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1	INTRO TO C LANGUAGE - History & Importance of C - Difference between Compiler & Interpreter - printf() function * - Escape Sequence characters								1	<i>J.</i>		В									
2	DATATYPE, CONSTANT & VARIABLES - Data Types - Variables & Constant - Keywords								1	<i>A</i>		B D									
3	MANAGING INPUT/OUTPUT - printf() * & scanf() function - Format specifiers								1	<i>J.</i>		B D									
4	OPERATOR & EXPRESSION - Types of Operator - Operator Precedence - Type Conversation - sizeof() operator								2	<i>A</i>		В									
PR1	Greenhorns								1	_	/	10									
5	CONTROL STRUCTURE - if statement - if else - ladder else if - nested if - ternary operator - switch case & goto label							;	3	<i>A</i>		B D									
PR2	Momentum								2	_	/	10									
6	LOOPING - while loop - do while loop - for loop - Control Statements (break & continue)							:	2	<i>A</i>		В									
PR3	Temperate							;	3	_	/	10									
7	LOOPING WITH PATTERNS - Nested for Loop								1	<i>A</i>		B D									
PR4	Circlet							:	3	_	/	10									
8	ARRAY IN DETAILS - 1D Array - 2D Array (Working with Matrix)								3	<i>A</i>		B D									
PR5	Assortment								3	_	/	10									
9	STRING IN DETAILS - String concept - getchar(), putchar() - gets(), puts() - String functions							3	3	<i>A</i>	2	B D									
PR6	Filament								2	_	/	10									

10	USER DEFINED FUNCTION (UDF) - Function concepts - Types of functions - Passing Array & String - Recursion - Nested Functions		2	A B	
PR7	Gathering		2	/10	
11	POINTER - Pointer Concepts - Pointer with Array & String - Pointer with UDF - Call by Value & Call by Reference - Chain of Pointer		2	A B C D	
PR8	Indicator		2	/10	
12	STRUCTURE, UNION & ENUMERATION - Structure & Union Concept - Structure & Union with Array - Enumeration (Enum)		2	A B C D	
PR9	Volume		2	/10	
13	FILE HANDLING - File Opening Modes - File Reading - File Writing		1	A B C D	
PR10	Supervison		2	/10	

- FEEDBACK WILL BE GIVEN BY STUDENTS
- MARKS OUT OF 10 WILL BE GIVEN BY TUTOR

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	INTRO TO C++ PROGRAMMING - History																					
	- Difference between C & C++										1	4	В									
1	BEGINNING WITH C++							İ			(0	D									
	- cout & cin - Control Structure & Looping								:	2]								
	- Arrays & String																					_
PR1	Fundamental Booster								:	1	_	/	10									
	INTRO TO OOPS CONCEPT - Data Abstraction																					
	- Data Encapsulation - Inheritance											4	В									
2	- Polymorphism							-			-		D	1								
	PROGRAMMING WITH OOPS - Class & Object								:	2		_										
	- Access Modifiers																					
PR2	The New Era							_		1	_	/	10									
	ENCAPSULATION Districts Attributes																					
	- Private Attributes - Setter & Getter													۱ ا								
3	- this keyword - Array of Object										1	7	В	<u> </u>								
	STATIC KEYWORD									_	(0	D									
	- Static Data Members - Scope Resolution Operator *									3												
	- Static Member Functions																					_
PR3	Builder							_	:	1	_	/	10									
	CONSTRUCTOR										1	4	В									
4	- Constructor Concepts - Types of Constructor									1	(0	D									
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PR4	Producer							-	:	1	_	/	10									
	INHERITANCE - Inheritance Concept										1	4	В									
5	- Types of Inheritance - Scope Resolution Operator *								:	2	(0	D									
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PR5	Heritage								:	1	_	/	10									
6	POLYMORPHISM - Method Overloading										1	4	В									
ь	Method OverridingScope Resolution Operator *								2	2	(D									
PR6	Multiprocessor											/	10									
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7	OPERATOR OVERLOADING										1	4	В									
,	- Overload Binary Operator									1	(C	D									
007	Simon											,	10									
PR7	Signer									1	_	/	10									

8	EXCEPTION HANDLING - try, throw & catch() - General Exception [try & catch()]		1	A B C D	
PR8	Terminator		1	/10	
E	Exam		1	/30	

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_	One Step In Changing Education Chain	FAC	JLTY N	IAME																<u> </u>
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1	INTRO TO PYTHON - History & Installation of Python - Python Shell & IDLE - First Python Program - Types of Mode to Run Program FUNDAMENTALS OF PYTHON - print() and input() function - Variables, Datatypes & Operators - Type Casting Constructors - id() and type() functions								2	-	A C	B D								
PR1	Fundamental Booster								1	_	/	10								
2	DATATYPE IN DETAIL - String Formatting & Manipulation - Collection Datatypes with Its Methods - Mutability of list & tuple - Shallow & Deep Copy - List Comprehension - Type Casting and del keyword								2	l	A C	B D								
PR2	Collection Manipulator								1	_	/	10								
3	CONTROL STRUCTURE - Types of Control Structure - Short Hand Syntax (Ternary) LOOPING - Types of Loops - range() function - Control Statements - Nested Loop								2	l	A C	B D								
PR3	Logic Box								2	_	/	10								
4	FUNCTION IN DETAIL - Built-in Functions - UDF - *args, **kwargs anddoc - Function Recursion - Anonymous / Lambda Function - Return Multiple Values ARRAY & SORTING - 1D & 2D Array with List - Sorting Collection Datatypes								3	l	A C	B D								
PR4	Functional Treat								2	_	/	10								
5	OBJECT ORIENTED PROGRAMMING (OOP) - Class & Object - self & del keyword - Constructor and Destructor - Encapsulation - Nested Function - Reflection Enabling Functions INHERITANCE & POLYMORPHISM - Types of Inheritance - Method Overloading & Method Overriding - issubclass() and super() - Built-in Dunder Methods - Operator Overloading								4	-	A C	B D								
PR5	OOP Wrapper								2	_	/	10								

6	EXCEPTION HANDLING - try except - try except else - try finally		A B	
	- try except else finally - Custom Exception - raise & assert keyword	2	C D	
PR6	Exception Killer	1	/10	
E1	Viva & Examination	1	/10	
7	FILE HANDLING - Modes of Opening File - CRUD operation with File	1	A B C D	
PR7	File Operator	1	/10	
8	WORKING WITH MODULES - datetime module - time module - math module - random module - operator module - uuid module	2	A B	
PR8	Moduler	1	/10	
9	MODULES AND PACKAGES - Creating, Importing & Renaming Modules name withmain - Creating & Using Package and Sub Packages - dir() andinitpy	1	A B C D	
PR9	Packager	1	/10	
10	REGULAR EXPRESSION (REGEX) - re module - Getting specific pattern wise data COMMAND LINE ARGUMENT (CLA) - sys module - sys.argy	2	A B C D	
PR10	RegEx Commander	1	/10	
11	PIP – PACKAGE MANAGER & DATABASE INTERACTION (WITH MYSQL) - What is SQL? - SQL Queries - Intro to XAMPP (phpMyAdmin) - CRUD operation with XAMPP (phpMyAdmin) - Downloading and Installing Package - mysql-connector module - CRUD operation with python's mysql.connector	4	A B C D	
PR11	DB Miner	2	/10	
12	GUI WITH TKINTER - tkinter module - widgets and grid() - Binding Functions - Mouse Clicking Events - messagebox() and PhotoImage()	5	A B	
PR12	Software Combo	5	/10	
E2	Viva & Final Exam	2	/100	

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	One Step In Changing Education Chain	FACUI	LTY N	AME																		
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1	OS & SUBPROCESS MODULE - Basic terminal commands - os module - subprocess module with call() & Popen()									3	_	A C	B D									
PR1	Executor									3		/	10									_
2	MULTITHREADING & EMAIL - What is thread in a process? - threading module - Working of email sending through Internet - smtplib module - email package									3	-	A C	B D									_
PR2	Multi-threader & Mailer									3	_	/	10									
3	ITERATORS, GENERATORS & CLOSURES iter() &next() - iter() & next() - yield keyword - Generator Function - Generator Object - global, local & nonlocal variables									3	_	A C	B D]								
PR3	UDL									1		/	10									
4	HIGHER ORDER FUNCTIONS - sorted(), map(), reduce() & filter() DECORATORS - Simple Decorator - Chaining Decorator - @classmethod & @staticmethod - property() & @property									3	-	A C	B D									
PR4	Fast Food Maker									1	_	/	10									
5	VIRTUAL ENVIRONMENT - virtualenv - venv - requirements.txt - pipenv									2		A C	B D									
E1	Viva and Examination									1	ı	/	10									
6	WORKING WITH EDITORS & IDLE - Sublime Text 3 - VS Code - Anaconda Navigator - PyCharm IDE DATA ANALYSIS WITH NUMPY - NumPy library - NumPy Datatypes - Array Indexing - Array Math & Broadcasting - 1D & 2D Array									5		A C	B D									
PR5	- Arithmetic Operations on 2D Array NumPy Analyzer									3		/	10									_
7	HOT MODULES OF PYTHON - qrcode mlibrary - pyinstaller library - csv module									4	_	A C	B D									_

PR6	Hunter		6	/10	
8	DATA ANALYSIS WITH PANDAS - Pandas Library - Data Structure - Operations on DataFrames - Handling missing data - Boolean Reductions - Combining DataFrames - pivoting, sorting & aggregation - Descriptive Statistics - Types of Function Application - groupby() & transform() - Re-indexing& altering labels		5	A B C D	
PR7	Pandas Analyzer		2	/10	
9	DATA VISUALIZATION - matplotlib library - Types of Charts with pyplot		2	A B C D	
PR8	Visualizer		2	/10	
10	NETWORKING - What is Socket & Port? - What is Client & Server - socket module - Socket Programming		2	A B C D	
PR9	Chat App		3	/10	
11	WEB SCRAPPING - requests library - beautifulsoup library WEB AUTOMATION - selenium library - Different browser's WebDrivers		4	A B	
PR10	Scrapper & Bot		4	/10	
12	JSON PARSING - What is json? - json module - Serialization & Deserialization of data - Read and Write json data with File - Working with live json API data		3	A B	
PR11	Fetcher & Parser		5	/10	
13	Intro to Web Development - Basic HTML - What is Framework - Installing Flask microframework and Run first web app - Routing and Variable Rules - URL Building - HTTP Methods - Templates - Static Files - Sending Form data to Template - File Uploading		12	A B C D	
PR12	Resume Builder		5	/10	
E2	Viva and Final Exam		2	/100	

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1	INTRO TO DJANGO FRAMEWORK - What is Web Framework? - MVT Architecture - Setup Virtual Environment - Installing Django - Exploring Directory Structure - Creating First Django Project SETTING UP DJANGO WEB APP - Creating First Django App - Understanding URL Routing - Handling different Views - Running Web App on Server												3	-	A C	B D										
PR1	Quick Booster											_	1	-	/	10										
2	TEMPLATES WITH DTL (DJANGO TEMPLATE L - Setup Template directory's Path - Creating and Rendering Templates using URL Routi - Passing Context in Multiple Templates - Using DTL to load context in Template - Tags, Variables & Filters - Template Inheritance			AGE	:)								3		A C	В										
PR2	Templatifier												1	-	/	10										
3	FORM HANDLING - Raw HTML Form - Pure Django Form - Form Widgets - Display Form to Multiple Templates												3		A C	B D										
PR3	Form Maker												2	_	/	10										
4	URL ROUTING - Dynamic URL Routing - Creating and Linking Multiple Apps - In App URL Routing & Namespacing - Django URLs Reverse												2		A C	B D										
PR4	Navigator												2	-	/	10										
5	VIEWS AND MIXINS - FBV (Function Based Views) - CBV (Class Based Views) - Convert FBV to CBV - Custom Mixins for CBV												3	-	A C	B D										
PR5	View Mixer											_	2	_	/	10										
6	STATIC FILE HANDLING - Setup static and media directory's Path - Adding Bootstrap for Frontend Enhancement - Collect Static Files *												2	_	A C	B D										
PR6	Asset Bundler												1	-	/	10										
E1	Viva and Examination											L	1		/	10										

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	WORKING WITH MODELS			
	- Django Database Models			
	- Model Fields			A B
7	- Model Inheritance			
	- Add an App to INSTALLED_APPS		2	CD
	- Migrating Models to Database		2	
	- Update Models and Migrate			
PR7	Migrator			/10
1 117	ing.utor		1	/10
	DAP (DJANGO ADMIN PANEL)			
	- Creating Superuser			
	- Exploring DAP			AB
8	- Manage Superuser			
	- CRUD Operations with DAP			CD
	- @admin.register()		2	
	- Customizing DAP			
PR8	Thrill Explorer			/10
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	ORM (OBJECT RELATIONAL MAPPER)			Δ Β
_	- Using Django python-shell			AB
9	- Using ORM to deal with Database			C D
	- CRUD Operation using ORM		2	CDD
	- Retrieve data using filters			
PR9	DB Miner			/10
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	DYNAMIC TEMPLATES			
	- Dynamic Webpages			
	- Retrieve data using QuerySets			
	- Passing context to Template			AB
10				
	FORM VALIDATION			CD
	- Django ModelForm		2	
	- Form Validation Methods		3	
	- Setting initial values for Forms			
				1.5
PR10	Form Commander			/10
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	WORKING WITH ANOTHER DATABASE			A B
11	- Integrating MySQL Database			
	- Using XAMPP for Database Interaction		1	CD
PR11	Teleporter			/10
			1	
	USER AUTHENTICATION			
	- @login_required decorator for FBV			A B
12	- LoginRequiredMixin for CBV			
	- login(), logout() and authenticate() methods		2	CD
	- get_object_or_404() method			
PR12	Safe Area			/10
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E2	Viva and Examination			/10
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	CREATING ADIC USING DRE (DIANGO DEST EDAMENAGRIA)			
ĺ	CREATING APIS USING DRF (DJANGO REST FRAMEWORK)			
	- Intro and Installing DRF - Add DRF to INSTALLED_APPS			AB
13	- Add DKF to INSTALLED_APPS - Adding REST_FRAMEWORK in settings.py			7 0
1.5	- Adding REST_FRANCEWORK IN Settings.py - What is Serializer and Deserializer?			CD
	- Serializer Class and ModelSerializer Class		5	
	- APIs using Serializers, FBV, CBV, Model Mixins and Generic API Views			
PR13	API Digger			/10
			2	
	TECTING DROWCARIE ARI-			Λ D
1.4	TESTING BROWSABLE APIS			A B
14	- Using DRF's URL			C D
	- Using Postman		1	CD
		I		

PR14	Test a Taste		1	/10	
15	ROUTING AND AUTHENTICATIONS IN DRF - Types of ViewSets - Types of Routers - authentication_classes and permission_classes properties		3	A B	
PR15	Watchman		1	/10	
16	DOCUMENTING APIS - Using drf-yasg package - Integrating drf-yasg into settings.py - Generating APIs Docs - Test browsable APIs using drf-yasg's url		1	A B C D	
PR16	Scarecrow		1	/10	
17	PUBLISHING DJANGO WEB APPLICATION - Deploy on GitHub - Deploy on pythonanywhere - Collect Static Files *		3	A B C D	
PR17	Publish a Web App		1	/10	
E3	Final Exam		1	/100	

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