



*Sir Padampat Singhania Education
Centre
Kamla Nagar, Kanpur*

Lesson Plan
Session 2021- 2022
Class: XI

Subject : INFORMATICS PRACTICES(065)
Book : SUMITA ARORA(DHANPAT RAI)

Subject Coordinator
Name: Richi Sharma

Subject Teachers
Name:

Sign:

Sign:

Sir Padampat Singhania Education Centre
Kamla Nagar, Kanpur



Yearly Syllabus/Planning overview

Session: 2021 - 2022

Subject: Informatics Prac.

Class: XI

No. of periods:

Month	Assessed in	Lesson/s to be covered	Period - Count
April	2021	Database Concepts: Introduction to database concepts and its need	
May	2021	Database Concepts: Introduction to database concepts and its need, Database Management System. Relational data model: concept of attribute, domain, tuple, relation, candidate key, primary key, alternate key, foreign key.	
July	2021	Structured Query Language: Data Definition Language, Data Query Language and Data Manipulation, Language, Introduction to MySQL: Creating a database, using database, showing tables using MySQL, Data Types : char, varchar, int, float, date Data Definition Commands: CREATE, DROP, ALTER (Add and Remove primary key, attribute).	
August	2021	Data Query Commands: SELECT-FROM- WHERE, LIKE, BETWEEN, IN, ORDER BY, using arithmetic, logical, relational operators and NULL values in queries, Distinct clause Data Manipulation Commands: INSERT, UPDATE, DELETE. Introduction to Python	
September	2021	Basics of Python programming, Python interpreter - interactive and script mode, the structure of a program, indentation, identifiers, keywords, constants, variables, types of operators, precedence of operators, data types, mutable and immutable data types, statements, expressions, evaluation of expressions, comments, input and output statements, data type conversion, debugging, control statements: if-else, for loop Lists: list operations - creating, initializing, traversing and manipulating lists, list methods and built-in functions.: len(), list(), append(), extend(), insert(), count(), find(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum()	
October	2021	Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements, dictionary methods and built-in functions: len(), dict(), keys(), values(), items(), get(), update(), clear(), del()	

November	2021	<p>Data Handling using NumPy Data and its purpose, importance of data, structured and unstructured data, data processing cycle, basic statistical methods for understanding data - mean, median, mode, standard deviation and variance.</p> <p>Introduction to NumPy library, NumPy arrays and their advantage, NumPy attributes, creation of NumPy arrays; from lists using np.array(), np.zeros(), np.ones(), np.arange() , indexing, slicing, and iteration; concatenating and splitting array;</p>	
December	2021	<p>Arithmetic operations on one dimensional and two dimensional arrays. Calculating max, min, count, sum, mean, median, mode, standard deviation, variance on NumPy arrays.</p>	
January	2022	<p>Introduction to the Emerging Trends Artificial Intelligence, Machine Learning, Natural Language Processing, Immersive experience (AR, VR), Robotics, Big data and its characteristics, Internet of Things (IoT), Sensors, Smart cities, Cloud Computing and Cloud Services (SaaS, IaaS, PaaS); Grid Computing, Block chain technology.</p>	
February	2022	Revision	



Sir Padampat Singhania Education Centre
Kamla Nagar, Kanpur

Monthly Syllabus/Planning overview

Session: 2021 - 2022

Subject: Informatics Prac.

Class: XI

No. of periods:

Month	Date/Week		Lesson/s to be covered in classroom
	From	To	
April	19.4.21	24.4.21	Database Concepts: Introduction to database concepts and its need
	26.4.21	30.4.21	Database Concepts continued,,,,,
May	1.5.21	7.5.21	Database Management System. Relational data model: concept of attribute, domain, tuple, relation
	10.5.21	30.6.21	candidate key, primary key, alternate key, foreign key.
July	01.7.21	03.7.21	Structured Query Language: Data Definition Language, Data Query Language and Data Manipulation, Language
	05.7.21	10.7.21	Introduction to MySQL: Creating a database, using database, showing tables using MySQL,
	12.7.21	17.7.21	Data Types : char, varchar, int, float, date
	19.7.21	24.7.21	Data Definition Commands: CREATE, DROP,
	26.7.21	31.7.21	ALTER (Add and Remove primary key, attribute).

August	02.8.21	7.8.21	Data Query Commands: SELECT-FROM-WHERE.
	9.8.21	14.8.21	LIKE, BETWEEN, IN, ORDER BY
	16.8.21	21.8.21	using arithmetic, logical, relational operators and NULL values in queries, Distinct clause
	23.8.21	28.8.21	Data Manipulation Commands: INSERT, UPDATE, DELETE
	30.8.21	31.8.21	Introduction to Python
September	01.9.21	08.9.21	Test-1
	08.9.21	10.9.21	Basics of Python programming, Python interpreter - interactive and script mode, the structure of a program,
	13.9.21	18.9.21	indentation, identifiers, keywords, constants, variables, types of operators, precedence of operators
	20.9.21	27.9.21	Data types, mutable and immutable data types, statements, expressions, evaluation of expressions, comments, input and output statements, data type conversion
	28.9.21	02.10.21	Session Break
October	04.10.21	9.10.21	Lists: list operations - creating, initializing, traversing and manipulating lists, list methods and built-in functions.: len(), list(), append(), extend(), insert(), count(), find(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum()
	11.10.21	16.10.21	Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements
	18.10.21	23.10.21	dictionary methods and built-in functions: len(), dict(), keys(), values(), items(), get(), update(), clear(), del()
	25.10.21	12.11.21	Half yearly examination
November	15.11.21	20.11.21	Data Handling using NumPy Data and its purpose, importance of data, structured and unstructured data, data processing cycle, basic statistical methods for understanding data - mean, median, mode, standard deviation and variance.

	22.11.21	27.11.21	Introduction to NumPy library, NumPy arrays and their advantage, NumPy attributes, creation of NumPy ;
	29.11.21	30.11.21	arrays; from lists using np.array(), np.zeros(), np.ones(), np.arange() , indexing, slicing, and iteration; concatenating and splitting array

Sir Padampat Singhania Education Centre
Kamla Nagar, Kanpur



Monthly Syllabus/Planning overview

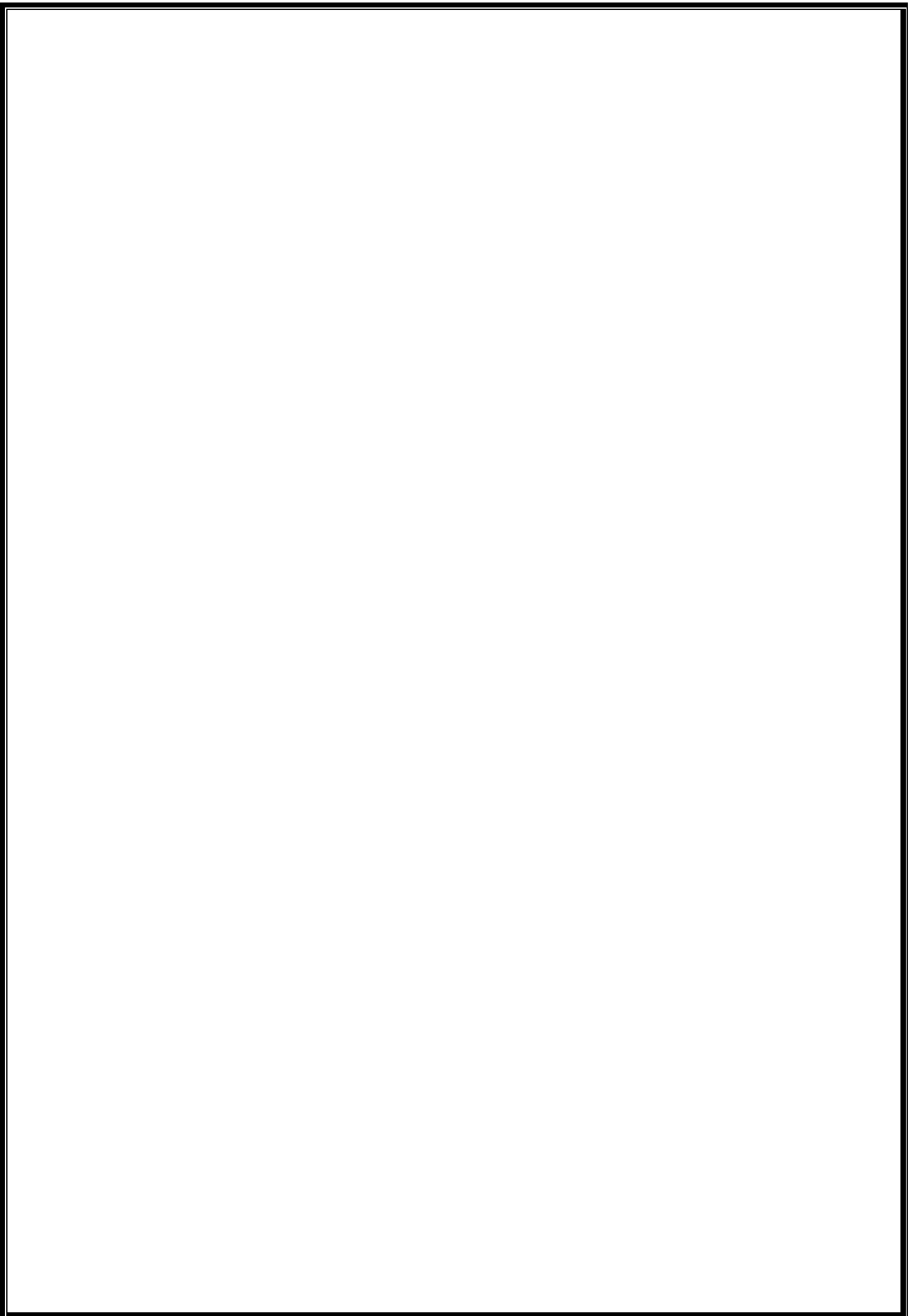
Session: 2021 - 2022

Subject: Informatics Prac.

Class: XI

No. of periods:

Month	Date/Week		Lesson/s to be covered in classroom
	From	To	
December	01.12.21	04.12.21	Arithmetic operations on one dimensional and two dimensional arrays
	06.12.21	10.12.21	Calculating max, min, count.
	13.12.21	20.12.21	sum, mean, median, mode,
	21.12.21	25.12.21	standard deviation
	27.12.21	31.12.21	variance on NumPy arrays
	31.12.21	08.01.22	Winter Break
January	10.01.22	15.01.22	Introduction to the Emerging Trends Artificial Intelligence, Machine Learning, Natural Language Processing, Immersive experience (AR, VR)
	17.1.22	22.1.22	Robotics, Big data and its characteristics, Internet of Things (IoT), Sensors, Smart cities, Cloud Computing and Cloud Services (SaaS, IaaS, PaaS); Grid Computing, Block chain technology
	24.1.22	29.1.22	Revision
	31.1.22	05.2.22	Revision
February	07.02.22	12.02.22	Revision
	14.02.22	19.02.22	Revision
	24.2.22	09.3.22	Annual Examination





Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject : Informatics Prac.

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 1: 19th April to 24st April		Period Count: 5	
PD1	Database Concepts: Introduction to database concepts and its need		
PD2	Database Concepts continued,,,,,		
PD3	Database Concepts continued		
PD4	Database Concepts continued		
PD5	Database Concepts continued		
WEEK 2: 26th April to 01st May		Period Count: 6	
PD1	Database Concepts continued,,,,,	Revision at Home	
PD2	Database Management System. Relational data model: concept of attribute, domain, tuple, relation	Revision at Home	
PD3	Relational data model: concept of attribute	Revision at Home	
PD4	Relational data model: concept of attribute	Revision at Home	
PD5	Relational data model: concept of attribute	Revision at Home	

Subject coordinator

Supervisor

Principal/V. Principal



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject :Informatics Practices

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 3: 3rd May to 8th May		Period Count:5	
PD1	candidate key, primary key, alternate key, foreign key	Book Reading	
PD2	candidate key, primary key, alternate key, foreign key	Book Reading	
PD3	candidate key, primary key, alternate key, foreign key	Book Reading	
PD4	candidate key, primary key, alternate key, foreign key	Book Reading	
PD5	candidate key, primary key, alternate key, foreign key	Book Reading	
Note: 8.5.21 Second Saturday			
WEEK 4: 1st July to 3rd July		Period Count: 3	
PD1	Structured Query Language: Data Definition Language, Data Query Language and Data Manipulation, Language	Book Reading	
PD2	Structured Query Language: Data Definition Language, Data Query Language and Data Manipulation, Language	Book Reading	
PD3	Structured Query Language: Data Definition Language, Data Query Language and Data Manipulation, Language	Book Reading	

10th may to 30th June Summer vacations



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject :Informatics Practices

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 5: 5th July to 10th July			Period Count: 5
PD1	Introduction to MySQL: Creating a database, using database, showing tables using MySQL		
PD2	Data Types : char, varchar, int, float, date		
PD3	Data Definition Commands: CREATE, DROP,	Practice questions given	
PD4	Data Definition Commands: CREATE, DROP,	Practice questions given	
PD5	Data Definition Commands: CREATE, DROP,	Practice questions given	
WEEK 6: 12th July to 17th July			Period Count: 5
PD1	ALTER (Add and Remove primary key, attribute).	Practice questions given	
PD2	ALTER (Add and Remove primary key, attribute).	Practice questions given	
PD3	ALTER (Add and Remove primary key, attribute).	Practice questions given	
PD4	ALTER (Add and Remove primary key, attribute).	Practice questions given	
PD5	ALTER (Add and Remove primary key, attribute).	Practice questions given	

Holiday 10th July- Second Saturday

Subject coordinator

Supervisor

Principal/V. Principal



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

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Subject :Informatics Practices

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 7: 19th July to 24th July		Period Count: 5	
PD1	ALTER (Add and Remove primary key		
PD2	ALTER (Add and Remove primary key		
PD3	ALTER (Add and Remove primary key		
PD4	ALTER (Add and Remove primary key		
PD5	ALTER (Add and Remove primary key		
WEEK 8: 26th july to 31st July		Period Count: 5	
PD1	Questions discussed		
PD2	Questions discussed		
PD3	Questions discussed		
PD4	Questions discussed		
PD5	Questions discussed		

Subject coordinator

Supervisor

Principal/V. Principal



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject :Informatics Practices

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 9: 2nd August to 7th August		Period Count: 6	
PD1	Data Query Commands: SELECT-FROM- WHERE.		
PD2	Data Query Commands: SELECT-FROM- WHERE.		
PD3	Data Query Commands: SELECT-FROM- WHERE.		
PD4	LIKE, BETWEEN, IN, ORDER BY		
PD5			
WEEK 10: 9th August to 13th August		Period Count: 5	
PD1	LIKE, BETWEEN, IN, ORDER BY		
PD2	LIKE, BETWEEN, IN, ORDER BY		
PD3	using arithmetic, logical, relational operators and NULL values in queries, Distinct clause		
PD4	using arithmetic, logical, relational operators and NULL values in queries, Distinct clause		
PD5	Data Manipulation Commands: INSERT, UPDATE, DELETE		

HOLIDAY: 14th August SECOND SATURDAY

Subject coordinator

Supervisor

Principal/V. Principal



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject : Chemistry

Class : XIth

Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)

Subject coordinator

Supervisor

Principal/V. Principal



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject :Informatics Prac.

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 13: 30th August to 4th Sept		Period Count: 6	
PD1	Introduction to Python	Learn at Home	
PD2	Python basics	Learn at Home	
PD3	Basics of Python programming, Python interpreter - interactive and script mode, the structure of a program		
PD4	Basics of Python programming, Python interpreter - interactive and script mode, the structure of a program		
PD5	Basics of Python programming, Python interpreter - interactive and script mode, the structure of a program continues.....		
WEEK 14: 6th Sept to 11th Sept		Period Count: 5	
PD1	indentation, identifiers, keywords, constants, variables, types of operators, precedence of operators		
PD2	indentation, identifiers, keywords, constants, variables, types of operators, precedence of operators	Learn at Home	
PD3	Data types, mutable and immutable data types, statements, expressions, evaluation of expressions, comments, input and output statements, data type conversion	Programs given	
PD4	Data types, mutable and immutable data types, statements, expressions, evaluation of expressions, comments, input and output statements, data type conversion	Programs given	
PD5	Revision		

1st Sept to 8th Sep – Test 1

11th Sept : Second saturday



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview
Session: 2021- 2022

Subject : Informatics Prac.

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 15: 13th Sept to 18th Sept		Period Count: 6	
PD1	Data types, mutable and immutable data types, statements, expressions, evaluation of expressions, comments, input and output statements, data type conversion	Learn at Home	
PD2	Data types, mutable and immutable data types, statements, expressions, evaluation of expressions, comments, input and output statements, data type conversion	Learn at Home	
PD3	Data types, mutable and immutable data types, statements, expressions, evaluation of expressions, comments, input and output statements, data type conversion	Programs given	
PD4	Data types, mutable and immutable data types, statements, expressions, evaluation of expressions, comments, input and output statements, data type conversion	Programs given	
PD5	Data types, mutable and immutable data types, statements, expressions, evaluation of expressions, comments, input and output statements, data type conversion	Programs given	
WEEK 16: 20th sep to 25th Sep		Period Count: 5	
PD1	Programs		
PD2	Programs		
PD3	Programs		
PD4	Programs		
PD5	Programs		



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject :Informatics Prac.

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 17: 27th sep to 2nd Oct		Period Count: 5	
PD1	Lists: list operations - creating, initializing, traversing and manipulating lists, extend(), insert(), count(), find(), remove(), pop(), reverse(), sort(), sorted(), min(), max(), sum()	Learn at Home	
PD2	list methods and built-in functions.: len(), list(), append()	Learn at Home	
PD3	extend(), insert(), count(), find(), remove(), pop()		
PD4	reverse(), sort(), sorted(), min(), max(), sum()		
PD5	reverse(), sort(), sorted(), min(), max(), sum()		
2nd oct : Gandhi Jayanti			
WEEK 18: 4th Oct to 9th Oct		Period Count: 5	
PD1	Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements		
PD2	Dictionary: concept of key-value pair, creating, initializing, traversing, updating and deleting elements	Learn at Home	
PD3	dictionary methods and built-in functions: len(), dict(), keys(), values(), items(), get(), update(), clear(), del()		
PD4	dictionary methods and built-in functions: len(), dict(), keys(), values(), items(), get(), update(), clear(), del()		
PD5	dictionary methods and built-in functions: len(), dict(), keys(), values(), items(), get(), update(), clear(), del()		



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject :Informatics Prac.

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 19: 11th Oct to 16th Oct		Period Count: 4	
PD1	Programs	Learn at Home	
PD2	Programs	Learn at Home	
PD3	Programs		
PD4	Programs		
Dussehra holidays: 14 th Oct to 15 th Oct			
Week-20; 18th oct to 23rd oct		Period Count:	
PD1	Programs		
PD2	Programs	Learn at Home	
PD3	Programs	Revision	
PD4	Programs	Revise	
PD5	Programs		

Half yearly examination: 25th Oct to 12th Nov



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject :Informatics Prac.

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 21: 15th Nov to 20th Nov		Period Count:6	
PD1	Data Handling using NumPy Data and its purpose, importance of data, structured and unstructured data, data processing cycle	Learn at Home	
PD2	Data Handling using NumPy Data and its purpose, importance of data, structured and unstructured data, data processing cycle	Learn at Home	
PD3	Basic statistical methods for understanding data - mean, median, mode, standard deviation and variance.		
PD4	Basic statistical methods for understanding data - mean, median, mode, standard deviation and variance.		
PD5	Programs		
WEEK 22: 22nd Nov to 27th Nov		Period Count: 5	
PD1	Introduction to NumPy library, NumPy arrays and their advantage, NumPy attributes, creation of NumPy arrays; from lists using np.array(), np.zeros(),		
PD2	Introduction to NumPy library, NumPy arrays and their advantage, NumPy attributes, creation of NumPy arrays; from lists using np.array(), np.zeros(),	Learn at Home	
PD3	Programs		
PD4	Programs		
PD5	Programs		

4th to 6th November Diwali Holiday



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject :Informatics Practices

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 23: 29th Nov to 4th Dec		Period Count: 6	
PD1	np.ones(),np.arange() , indexing, slicing, and iteration; concatenating and splitting array;	Learn at Home	
PD2	np.ones(),np.arange() , indexing, slicing, and iteration; concatenating and splitting array;	Learn at Home	
PD3	Programs		
PD4	Programs		
PD5	Programs		
WEEK 24: 6th dec to 11th Dec		Period Count: 5	
PD1	Arithmetic operations on one dimensional and two dimensional arrays.		
PD2	Calculating max, min, count, sum, mean, median, mode, standard deviation, variance on NumPy arrays	Learn at Home	
PD3	Calculating max, min, count, sum, mean, median, mode, standard deviation, variance on NumPy arrays	Learn at Home	
PD4	Calculating max, min, count, sum, mean, median, mode, standard deviation, variance on NumPy arrays		
PD5	Calculating max, min, count, sum, mean, median, mode, standard deviation, variance on NumPy arrays		



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject :Informatics Prac.

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 25: 13th Dec to 18th Dec		Period Count: 5	
PD1	Lab exercise	Learn at Home	
PD2	Lab exercise	Learn at Home	
PD3	Programs		
PD4	Programs	Learn	
PD5	Programs		
11th Dec (Second Saturday)			
13th Dec to 20th Dec- Test 2			
WEEK 26: 20th Dec to 25th Dec		Period Count:5	
PD1	Lab exercise		
PD2	Lab exercise	Learn at Home	
PD3	Programs		
PD4	Programs		
PD5	Programs		

25th Dec: Christmas Holiday



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

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Subject :Informatics Prac.

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 27: 27th Dec to 30th Dec		Period Count: 4	
PD1	Lab exercise	Learn at Home	
PD2	Lab exercise	Learn at Home	
PD3	Programs		
PD4	Programs		
31st Dec to 8th Jan : Winter break			
WEEK 28: 10th Jan to 15th jan		Period Count: 5	
PD1	Introduction to the Emerging Trends Artificial Intelligence, Machine Learning, Natural Language		
PD2	Immersive experience (AR, VR),	Learn at Home	
PD3	Big data and its characteristics		
PD4	Internet of Things (IoT), Sensors, Smart cities, Cloud Computing		
PD5	Continued...		

15th jan : Second saturday



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject :Informatics Prac.

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 29: 17th Jan to 22nd Jan		Period Count: 5	
PD1	ProcessingRobotics, , and Cloud Services (SaaS, IaaS, PaaS);	Learn at Home	
PD2	ProcessingRobotics, , and Cloud Services (SaaS, IaaS, PaaS);	Learn at Home	
PD3	Grid Computing		
PD4	Block chain technology	Revision	
PD5	Block chain technology	Revision	
WEEK 30: 24th Jan to 29th Jan		Period Count: 6	
PD1	Revision		
PD2	Revision	Learn at Home	
PD3	Revision		
PD4	Revision		
PD5	Revision		
PD6	Revision		

26th jan (Republic Day)



Sir Padampat Singhania Education Centre

Kamla Nagar, Kanpur

Weekly planning overview

Session: 2021- 2022

Subject :Informatics Prac.

Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 31: 31st Jan to 5th Feb		Period Count: 6	
PD1	Revision	Learn at Home	
PD2	Revision	Learn at Home	
PD3	Revision		
PD4	Revision		
PD5	Revision		
WEEK 32: 7th feb to 12th Feb		Period Count: 5	
PD1	Revision		
PD2	Revision	Learn at Home	
PD3	Revision		
PD4	Revision		
PD5	Revision		



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Kamla Nagar, Kanpur

Weekly planning overview

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Class : XIth

Period	Topic/s to be covered in classroom	Homework	Status (Yes/No) (Reason if No)
WEEK 31: 14th Feb to 19th Feb		Period Count: 5	
PD1	Revision	Learn at Home	
PD2	Revision	Learn at Home	
PD3	Revision		
PD4	Revision		
PD5	Revision		
WEEK 32: 21st feb to 23rd Feb		Period Count: 3	
PD1	Revision		
PD2	Revision	Learn at Home	
PD3	Revision		

24th Feb 2022 to 9th March 2022(Annual Examination)