

SPLIT-UP SYLLABUS
SUB: INFORMATICS PRACTICES (065)
CLASS - XII (NEW SYLLABUS)
(SESSION 2019 - 20 ONWARD)
DISTRIBUTION OF MARKS

UNIT	UNIT NAME	MARKS
1	Data Handling - 2	30
2	Basic Software Engineering	15
3	Data Management-2	15
4	Society, Law and Ethics-2	10
5	Practicals	30
	TOTAL	100

MONTH- WISE DISTRIBUTION

Month	Topics to be covered	Th.	Pr
April	Unit 1: Data Handling -2 : Python Pandas <ul 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 	25	20
May-June	<ul style="list-style-type: none"> Create a histogram, and quantiles. Function application: pipe, apply, aggregation (group by), transform, and apply map. Reindexing, and altering labels. 	15	20
July	Numpy <ul style="list-style-type: none"> 1D array, 2D array Arrays: slices, joins, and subsets Arithmetic operations on 2D arrays Covariance, correlation and linear regression 	30	25
August	Plotting with Pyplot <ul style="list-style-type: none"> Plot bar graphs, histograms, frequency polygons, box plots, and scatter plots. Unit 2: Basic Software Engineering (BSE) <ul style="list-style-type: none"> Introduction to software engineering Software Processes: waterfall model, evolutionary model, and component based model 	25	25
September	<ul style="list-style-type: none"> 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 	25	20
October	HALF YEARLY EXAMINATION		

	Unit 3: Data Management (DM-2) <ul style="list-style-type: none"> • 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.	10	05
November	UNIT 4: Society , Law and Ethics (SLE-2) <ul style="list-style-type: none"> • Intellectual property rights, plagiarism, digital rights management, and licensing (Creative Commons, GPL and Apache), open source, open data, privacy. • Privacy laws, fraud; cyber-crime- phishing, illegal downloads, child pornography, scams; cyber forensics, IT Act, 2000. • Technology and society: understanding of societal issues and cultural changes induced by technology. • 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 Revision, Project Work	15	05
Dec- Jan	<ul style="list-style-type: none"> • Pre-Board Examination 		
Feb	<ul style="list-style-type: none"> • Revision & AISSCE Practical Examination 		

PRACTICAL WORK
INFORMATICS PRACTICES (065) : CLASS - XII
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S.No.	UNIT NAME	MARKS
1	Lab Test (10 marks)	
	Python programs to test PCT (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 (09 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
3	Project + viva (11 marks) *	
	Project Work (that uses most of the concepts that have been learnt)	8
	Project Viva Voce.	3

*Refer CBSE Curriculum for detailed guidelines for Project work.