indigo Going Places Poets and Pancakes The Interview</p> <p>Poem My mother at sixty six An Elementary school classroom in the slum Keeping Quiet A Thing of beauty Aunt Jennifer's Tigers A road side stand</p> <p>VISTAS The Tiger King The Enemy Should Wizard hit Mommy On the face of it Evans tries an O-level Memories of childhood The third level The cutting of my long hair we too are human beings.</p>

			WRITING Notice Drafting Posters Letter Writing Debate Advertisement Invitations and Replies Article Speech Report
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Note : Class XII Syllabus in subject to change

LCIT PUBLIC SCHOOL

Session 2019-20

Subject - Mathematics

SPLIT-UP SYLLABUS

Class – XII

Pre-Mid term (30 Marks)	Mid-Term (80 Marks)	Post-Mid term (30 Marks)	Annual Exam. (80 Marks)
Chapter-1 Relations and Functions	Chapter-3 Matrices	Chapter-9 Differential Equations	Chapter-1 Relations and Functions
Chapter-2 Inverse Trigonometric Functions	Chapter-4 Determinants	Chapter-10 Vector Algebra	Chapter-2 Inverse Trigonometric Functions
	Chapter-5 Continuity and Differentiability	Chapter-11 Three Dimensional Geometry	Chapter-3 Matrices
	Chapter-6 Application of Derivatives	Chapter-12 Linear Programming	Chapter-4 Determinants
	Chapter-7 Integrals	Chapter-13 Probability	Chapter-5 Continuity and Differentiability
	Chapter-8 Application of Integrals		Chapter-6 Application of Derivatives
			Chapter-7 Integrals
			Chapter-8 Application of Integrals
			Chapter-9 Differential Equations

			Chapter-10 Vector Algebra Chapter-11 Three Dimensional Geometry Chapter-12 Linear Programming Chapter-13 Probability
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Lab Activities

10 Marks

LCIT PUBLIC SCHOOL

Session 2019-20

Subject - Business Studies

SPLIT-UP SYLLABUS

Class – XII

Pre – Mid term (30 Marks)	Mid – Term (80 Marks)	Post – Mid term (30 Marks)	Annual Exam. (80 Marks)
Unit 1 Nature and Significance of Management Unit 2 Principles of Management	Unit 1 Nature and Significance of Management Unit 2 Principles of Management Unit 3 Business Environment Unit 4 Planning Unit 5 Organizing Unit 11 Marketing Management	Unit 6 Staffing Unit 7 Directing Unit 8 Controlling	Unit 1 Nature and Significance of Management Unit 2 Principles of Management Unit 3 Business Environment Unit 4 Planning Unit 5 Organizing Unit 6 Staffing Unit 7 Directing Unit 8 Controlling Unit 9 Financial Management Unit 10 Financial Markets Unit 11 Marketing Management Unit 12 Consumer Protection

Project :

20 m

LCIT PUBLIC SCHOOL

Session 2019-20

Subject - Accountancy

SPLIT-UP SYLLABUS

Class – XII

Pre – Mid term (30 Marks)	Mid – Term (80 Marks)	Post – Mid term (30 Marks)	Annual Exam. (80 Marks)
<p>Unit 1 Financial Statements of Not-for-Profit Organizations Cha. 1 Financial Statements of Not-for-Profit Organizations</p> <p>Unit 2 Accounting for Partnership Firms Cha. 1 Fundamentals of Partnership.</p>	<p>Unit 1 Financial Statements of Not-for-Profit Organizations Cha. 1 Financial Statements of Not-for-Profit Organizations</p> <p>Unit 2 Accounting for Partnership Firms Cha. 1 Fundamentals of Partnership. Cha. 2 Goodwill Cha. 3 Change in the Profit Sharing Ratio Cha. 4 Admission of a partner Cha. 5 Retirement and death of a partner Cha. 6 Dissolution of a partnership firm</p>	<p>Unit 3 Accounting for Companies Cha. 1 Accounting for Share Capital Cha. 2 Issue of Debenture Cha. 3 Redemption of debenture</p>	<p>Part A Accounting for Not-for-Profit Organizations, Partnership Firms and Companies Unit 1 Financial Statements of Not-for-Profit Organizations Cha. 1 Financial Statements of Not-for-Profit Organizations</p> <p>Unit 2 Accounting for Partnership Firms Cha. 1 Fundamentals of Partnership. Cha. 2 Goodwill Cha. 3 Change in the Profit Sharing Ratio Cha. 4 Admission of a partner Cha. 5 Retirement and death of a partner Cha. 6 Dissolution of a partnership firm</p> <p>Unit 3 Accounting for Companies Cha. 1 Accounting for Share Capital Cha. 2 Issue of Debenture Cha. 3 Redemption of debenture</p> <p>Part B Financial Statement Analysis Unit 4 Analysis of Financial Statements Cha. 1 Financial Statement Analysis Cha. 2 Tools for Financial Statement Analysis Cha. 3 Accounting Ratios</p>

			Unit 5 Cash Flow Statement
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Note : **Project work :** 20M
Project File : 4M
Written Test : 12 Marks (One Hour)
Viva : 4M

LCIT PUBLIC SCHOOL

Session 2019-20

Subject - Economics

SPLIT-UP SYLLABUS

Class – XII

Pre – Mid term (30 Marks)	Mid – Term (80 Marks)	Post – Mid term (30 Marks)	Annual Exam. (80 Marks)
<p><u>MACRO ECONOMICS</u> Unit 1 : National Income and Related Aggregates Unit 2 : Money and Banking</p>	<p><u>MACRO ECONOMICS</u> Unit 1 : National Income and Related Aggregates Unit 2 : Money and Banking Unit 3 : Determination of Income and Employment Unit 4 : Government Budget and the Economy Unit 5 : Balance of Payments</p>	<p><u>INDIAN ECONOMY</u> Unit 1 : Development Policies and Experience (1947–90) Unit 2 : Economic Reforms Since 1991</p>	<p><u>MACRO ECONOMICS</u> Unit 1 : National Income and Related Aggregates Unit 2 : Money and Banking Unit 3 : Determination of Income and Employment Unit 4 : Government Budget and the Economy Unit 5 : Balance of Payments</p> <p><u>INDIAN ECONOMY</u> Unit 1 : Development Policies and Experience (1947–90) Unit 2 : Economic Reforms Since 1991 Unit 3 : Current Challenges Facing Indian Economy Unit 4 : Development Experience of India</p>

PROJECT WORK :

20M

LCIT PUBLIC SCHOOL

Session 2019-20

Subject - Computer Science (Sumita Arora & publication Code : 083)

SPLIT-UP SYLLABUS

Class – XII

Term 1

Pre Mid Term

Mid Term

1. Programming and Computational Thinking (PCT-2) (I)

Revision of the basics of Python

(II) Functions: scope, parameter passing, mutable/immutable properties of data objects, pass arrays to functions, return values, functions using libraries: mathematical, and string functions

(III) File handling: open and close a file, read, write, and append to a file, standard input, output, and error streams, relative and absolute paths.

(IV) Using Python libraries: create and import Python libraries

(V) Recursion: simple algorithms with recursion: factorial, Fibonacci numbers; recursion on arrays: binary search

(VI) Idea of efficiency: performance defined as inversely proportional to the wall clock time, count the number of operations a piece of code is performing, and measure the time taken by a program. Example: take two different programs for the same problem, and understand how the efficient one takes less time.

(VII) Data visualization using Pyplot: line chart, pie chart, and bar chart.

(VIII) Data-structures: lists, stacks, queues.

2. Computer Networks (CN)

(I) Structure of a network: Types of networks: local area and wide area (web and internet), new technologies such as cloud and IoT, public vs. private cloud, wired and wireless networks; concept of a client and server.

(II) Network devices such as a NIC, switch, hub, router, and access point.

(III) Network stack: amplitude and frequency modulation, collision in wireless networks, error checking, and the notion of a MAC address, main idea of routing. IP addresses: (v4 and v6), routing table, router, DNS, and web URLs, TCP: basic idea of retransmission, and rate modulation when there is congestion (analogy to a road network), Protocols: 2G, 3G, 4G, WiFi. What makes a protocol have a higher bandwidth?

(IV) Basic network tools: traceroute, ping, ipconfig, nslookup, whois, speed-test.

(V) Application layer: HTTP (basic idea), working of email, secure communication: encryption and certificates (HTTPS), network applications: remote desktop, remote login, HTTP, FTP, SCP, SSH, POP/IMAP, SMTP, VoIP, NFC.

Including 100% portion of Pre Mid Term

Term 2	
Post Mid Term	Annual Examination(BOARD)
<p>3: Data Management (DM-2)</p> <ul style="list-style-type: none"> (I) Write a minimal Django based web application that parses a GET and POST request, and writes the fields to a file - flat file and CSV file (II) Interface Python with an SQL database (III) SQL commands: aggregation functions – having, group by, order by <p>4 : Society, Law and Ethics (SLE-2)</p> <ul style="list-style-type: none"> (I) Intellectual property rights, plagiarism, digital rights management, and licensing (Creative Commons, GPL and Apache), open source, open data, privacy. (II) Privacy laws, fraud; cyber-crime- phishing, illegal downloads, child pornography, scams; cyber forensics, IT Act, 2000. (III) Technology and society: understanding of societal issues and cultural changes induced by technology. (IV) E-waste management: proper disposal of used electronic gadgets. (V) Identity theft, unique ids, and biometrics. (VI) Gender and disability issues while teaching and using computers. 	<p>Including 100%portion of Term 1 And Post Mid Term</p>

S.No.	Unit	Marks (Total=30)
1.	Lab Test (12 marks)	
	Python program (60% logic + 20% documentation + 20% code quality)	8
	SQL program (at least 4 queries)	4
2.	Report File + viva (10 marks)	
	Report file: Minimum 20 Python programs and 8 SQL commands	7
	Viva voce (based on the report file)	3
3.	Project (that uses most of the concepts that have been learnt) (See CS-XII for the rules regarding the projects).	8

Unit No.	Unit Name	Marks
1.	Programming and Computational Thinking - 2	30
2.	Computer Network	15
3.	Data Management - 2	15
4.	Society, Law and Ethics - 2	10
5.	Practical	30
	Total	100

LCIT PUBLIC SCHOOL

Session 2019-20

Subject - Informatics practice (Sumita Arora & publication Code : 065)

SPLIT-UP SYLLABUS

Class – XII

Pre mid (30 Marks)	Mid term (70 Marks)	Post mid (30 Marks)	Annual Exam (70 Marks)
<p>Unit-2 Society, Law and Ethics (SLE-2)</p> <p>1. Intellectual property rights, plagiarism, digital rights management, and licensing (Creative Commons, GPL and Apache), open source, open data, privacy. Privacy laws, fraud; cybercrime- phishing, illegal downloads, child pornography, scams; cyber forensics, IT Act, 2000. Technology and society: understanding of societal issues and cultural changes induced by technology.</p> <p>(TOPIC WILL COVER FROM CHP-05,CH P-07 AND CHP-11)</p> <p>5.1. Data Management: SQL+web-server</p> <ul style="list-style-type: none"> Find the min, max, sum, and average of the marks in a student marks table. Find the total number of customers from each country in the table (customer ID, customer Name, country) using group by. Write a SQL query to order the (student ID, marks) table in descending order of the marks. Integrate SQL with Python by importing MYSQL dB Write a Django based web server to parse a user request (POST), and write it to a CSV file. 	<p>Unit-1 Data Handling Python Pandas Arithmetic operations on 2D arrays Covariance, correlation and linear regression Plotting with Pyplot Plot bar graphs, histograms, frequency polygons, box plots, and scatter plots.</p> <p>Reindexing, and altering labels. Numpy 1D array, 2D array Arrays: slices, joins, and subsets</p> <p>(TOPIC WILL COVER FROM CHP-01,CH P-02 ,CHP-03 AND CHP-05)</p> <p>100% portion of pre mid term also</p>	<p>Unit-1</p> <ol style="list-style-type: none"> Advanced operations on Data Frames: pivoting, sorting, and aggregation. Descriptive statistics: min, max, mode, mean, count, sum, median, quartile, var Create a histogram, and quantiles. Function application: pipe, apply, aggregation (group by), transform, and apply map. <p>(TOPIC WILL COVER FROM CHP-04 AND CHP-06)</p>	<ol style="list-style-type: none"> E-waste management: proper disposal of used electronic gadgets. Identity theft, unique ids, and biometrics. Gender and disability issues while teaching and using computers. Role of new media in society: online campaigns, crowdsourcing, smart mobs Issues with the internet: internet as an echo chamber, net neutrality, internet addiction Case studies - Arab Spring, WikiLeaks, Bit coin Basic Software Engineering (BSE) Introduction to software engineering Software Processes: waterfall model, evolutionary model, and component based model Delivery models: incremental delivery, spiral delivery Process activities: specification, design/implementation, validation, evolution Agile methods: pair programming, and Scrum Business use-case diagrams Practical aspects: Version control system (GIT), and do case studies of software systems and build use-case diagrams , Write a minimal Django based web application that parses a GET and POST request, and writes the fields to a file – flat file and CSV file. Interface Python with an SQL database SQL commands: aggregation functions, having, group by, order by <p>100% portion of Term 1 and post mid term (CHP-8,9 AND 10 WILL BE THERE ALSO.)</p>

ANNUAL EXAM PRE-BOARD

5.2. Data handling using Python libraries

- Use map functions to convert all negative numbers in a Data Frame to the mean of all the numbers.
- Consider a Data Frame, where each row contains the item category, item name, and expenditure.
 - Group the rows by the category, and print the total expenditure per category.
- Given a Series, print all the elements that are above the 75th percentile.
- Given a day's worth of stock market data, aggregate it. Print the highest, lowest, and closing prices of each stock.
- Given sample data, plot a linear regression line.
- Take data from government web sites, aggregate and summarize it. Then plot it using different plotting functions of the PyPlot library.

5.3. Basic Software Engineering

- Business use-case diagrams for an airline ticket booking system, train reservation system, stock exchange
- Collaboratively write a program and manage the code with a version control system (GIT)

6. Project

The aim of the class project is to create something that is tangible and useful. This should be done in groups of 2 to 3 students, and should be started by students at least 6 months before the submission deadline. The aim here is to find a real world problem that is worthwhile to solve. Students are encouraged to visit local businesses and ask them about the problems that they are facing. For example, if a business is finding it hard to create invoices for filing GST claims, then students can do a project that takes the raw data (list of transactions), groups the transactions by category, accounts for the GST tax rates, and creates invoices in the appropriate format. Students can be extremely creative here. They can use a wide variety of Python libraries to create user friendly applications such as games, software for their school, software for their disabled fellow students, and mobile applications. Of course to do some of this projects, some additional learning is required; this should be encouraged. Students should know how to teach themselves.

If three people work on a project for 6 months, at least 500 lines of code is expected. The committee has also been made aware about the degree of plagiarism in such projects. Teachers should take a very strict look at this situation, and take very strict disciplinary action against students who are cheating on lab assignments, or projects, or using pirated software to do the same. Everything that is proposed can be achieved using absolutely free, and legitimate open source software.

S.No.	Unit Name	Marks
1.	Lab Test (10 marks)	
	Python programs for data handling (60% logic + 20% documentation + 20% code quality)	7
	Small Python program that sends a SQL query to a database and displays the result. A stub program can be provided.	3
2.	Report File + viva(9 marks)	
	Report file: Minimum 21 Python programs. Out of this at least 4 programs should send SQL commands to a database, and retrieve the result; at least 1 program should implement the web server to write user data to a CSV file.	7
	Viva voce based on the report file	2
	Project + viva (11 marks)	
3.	Project (that uses most of the concepts that have been learnt)	8
	Project viva voce	3

5.1. Data Management: SQL+web-server

- Find the min, max, sum, and average of the marks in a student marks table.
- Find the total number of customers from each country in the table (customer ID, customer Name, country) using group by.
- Write a SQL query to order the (student ID, marks) table in descending order of the marks.
- Integrate SQL with Python by importing MYSQL dB
- Write a Django based web server to parse a user request (POST), and write it to a CSV file.