

KAKARAPARTI BHAVANARAYANA COLLEGE

(AUTONOMOUS)

Kothapeta, Vijayawada – 520 001



DIPLOMA IN COMPUTER SCIENCE

COURSE STRUCTURE DIPLOMA IN COMPUTER SCIENCE

Diploma in Advances in Computer Science				
Year – 1		Credits	Marks	
Semester- 1			Internal	External
General Education Stream				
1.	Soft Skills-I	4		50
2.	Analytical Skills – I	4		50
3.	Basic Mathematics	4		50
Skill Component				
1.	Paper I – Mobile Application Development (Theory)	5	25	75
2.	Paper II – Data Analytics using R Programming (Theory)	5	25	75
3.	Paper III – Mobile Application Development (Practical)	3	25	75
4.	Paper IV- Data Analytics using R Programming (Practical)	3	25	75
MOOCS		2	-	-
Total		30	100	450
Semester-2				
General Education Stream				
1.	Soft Skills-II	4		50
2.	Analytical Skills – II	4		50
3.	Basic Statistics	4		50
Skill Component				
1.	Paper I – Python Programming(Theory)	5	25	75
2.	Paper II – Web designing with PHP (Theory)	5	25	75
3.	Paper III – Python Programming(Practical)	3	25	75
4.	Paper IV – Web designing with PHP (Practical)	3	25	75
OJT*		2	-	-
Total		30	100	450

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

DEPARTMENT OF ENGLISH

Programme	Semester	Title of The Course	Course Code	W.E.F
Diploma in Advances in Computer Science, Diploma in Data Analytics, Diploma in Drone Pilot, Diploma in Event management	I	Soft Skills – I	R20DSS1	2020-21

Total No of Hours for Teaching - Learning	Instructional Hours for Week	Duration of Semester End Examination in Hours	Max Marks		Credits
			CIA	SEE	
30	30	2 Hrs.	-	50	3

Learning Outcomes:

By the end of the course the learner will be able to:

- Understand the significance and essence of a wide range of soft skills.
- Learn how to apply soft skills in a wide range of routine social and professional settings.
- Learn how to employ soft skills to improve interpersonal relationships
- Learn how to employ soft skills to enhance employability and ensure workplace and career success.

I. UNIT

1. Soft Skills: An Introduction – Definition and Significance of Soft Skills; Process, Importance and Measurement of Soft Skill Development.

2. Self-Discovery: Discovering the Self; Setting Goals; Beliefs, Values, Attitude, Virtue.

II. UNIT

1. Interpersonal Communication: Interpersonal relations; communication models, process and barriers; team communication; developing interpersonal relationships through effective communication; listening skills; essential formal writing skills; corporate communication styles – assertion, persuasion, negotiation.

2. Public Speaking: Skills, Methods, Strategies and Essential tips for effective public speaking.

III. UNIT

- 1. Interview Skills:** Interviewer and Interviewee – in-depth perspectives. Before, During and After the Interview. Tips for Success.
- 2. Presentation Skills:** Types, Content, Audience Analysis, Essential Tips – Before, During and After, Overcoming Nervousness.
- 3. Etiquette and Manners** – Social and Business

IV. UNIT

- 1. Decision-Making and Problem-Solving Skills:** Meaning, Types and Models, Group and Ethical Decision-Making, Problems and Dilemmas in application of these skills

V. UNIT

- 1. Emotional Intelligence:** Meaning, History, Features, Components, Intrapersonal and Management Excellence; Strategies to enhance Emotional Intelligence.

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

Programme	Semester	Title of The Course	Course Code	W.E.F
Diploma in Advances in Computer Science, Diploma in Data Analytics, Diploma in Drone Pilot, Diploma in Event management	I	Soft Skills – I	R20DSS1	2020-21

MODEL QUESTION PAPER

Time: 2Hrs

Marks: 50

I. Answer any Two questions from the following in 75 words each:

2X5=10M

1. Define Soft Skills and importance of Soft Skills?
2. Suggest some methods to develop soft skills?
3. Define Attitude and state how Beliefs differ from Values with an example.
4. How important is setting a Goal in order to succeed in one's Career?

II. Answer any Two questions from the following in 75 words each:

2X5=10M

1. Define Communication and the Process of Communication.
2. How can we develop interpersonal relationships through effective communication?
3. Suggest some strategies for effective public speaking.
4. What is public speaking and how important is public speaking in day-today Communication?

III. Answer any Two of the following in 75 words each:

2X5=10M

1. Suggest some important tips to succeed in an interview.
2. Define the role of an Interviewer and Interviewee.
3. Mention different types of presentation skills.
4. Role of etiquette in successful Business communication.

IV. Answer any Two of the following in 75 words each:

2X5=10M

1. How important is decision making skills and mention some types of decisions?
2. What are the problems we encounter in making effective decisions?
3. What are the strategies to follow in order to be a good decision maker?
4. How can we identify a problem and respond to that in due time?

V. Answer any Two of the following in 75 words each:

2X5=10M

1. What is emotional intelligence? Explain.
2. What are the strategies to enhance Emotional Intelligence.
3. How emotional intelligence place a role in managing interpersonal relations and excel in one's career.
4. Define the features and components of emotional intelligence?

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)

Department Of Mathematics

Programme	Semester:	Title of The Course	Course Code:	W.E.F
Diploma	I	ANALYTICAL SKILLS-I	DAS1	2020 – 2021

Total No of Hours for Teaching - Learning	Instructional Hours for Week		Duration of Semester End Examination in Hours	Max Marks		Credits
30 Hours	Theory		2 Hours		SEE	2
	2				50	

COURSE OBJECTIVE

- The aim of this course is to provide necessary information to Analytical Skills and their applications.
- To develop logical thinking and its application to computer science

COURSE OUTCOME

- Understand the concept of Divisibility , Averages.
- Will be able to write an argument using logical notation and determine if the argument is or is not valid.
- Will be able to know Percentages,Number , letter series , missing letters .

UNIT-1: (12 hours) - Divisibility:

Introduction to Divisibility by 2,3,4; Introduction to Divisibility by 5,6,8;
Divisibility by 9,10,11

UNIT -2: (12 hours) - Averages:

Introduction to average of prime numbers; Introduction to natural numbers;
Introduction of results; Introduction to averages of weights.

UNIT -3 : (12 hours) – Percentages:

Introduction to the concept of percentage; introduction to express x% as a fraction; introduction to express $\frac{a}{b}$ as a percent; introduction to results on population; introduction to results on depreciation.

UNIT -4: (12 hours) - Number, letter series, missing letters:

Introduction to numbers; introduction to face value and place value; introduction to various types of numbers; introduction to number series; introduction to missing letters.

UNIT-5 : (12 hours) – Blood relations :

Introduction to deciphering jumbled up descriptions; introduction to relations puzzle; introduction to coded relations.

PRESCRIBED BOOK :

- 1) A Text book of Quantitative Aptitude by R S Agarwal

BLUE PRINT :

<u>UNIT</u>	<u>SAQ</u>	<u>LAQ</u>
I	3	2
II	3	2
III	3	2
IV	3	2
V	3	2

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)

Department of Mathematics

Programme	Semester:	Title of The Course	Course Code:	W.E.F
Diploma	I	ANALYTICAL SKILLS-I	DAS1	2020 – 2021

Total No of Hours for Teaching - Learning	Instructional Hours for Week	Duration of Semester End Examination in Hours	Max Marks	Credits
30 Hours	Theory	2 Hours	SEE	2
	2		50	

MODEL PAPER

Section A

I. Answer any 10 of the following questions: 10x2=20m

1. Simplify $\frac{(893+786)^2 - (893-786)^2}{(893 \times 786)}$
2. Find the sum $(2+2^2+2^3+2^4+\dots+2^{10})$
3. Show that 4832718 is divisible by 11.
4. Find the average of all prime numbers between 30 and 50.
5. Find the average of first five multiples of 3.
6. The average of four consecutive even numbers is 27. Find the largest of these numbers.
7. Evaluate 28% of 450 + 45% of 280
8. What percent of 7 is 94.
9. If 15% of x = 20% of y. What is x:y
10. $9587 - ? = 7429 - 4358$
11. What will come in the place of question mark in the following series
BF CH ? HO LT
12. Find the missing number in the series 2 5 10 17 ? 37
13. B is the brother of D, D is sister of F, M is the brother of F. How F is related to B?
14. Introducing a man to a woman, she said "he is the only son of my mother's mother". How woman related to the man.
15. A man said to a lady "your mother's husband's sister is my aunt". How is the lady related to the man.

Section B

II. Answer any five of the following questions:

5 x 6 = 30m

16. Explain divisibility rules.
17. Find the sum of all even natural numbers less than 75.
18. The average monthly income of P and Q is Rs. 5050 the average monthly income of Q and R is Rs. 6250 and average monthly income of P and R is Rs. 5200 then find the monthly income of P.
19. The average weight of 21 boys was recorded as 64kg. If the weight of the teacher was average increased by one kg. What was the teacher's weight.
20. The salaries of A, B, C are in the ratio 2:3:5. If the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be the new ratio of their salaries.
21. Two friends P and Q started a business investing in the ratio of 5:6. R joined them after 6 months investing an amount equal to that of Q's. At the end of the year 20% profit was earned which was equal to Rs.98,000. What was the amount invested by R.
22. In a bag there are coins of 25p, 10p and 5p in the ratio of 1:2:3, if there are Rs.30 in all, how many 5p coins are there.
23. The sum of two numbers is 10 and their sum is 14.
 - a. Find the numbers and
 - b. Find the product of two numbers.
24. What is mean by Blood Relation?
25. How many numbers between 11 and 90 are divisible by "7".

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KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)

Department Of Mathematics

Programme	Semester:	Title of The Course	Course Code:	W.E.F
<u>Diploma</u>	I	BASIC MATHEMATICS-1	DBM1	2020 – 2021

Total No of Hours for Teaching - Learning	Instructional Hours for Week		Duration of Semester End Examination in Hours	Max Marks		Credits
	Theory				SEE	
30 Hours			2 Hours		50	2
	2					

COURSE OBJECTIVE

- The aim of this course is to provide necessary information to Basic Mathematics and their applications.
- To develop logical thinking and its application to computer science

COURSE OUTCOME

- Understand the concept of Boolean Algebra and Logic Circuits.
- Will be able to write an argument using logical notation and determine if the argument is or is not valid.
- Will be able to know Linear equations , permutations & Combinations, Probability.

SYLLABUS

UNIT-1:-

NUMBER THEORY

INTRODUCTION:-Division algorithm _G.C.D&L.C.M_primes and composite numbers_
Fundamentals theorem of arithmetic _ linear congruence's _ problems on format & Wilson theorem.

UNIT-2:-

BOOLEAN ALGEBRA

INTRODUCTION:-Principle of dualism _ disjunctive normal forms _conjunctive normal form _Lattice _homomorphism &isomorphism of Boolean algebra _atoms ,anti atoms _application of B.A to switching circuits.

UNIT-3:- **Linear Equations**

INTRODUCTION:-Echelon form _Rank of a matrix _ solution of homogenous Eqn_ Cramers rule _Inverse method &Gauss Jordan method_ Gauss elimination method _System of Homogeneous.

Fundamental principle _Linear permutation with or without repetition_ circular permutation _combination &division into groups_ distributions of unlike &like objects.

UNIT-5:- **Probability**

Classical definition _ additional definition _conditional probability _total probability _ Bayes theorem (Only problems).

PRESCRIBED BOOK :

1. A Text book of B.Sc Mathematics by S.Chand Publications

BLUE PRINT :

<u>UNIT</u>	<u>SAQ</u>	<u>LAQ</u>
I	2	1
II	1	1
III	1	1
IV	1	1
V	1	1

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)

Department of Mathematics

Programme	Semester:	Title of The Course	Course Code:	W.E.F
<u>Diploma</u>	I	BASIC MATHEMATICS-1	DBM1	2020 – 2021

Total No of Hours for Teaching - Learning	Instructional Hours for Week		Duration of Semester End Examination in Hours	Max Marks		Credits
	Theory				SEE	
30 Hours	2		2 Hours		50	2

MODEL PAPER

SECTION-A

I. ANSWER ANY FOUR QUESTIONS

4×5=20M

1. Find q, r of the division algorithm if $b=7/53, a=17$.
2. solve the following congruence $3x=4(\text{mod } 5)$
3. For a Boolean algebra $(B, +, \cdot, ')$ and $a \in B$ then prove that $a+a=a$ and $a-a=a$
4. solve the system of linear equations $3x+4y+5z=18, 2x-y+8z=13, 5x-2y+7z=20$
5. If ${}^{(n+1)}P_5 : {}^nP_5 = 3:2$ then find n
6. If $P(A)=0.5, P(B)=0.3$ and A, B are exclusive then what is the probability that neither A nor B occurs.

SECTION-B

II. Answer any three of the following

3×10=30M

1. Find (i) $\Phi(3600)$
ii. $\Phi(490)$
2. Find x, y, z in a Boolean algebra $(B, +, \cdot, ')$ then show that $x+y \cdot z = y \cdot (x+z)$ if $x \leq y$
3. solve the system of linear equations $2x-y+3z=9, x+y+z=6, x-y+z=2$ by matrix inverse method
4. Find the no. of ways of arranging 6 red roses and 3 yellow roses of different sizes into a garland. In how many ways of them all the yellow roses come together.
5. If two cards are drawn from a pack of 52 cards then find the probability of getting both red and both kings.

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)

Department of Computer Science & Applications

Class:	Semester	Title of The Paper:	Paper Code:	W.E.F
Diploma in advances in computer sciences	1	Mobile Application Development	DIP-CSC-101	2020-2021

Total No of Hours for Teaching - Learning	Instructional Hours for Week		Duration of Semester End Examination in Hours	Max Marks		Credits
	Theory	Practical		CIA	SEE	
60 Hours	5	3	3 Hours	25	75	

SYLLABUS

Course Objectives:

- To demonstrate their understanding of the fundamentals of Android operating systems
- To demonstrate their skills of using Android software development tools
- To demonstrate their ability to develop software with reasonable complexity on mobile platform
- To demonstrate their ability to deploy software to mobile devices
- To demonstrate their ability to debug programs running on mobile devices

UNIT- I

Introduction to Android Operating System: Android OS design and Features – Android development framework, SDK features, Installing and running applications on Eclipse platform, Creating AVDs, Types of Android applications, Best practices in Android programming, Android tools

Android application components – Android Manifest file, Externalizing resources like values, themes, layouts, Menus etc, Resources for different devices and languages, Runtime Configuration Changes

Android Application Lifecycle – Activities, Activity lifecycle, activity states, monitoring state changes

UNIT - II

Android User Interface: Measurements – Device and pixel density independent measuring units. Layouts – Linear, Relative, Grid and Table Layouts.

User Interface (UI) Components – Editable and non-editable Text Views, Buttons, Radio and Toggle Buttons, Checkboxes, Spinners, Dialog and pickers.

Event Handling – Handling clicks or changes of various UI components.

Fragments – Creating fragments, Lifecycle of fragments, Fragment states, Adding fragments to Activity, adding, removing and replacing fragments with fragment transactions, interfacing between fragments and Activities, Multi-screen Activities

UNIT -III

Intents and Broadcasts: Intent – Using intents to launch Activities, Explicitly starting new Activity, Implicit Intents, Passing data to Intents, Getting results from Activities, Native Actions, using Intent to dial a number or to send SMS

Broadcast Receivers – Using Intent filters to service implicit Intents, Resolving Intent filters, finding and using Intents received within an Activity

Notifications – Creating and Displaying notifications, Displaying Toasts

UNIT - IV

Persistent Storage: Files – Using application specific folders and files, creating files, reading data from files, listing contents of a directory Shared Preferences – Creating shared preferences, saving and retrieving data using Shared Preference

Database – Introduction to SQLite database, creating and opening a database, creating tables, inserting retrieving and deleting data, Registering Content Providers, Using content Providers (insert, delete, retrieve and update)

UNIT - V

Advanced Topics:

Alarms – Creating and using arms.

Using Internet Resources – Connecting to internet resource, using download manager Location Based Services – Finding Current Location and showing location on the Map, updating location

TEXT BOOKS:

1. Professional Android 4 Application Development, Reto Meier, Wiley India, (Wrox) , 2012
2. Android Application Development for Java Programmers, James C Sheusi, Cengage Learning, 2013

REFERENCE:

1. Beginning Android 4 Application Development, Wei-Meng Lee, Wiley India (Wrox), 2013

Class:	Semester	Title of The Paper:	Paper Code:	W.E.F
Diploma in advances in computer sciences	1	Mobile Application Development	DIP-CSC-101	2020-2021

Model paper

Section-I

Answer any five questions

5X5=25 Marks

- 1) Explain about SQLite SELECT Query
- 2) Write the SQLite Features
- 3) Write about History of Android
- 4) Explain about linear layout.
- 5) Explain about SDK features
- 6) Explain advantages of database
- 7) Explain applications of MAP
- 8) Explain about notifications

Answer all questions

5X10=50 Marks

- 9) A) Define android. Discuss the android applications.

(OR)

- B) Explain about Android Activity Lifecycle

- 10) A) Explain about User Interface (UI) Components

(OR)

- B) Explain about Fragment Life Cycle

11. A) Explain about Types of Android Intents

(OR)

- B) Explain about Android Toast

12. A) Write a procedure to create a table in database.

(OR)

- B) SQLite UPDATE Query and DELETE Query.

13. A) Explain about Android AlarmManager

(OR)

Explain about Location Object methods.

BLUE PRINT

Class:	Semester	Title of The Paper:	Paper Code:	W.E.F
Diploma in advances in computer sciences	1	Mobile Application Development	DIP-CSC-101	2020-2021

SECTION A (5*5=25 Marks)

- 5 Questions to be answered out of 8 Questions
- 1 Question must be given from each Unit

SECTION B (5*10=50 Marks)

- 2 Questions must be given from each Unit with an internal choice

Illustration of Model Question Paper

	Section A	Section B
<u>UNIT I</u>	<u>1</u>	<u>2</u>
<u>UNIT II</u>	<u>2</u>	<u>2</u>
<u>UNIT III</u>	<u>2</u>	<u>2</u>
<u>UNIT IV</u>	<u>2</u>	<u>2</u>
UNIT V	1	2
	8	10

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)

Department of Computer Science & Applications

Class:	Semester	Title of The Paper:	Paper Code:	W.E.F
Diploma in Advances in Computer Sciences/ Diploma in Data Analytics	I	DATA ANALYTICS USING-R	DIP-CSC-102/ R20-DA- CSC101	2020- 2021

Total No of Hours for Teaching - Learning	Instructional Hours for Week		Duration of Semester End Examination in Hours	Max Marks		Credits
	Theory	Practical		CIA	SEE	
60 Hours	5	3	3 Hours	25	75	

Course Objectives:

Data Science is a fast-growing interdisciplinary field, focusing on the analysis of data to extract knowledge and insight. This course will introduce students to the collection, preparation, analysis, modelling and visualization of data, covering both conceptual and practical issues. Examples and case studies from diverse fields will be presented, and hands-on use of statistical and data manipulation software will be included.

Course Outcomes:

- Recognize the various discipline that contribute to a successful data science effort.
- Understand the processes of data science identifying the problem to be solved, data collection, preparation, modelling, evaluation and visualization.
- Be aware of the challenges that arise in data sciences.
- Develop an appreciation of the many techniques for data modelling and mining.
- Be cognizant of ethical issues in many data science tasks.
- Be comfortable using commercial and open source tools such as the R language and its associated libraries for data analytics and visualization.

UNIT – I - INTRODUCTION:

Introducing to R Data Structures –Help functions in R –Vectors –Scalars –Declarations –recycling –Common Vector operations –Using all and any –Vectorized operations – NA and NULL values –Filtering –Vectorised if-then else –Vector Equality –Vector Element names

UNIT – II - MATRICES, ARRAYS AND LISTS:

Creating matrices –Matrix operations –Applying Functions to Matrix Rows and Columns –Adding and deleting rows and columns –Vector/Matrix Distinction – Avoiding Dimension Reduction –Higher Dimensional arrays –lists –Creating lists –General list operations –Accessing list components and values –applying functions to lists –recursive lists

UNIT – III - DATA FRAMES:

Creating Data Frames –Matrix-like operations in frames –Merging Data Frames – Applying functions to Data frames –Factors and Tables –factors and levels –Common functions used with factors –Working with tables -Other factors and table related functions -Control statements –Arithmetic and Boolean operators and values –Default values for arguments -Returning Boolean values

UNIT– IV

- R - CSV Files: Getting and Setting the Working Directory, Input as CSV File, Reading a CSV File, Analysing the CSV File, Writing into a CSV File
- R - Excel File: Install xlsx Package, Verify and Load the "xlsx" Package, Input as xlsx File, Reading the Excel File
- R - Binary Files: Writing the Binary File, Reading the Binary File
- R - Web Data: Input Data, Verify the File Download
 - Mean: Applying NA Option, Applying Trim Option
 - Median, Mode
- R - Linear Regression: Steps to Establish a Regression, lm() Function, predict() Function
- R - Multiple Regression: R - Logistic Regression: Create Regression Model
- R - Normal Distribution: dnorm(), pnorm(), qnorm(), rnorm()

BLUE PRINT

Class:	Semester	Title of The Paper:	Paper Code:	W.E.F
Diploma in Advances in Computer Sciences/ Diploma in Data Analytics	I	DATA ANALYTICS USING-R	DIP-CSC-102/ R20-DA- CSC101	2020- 2021

SECTION A (5*5=25 Marks)

- 5 Questions to be answered out of 8 Questions
- 1 Question must be given from each Unit

SECTION B (5*10=50 Marks)

- 2 Questions must be given from each Unit with an internal choice

Illustration of Model Question Paper

	<u>Section A</u>	<u>Section B</u>
<u>UNIT I</u>	<u>1</u>	<u>2</u>
<u>UNIT II</u>	<u>2</u>	<u>2</u>
<u>UNIT III</u>	<u>2</u>	<u>2</u>
<u>UNIT IV</u>	<u>2</u>	<u>2</u>
UNIT V	1	2
	8	10

Class:	Semester	Title of The Paper:	Paper Code:	W.E.F
Diploma in Advances in Computer Sciences/ Diploma in Data Analytics	I	DATA ANALYTICS USING-R	DIP-CSC-102/ R20-DA- CSC101	2020- 2021

MODEL PAPER

Section – A

Answer any five of the following

5*5=25 M

1. Write a procedure to create a function in R.
2. Explain about Vector.
3. Explain NA, NULL values
4. Explain help () function in r.
5. Write in details about matrices
6. Write about list.
7. Write a procedure to import packages.
8. Explain the use of DNORM (), PNORM () functions.

Section – B

Answer all of the following

5*10=50m

9. a) add a row and column to the matrix a=[1,2,3,4,5,6,7,8,9] with a vector [10,11,12].
(Or)
b) Explain vector and matrix in r?
10. a) Explain list in R with an example.
(Or)
b) Explain DATA FRAME in R with an example
11. a) Write the step by step procedure to read data from CSV file and writing into a CSV file.
(Or)
b) Write the step by step procedure to read data from EXCEL file and writing into a EXCEL file.
12. a) Write the step by step procedure to read data from BINARY FILE and writing into a BINARY FILE.
(Or)
b) Explain about Mean, Mode, and Median formula with an example.
13. a) Explain the steps to establish a Linear Regression with an example.
(Or)
b) Explain the steps to establish a Logistic Regression with an example.

Class:	Semester	Title of The Paper:	Paper Code:	W.E.F
Diploma in Advances in Computer Sciences/ Diploma in Data Analytics	I	DATA ANALYTICS USING-R	DIP-CSC-102/ R20-DA- CSC101	2020- 2021

(PRACTICAL)

1. R Data Frame: Create, Append, Select, Subset, Merging of data frames
2. Exporting data to Excel, CSV,SAS, Text File
3. Handling datasets
4. Mean, Median, Standard Deviation, Variance, Correlation, Covariance in R
5. Correlation in R:Pearson & Spearman with Matrix Example
6. T Test in R
7. Chi-Square Test in R
8. Prediction using linear regression and visualizing the regression graphically
9. Prediction using logistic regression and visualizing the regression graphically
10. Classification algorithms in R
11. Clustering algorithms in R
12. Scatter Plot in R using ggplot2
13. Boxplot in R
14. Barchart & Histogram in R

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

DEPARTMENT OF ENGLISH

Programme	Semester	Title of The Course	Course Code	W.E.F
Diploma in Advances in Computer Science, Diploma in Data Analytics, Diploma in Drone Pilot, Diploma in Event management	II	Soft Skills – II	R20DSS2	2020-21

Total No of Hours for Teaching - Learning	Instructional Hours for Week	Duration of Semester End Examination in Hours	Max Marks		Credits
	Theory		CIA	SEE	
30	30	2 Hrs.	-	50	3

Learning Outcomes:

By the end of the course the learner will be able to:

- Understand the significance and essence of a wide range of soft skills.
- Learn how to apply soft skills in a wide range of routine social and professional settings.
- Learn how to employ soft skills to improve interpersonal relationships
- Learn how to employ soft skills to enhance employability and ensure workplace and career success.

I. UNIT

1. Positivity and Motivation: Developing Positive Thinking and Attitude; Driving out Negativity; Meaning and Theories of Motivation; Enhancing Motivation Levels.

II. UNIT

1. Group Discussion: Importance, Planning, Elements, Skills assessed; Effectively disagreeing, Initiating, Summarizing and Attaining the Objective.

2. Non-Verbal Communication: Importance and Elements; Body Language

III. UNIT

1. Time Management – Concept, Essentials, Tips.

2. Personality Development – Meaning, Nature, Features, Stages, Models; Learning Skills; Adaptability Skills.

IV. UNIT

1. Conflict Management: Conflict - Definition, Nature, Types and Causes; Methods of Conflict Resolution.

2. Stress Management: Stress - Definition, Nature, Types, Symptoms and Causes; Stress Analysis Models and Impact of Stress; Measurement and Management of Stress

V. UNIT

1. Leadership and Assertiveness Skills: A Good Leader; Leaders and Managers; Leadership Theories; Types of Leaders; Leadership Behaviour; Assertiveness Skills.

KAKARAPARTI BHAVANARAYANA COLLEGE (AUTONOMOUS)

Programme	Semester	Title of The Course	Course Code	W.E.F
Diploma in Advances in Computer Science, Diploma in Data Analytics, Diploma in Drone Pilot, Diploma in Event management	II	Soft Skills – II	R20DSS2	2020-21

MODEL QUESTION PAPER

Time: 2Hrs

Marks: 50

- I. Answer any Two questions from the following in 75 words each: 2X5=10M**
5. Define positive attitude and principles to develop positive attitude.
 6. Discuss briefly some theories of Motivation.
 7. Can you brief some meaningful steps that help in enhancing Motivation?
 8. What are the reasons for Negative thinking? Mention some consequences of Negative Thinking?
- II. Answer any Two questions from the following in 75 words each: 2X5=10M**
5. How does group discussion help in developing communication skills?
 6. How is group discussion different from a debate?
 7. What is Non-Verbal Communication? Importance of Nonverbal skills in day-today life.
 8. Importance of Body language in Non -Verbal communication.
- III. Answer any Two of the following in 75 words each: 2X5=10M**
1. How important is Time Management for a Successful Career?
 2. What are the essential factors that play a crucial role in observing Time?
 3. Define Learning skills and Adaptability skills.
 4. Mention some features and models that help in developing one's personality.
- IV. Answer any Two of the following in 75 words each: 2X5=10M**
1. What are the methods that help us in resolving Conflict?
 2. What are the Causes of Conflict? Mention some types of conflict.
 3. How can we identify stress? Mention some types of Stress.
 4. Suggest some strategies to Manage and Measure Stress.
- V. Answer any Two of the following in 75 words each: 2X5=10M**
- a. Is Manager a leader? What makes a Leader different from a Manager?
 - b. What makes a good leader? Can you explain some Theories of Leadership?
 - c. How do assertive skills play a role in making a leader?
 - d. How does one's behaviour affect a person in becoming an effective leader?

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)

Department of Mathematics

Programme	Semester:	Title of The Course	Course Code:	W.E.F
Diploma in Data Analytics	II	ANALYTICAL SKILLS-II	DAS2	2020 – 2021

Total No of Hours for Teaching - Learning	Instructional Hours for Week		Duration of Semester End Examination in Hours	Max Marks		Credits
30 Hours	Theory		2 Hours		SEE	2
	2				50	

COURSE OBJECTIVES

- The aim of this course is to provide necessary information to Analytical Skills and their applications.
- To develop logical thinking and its application to computer science

COURSE OUTCOMES

- Understand the concept of Data Interpretation.
- Will be able to write an argument using logical notation and determine if the argument is or is not valid.
- Will be able to know Directions – Permutations and Combinations , Coding – Decoding and Puzzles,

UNIT -1: (12 hours) – Data Interpretation:

Introduction to tabulation; introduction to problems on tabulation; introduction to bar graphs; introduction to problems on bar graphs; introduction to pie charts.

UNIT -2: (12 hours) – Profit and Loss:

Introduction to cost price; introduction to selling price; introduction to profit; introduction gain %; introduction to loss; introduction to loss percent.

UNIT -3: (12 hours) – Distance-Speed-Time:

Introduction to speed; introduction to distance; introduction to time; introduction to change x km/hr; introduction to speed in km/hr.

UNIT -4: (12 hours) – Directions – Permutations and Combinations:

Introduction to directions; introduction to factorial notation; introduction to permutations; introduction to number of permutations; introduction to combinations; introduction to number of combinations.

UNIT -5: (12 hours) – Coding – Decoding and Puzzles:

Introduction to letter coding; introduction to direct letter coding; introduction to number coding; introduction to symbol coding; introduction to matrix coding.

PRESCRIBED BOOK : Text book of Quantitative Aptitude by R S Agarwal

BLUE PRINT

<u>UNIT</u>	<u>SAQ</u>	<u>LAQ</u>
I	3	2
II	3	2
III	3	2
IV	3	2
V	3	2

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)

Department of Mathematics

Programme	Semester:	Title of The Course	Course Code:	W.E.F
Diploma in Data Analytics	II	ANALYTICAL SKILLS-II	DAS2	2020 – 2021

Total No of Hours for Teaching - Learning	Instructional Hours for Week		Duration of Semester End Examination in Hours	Max Marks		Credits
30 Hours	Theory		2 Hours		SEE	2
	2				50	

MODEL PAPER

Section A

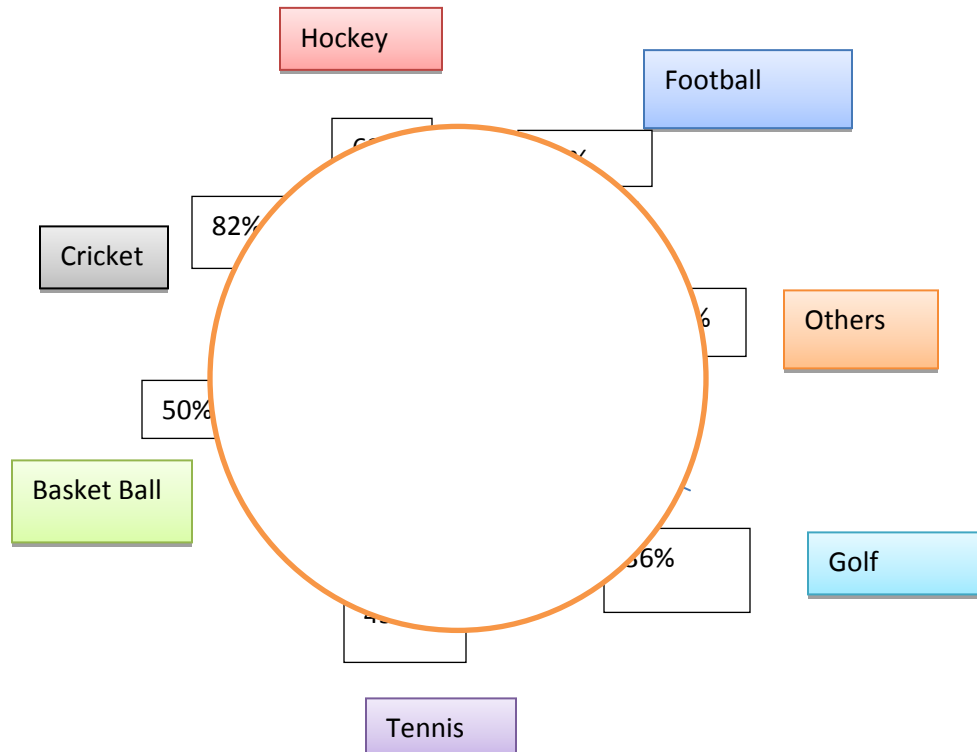
I. Answer any ten of the of following questions:

10 x2 =20m

1. Find cp when sp=Rs. 40.60 and Gain=16%.
2. If a ratio is purchased for Rs.490 and sold for Rs.165.50 find the loss percent.
3. A chair is bought for Rs.460/- and sold at a gain of 15% find the selling price.
4. By selling an article for Rs.100, a man gains Rs.15 find the gain percent.
5. A train travels 450km's in 7hrs and another train 740km's in 10hrs. Find the average speed of the train.
6. A 250mts long train crosses a pole in 15sec. What is the speed of the train in km/hr.
7. The speed of train is 90km/hr. What is the distance covered by it in 10mins.
8. A car moves at the speed of 80kn/hr, What is the speed of the car is mt/sec.
9. Evaluate $\frac{30!}{28!}$
10. How many words can be formed by using all letters of the word "BIHAR".
11. Find the value of
 - a. 10_{c_3}
 - b. $100_{c_{98}}$
12. In how many ways can a cricket team eleven be chosen out of batch of 15 players.
13. In how many ways can the letters of the word"APPLE"
14. If HEALTH is written as GSKZDG then how will NORTH be written in that code?
15. In a certain code, TEACHER is written as VGCEJGT. How is CHILDREN written in that code.

Section B

- II. Answer any five of the following questions: 5 x 6 =30
16. A book was sold for Rs.27.50 with a profit of 10%. If it were sold for Rs.25.75 then what would have been the percentage of profit (or) loss.
 17. A man gain 20% by selling an article for a certain price. If he sells it at the double the price. What is the percentage of profit.
 18. An article is sold at a certain price. By selling it at $\frac{2}{3}$ of that prices one loses 10%. Find the gain percent at original price.
 19. Explain profit and loss.
 20. How many minutes does Ramana takes to cover a distance of 400mts if he runs at a speed of 20km/hr.
 21. How many words can be formed from the letters of the word "DIRECTPR" so that the vowels come together.
 22. In a group of 6 boys and 4 girls, four children are to be selected. In how many different ways can they be selected such that bat least one boy should be there.
 23. Explain permutation and combination.
 24. In a certain code EAT is written as 318 and CHAIR is written as 24156. What will TEACHER be written as?
 25. The circle graph drawn here shows the spendings of a country on various sports during a particular year. Study the carefully and answer the questions given below.



- i. How much percent of total spending is spent on Tennis?
- ii. How much percent more is spent on Hockey than on Golf?
- iii. How much percent is less is spent on Football than that on cricket?
- iv. If the total amount spent on sports during the year was Rs.2 crores, the amount spent on cricket and Hockey together was?
- v. If the total amount spent on sports during the year be Rs.1,80,00,000 the amount of spent on Basketball exceeds that on Tennis by?

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KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)
Department of Mathematics & Statistics

Class:	Semester:	Title of The Paper:	Course Code:	W.E.F
Advances in computers	II	Basic Statistics	R20DAC – II	2020-21

Total No of Hours for Teaching - Learning	Instructional Hours for Week	Duration of Semester End Examination in Hours	Max Marks		Credits
			CIA	SEE	
30 Hours	2	2 Hours		50	3

Objectives

- The concept of Correlation and Linear Regression deals with studying the linear relationship between two or more variables, which is needed to analyse the real life problems.
- The attributes gives an idea that how to deal with qualitative data.
- This paper deals with standard sampling distributions like Chi Square, t and F and their characteristics and applications.
- This paper deals with the different techniques of point estimation for estimating the parameter values of population and interval estimation for population parameters.
- In this paper, various topics of Inferential Statistics such as interval estimation, Testing of Hypothesis, large sample tests (Z-test), small sample tests (t-test, F-test, chi-square test) and non-parametric tests are dealt with. These techniques play an important role in many fields like pharmaceutical, agricultural, medical etc.

Course Learning Outcomes

Students will acquire

- Knowledge of correlation, regression analysis, regression diagnostics, partial and multiple correlations.
- knowledge about important inferential aspects such as point estimation, test of hypotheses and associated concepts,
- knowledge about inferences from Binomial, Poisson and Normal distributions as illustrations

Syllabus

UNIT-I

Correlation: Meaning, Types of Correlation, Measures of Correlation: Scatter diagram, Karl Pearson's Coefficient of Correlation, Rank Correlation Coefficient (with and without ties), Bi-variate frequency distribution, correlation coefficient for bi-variate data and simple problems. Concept of multiple and partial correlation coefficients (three variables only) and properties

Regression: Concept of Regression, Linear Regression: Regression lines, Regression coefficients and its properties, Regressions lines for bi-variate data and simple problems. Correlation vs regression

UNIT – II

Attributes : Notations, Class, Order of class frequencies, Ultimate class frequencies, Consistency of data, Conditions for consistency of data for 2 and 3 attributes only, Independence of attributes, Association of attributes and its measures, Relationship between association and colligation of attributes, Contingency table: Square contingency

UNIT – III

Large sample Tests: large sample test for single mean and difference of two means, confidence intervals for mean(s). Large sample test for single proportion, difference of proportions. standard deviation(s) and correlation coefficient(s).

Small Sample tests: t-test for single mean, difference of means and paired t-test. χ^2 -test for goodness of fit and independence of attributes. F-test for equality of variances.

Text Books:

1. V.K.Kapoor and S.C.Gupta: Fundamentals of Mathematical Statistics, Sultan Chand & Sons, New Delhi.
2. K.V.S. Sarma: Statistics Made Simple: Do it yourself on PC. PHI

Reference books:

1. Willam Feller: Introduction to Probability theory and its applications. Volume –I, Wiley
2. Goon AM, Gupta MK, Das Gupta B : Fundamentals of Statistics , Vol-I, the World Press Pvt.Ltd., Kolakota.
3. Hoel P.G: Introduction to mathematical statistics, Asia Publishing house.
4. M. JaganMohan Rao and Papa Rao: A Text book of Statistics Paper-I. Sanjay Arora and Bansi Lal: New Mathematical Statistics: Satya Prakashan , New Delhi

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)
Department of Mathematics & Statistics

Class:	Semester:	Title of The Paper:	Course Code:	W.E.F
Advances in computers	II	Basic Statistics	R20DAC – II	2020-21

Model Question Paper (w.e.f.: 2020-21)

Section – A

1. Explain scatter diagram method
2. Explain various types of correlation
3. Define Regression and explain the two lines of regression.
4. Define class and class frequencies
5. Define consistency of data and also explain conditions of consistency
6. Define independence of attributes
7. Define Null and alternative Hypothesis
8. Explain t – test for single mean

Section - B

Answer the following

3 X 10 = 30M

9. a) Calculate Spearman's rank correlation for the following data

X	14	18	22	25	28	31
Y	17	21	19	25	27	23

OR

- b) Find the two regression lines for the following data

X	14	18	22	25	28	31	35
Y	17	21	19	25	27	23	29

10. a) Define Independence of Attributes and Explain Criteria of Independence.

OR

- (b) Given

$$(ABC) = 225, (AB\gamma) = 148, (A\beta C) = 204, (A\beta\gamma) = 99,$$

$$(\alpha BC) = 125, (\alpha B\gamma) = 48, (\alpha\beta C) = 244, (\alpha\beta\gamma) = 121$$

Find the remaining class frequencies

11. a) Explain Chi square test for goodness of fit

OR

- b) Explain the procedure of testing for two proportions

KAKARAPARTI BHAVANARAYANA COLLEGE (Autonomous)

Department Of Computer Science & Applications

Class:	Sem ester	Title of The Paper:	Paper Code:	W.E.F
DIPLOMA IN ADVANCES IN COMPUTER SCIENCES/ DRONE PILOT/ DATA ANALYTICS	II	PYTHON PROGRAM MING	DIP-CSC-201/R20- DRONE-CSC201/R20- DA-CSC201	2020- 2021

Total No of Hours for Teaching - Learning	Instructional Hours for Week		Duration of Semester End Examination in Hours	Max Marks		Credits
	Theory	Practical		CIA	SEE	
60 Hours	5	3	3 Hours	25	75	

Course Objectives:

The objective of the course is to introduce the concepts of Python Programming.

Course Outcomes:

- To understand the Basics of python language and Python IDLE.
- To gain problem solving capability.
- To Install and run python Interpreter.
- To gain knowledge about different data types and operators.
- To use and explore control structures and loop constructs in python.
- To understand and create built in and user defined data types.
- To identify the various form of input and output statements and its purposes
- To import and create arrays using array module.
- To insert predefined functions and operations on array.
- To understand the basics of numpy module and importing the functions from numpy module.
- To gain knowledge about multidimensional array and its link with numpy module.
- To understand and use the concept declaring functions and returning results from a function.
- To explore the use of Lambdas, List, Tuples.

SYLLABUS

UNIT-I

- Introduction to Python: Python, Features of Python, Python virtual Machine (PVM), Memory Management in Python, Comparisons between C and Python, Comparison between Java and Python
- Writing Our First Python Program: Installing Python for Windows, Writing our First Python Program, Executing a Python Program, Using Command line window, using IDLE Graphics Window, Running Directly from System Prompt.

UNIT-II

- Data types in Python: Comments in Python, Built-in data types, none type, numeric type, bool Data type, Sequences, Sets, Literals. User-Defined Data types, Constraints in python, Identifiers and reserved words, Naming Conventions in python, Arithmetic Operators, Assignment operators, unary Minus, Relational operators, Logical Operators, Boolean Operators, Bitwise Operators, Membership Operators, Identity Operators, mathematical functions, using IDLE window, Using command line window.

UNIT-III

- Input and Output: Output Statements, Input Statements , Command line arguments, Parsing command line arguments, Control statements, The If statement, if-else statement, is elif else statement , while loop, for loop, infinite loop, nested Loop, else Suite, break, continue statements. Pass statements.

UNIT-IV

- Arrays in Python: Array, Advantages of array, Creating array, importing the array module, types of arrays, Creating arrays using array(), Creating Arrays using line space, creating arrays using zeros() and ones() Functions, Mathematical operations in array, Viewing and copying arrays, Dimensions of arrays, Working with multidimensional arrays, matrices ,creating strings, Length of a string.

UNIT-V

- Lists and Tuples: Defining a function, calling a function, Returning Results from a function, pass by object References, Recursive Functions, anonymous functions or Lambdas, Lists, Creating Lists using range() Function, Updating the elements of a lists, Concatenation of two Lists.

Class:	Semester	Title of The Paper:	Paper Code:	W.E.F
DIPLOMA IN ADVANCES IN COMPUTER SCIENCES/ DRONE PILOT/ DATA ANALYTICS	II	PYTHON PROGRAMMING	DIP-CSC- 201/R20- DRONE- CSC201/R20- DA-CSC201	2020- 2021

Model Question paper

SECTION-A

Answer any five of the following question

5 x 5 = 25M

- 1.Explain Python virtual Machine(PVM)?
- 2.Explain Built in Data Types in Python?
- 3.Explain Input and Output statements in Python with simple Example Program?
- 4.Explain Advantages of Array?
- 5.Explain Recursive Functions in Python?
- 6.Write the difference between Java and Python?
7. Explain Bitwise Operators in Python?
- 8.write a Python program for Swap of Two Numbers?

SECTION-B

Answer ALL of the following questions

5 x 10 = 50M

9. A) Explain features Of Python.
(OR)
B) Explain procedure to Executing a Python Program.
10. A) Explain Operators in Python.
(OR)
B) Explain Looping Statements in Python
11. A) Explain Command Line Arguments in Python
(OR)
B) Explain Looping statements in Python
- 12.A) Write a program to read and print array in python?
(OR)
B) Explain Different Types of Arrays?
- 13.A) Define a function? Explain Functions calling, returning, Results from functions
(OR)
B) Define List. Explain Procedure to create list with Example

BLUE PRINT

Class:	Semester	Title of The Paper:	Paper Code:	W.E.F
DIPLOMA IN ADVANCES IN COMPUTER SCIENCES/ DRONE PILOT/ DATA ANALYTICS	II	PYTHON PROGRAMMING	DIP-CSC- 201/R20- DRONE- CSC201/R20- DA-CSC201	2020- 2021

SECTION A (5*5=25 Marks)

- 5 Questions to be answered out of 8 Questions
- 1 Question must be given from each Unit

SECTION B (5*10=50 Marks)

- 2 Questions must be given from each Unit with an internal choice

Illustration of Model Question Paper

	<u>Section A</u>	<u>Section B</u>
<u>UNIT I</u>	<u>1</u>	<u>2</u>
<u>UNIT II</u>	<u>2</u>	<u>2</u>
<u>UNIT III</u>	<u>2</u>	<u>2</u>
<u>UNIT IV</u>	<u>2</u>	<u>2</u>
UNIT V	1	2
	8	10

Class:	Semester	Title of The Paper:	Paper Code:	W.E.F
DIPLOMA IN ADVANCES IN COMPUTER SCIENCES	II	Web designing with PHP	DIP-CSC-202	2020- 2021

Total No of Hours for Teaching - Learning	Instructional Hours for Week		Duration of Semester End Examination in Hours	Max Marks		Credits
	Theory	Practical		CIA	SEE	
60 Hours	5	3	3 Hours	25	75	

Course Objectives: The objective of this paper is to bring awareness among students on server side scripting

Course Outcomes:

1. To understand the meaning and basic components of PHP
2. To know the required software to run PHP programs
3. Understanding the use of servers and predefine databases

Unit I: (Creating PHP)

Overview of PHP Structure and Syntax: How PHP Fits with HTML – The Rules of PHP Syntax – The Importance of Coding Practices, Creating Your First Program:

Using HTML to Spice up Your Pages: Integrating HTML with PHP – Considerations with HTML inside PHP.Using Constants and Variables to Add Functionality: Overview of Constants – Overview of Variables

Passing Variables between Pages: Passing Variables through a URL – Passing Variables with Sessions – Passing Variable with Cookies – Passing Information with Forms

Unit II :

Using if/else Arguments: Using if Statements – Using if and else Together

Using Includes for Efficient Code, Using Functions for Efficient Code

All about Arrays: Array Syntax – Sorting Arrays – for each Constructs,Alternate Syntax for PHP: Alternates to the echo Command – Alternates to Logical Operators – Alternates to

Double Quotes: Using heredoc – Alternates to Incrementing/Decrementing Values

OOP : Classes – Properties and Methods – Why use OOP

Unit III: (Using PHP with MySQL)

Overview of MySQL Structure and Syntax: MySQL Structure – MySQL Syntax and Commands, How PHP Fits with MySQL, Connecting to the MySQL Server

Querying the Database: Working with PHP and Arrays of Data, Using MySQL Query Browser, Creating a Table, Using Tables to Display Data

Unit IV: (Form Elements: Letting the User Work with Data)

Your First Form: FORM Element – INPUT Element – Processing the Form

Driving the User Input: One Form, Multiple Processing – Radio INPUT Element – Multiple Submit Buttons – Basic Input Testing – Ternary Operator

Letting the User Edit the Database: Preparing the Battlefield, Inserting a Record in a Relational Database, Deleting a Record, Editing Data in a Record

Unit V: (Manipulating and Creating Images with PHP)

Working with the GD Library: What File Types Can I Use with GD & PHP? - Enabling GD in PHP, Allowing Users to Upload Images, Converting Images File Types, Special Effects, Adding Captions, Adding Watermarks and Merging Images, Creating Thumbnails

Validating User Input: Incorporating Validation into the Movie Site, checking for Format Errors. Sending e-Mail

Prescribed Text Book:

1. Beginning PHP 6, Apache, My SQL, Web Development, WROX, Wiley Publishers.

Reference Books:

Beginning PHP 5.3: Matt Doyle, WROX, Wiley India Publishers.

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Class:	Semester	Title of The Paper:	Paper Code:	W.E.F
DIPLOMA IN ADVANCES IN COMPUTER SCIENCES	II	Web designing with PHP	DIP-CSC-202	2020- 2021

SECTION A (5*5=25 Marks)

- 5 Questions to be answered out of 8 Questions
- 1 Question must be given from each Unit

SECTION B (5*10=50 Marks)

- 2 Questions must be given from each Unit with an internal choice

Illustration of Model Question Paper

	Section A	Section B
UNIT I	1	2
UNIT II	2	2
UNIT III	2	2
UNIT IV	2	2
UNIT V	1	2
	8	10

Class:	Semester	Title of The Paper:	Paper Code:	W.E.F
DIPLOMA IN ADVANCES IN COMPUTER SCIENCES	II	Web designing with PHP	DIP-CSC-202	2020- 2021

Model Paper

Section – A

Answer Any FIVE of following

5 x 5 = 25M

1. Write about PHP structure and syntax
2. How can we use include in php
3. Explain about foreach construct with example
4. How to create a table in HTML page with data in My SQL
5. Draw and explain MySQL query browser
6. Write about how the user edits the data in Database Record
7. Explain different Input elements in HTML
8. How can we add Watermark to images? Explain with example

Section - B

Answer ALL of the following

5 x 10 = 50M

9. A) Explain about Passing Variables using URL and Forms in PHP
(OR)
B) Write down the Features of PHP and Types of Errors in PHP
10. A) Explain about Types of Arrays with example
(OR)
B) How can we create Classes and Methods in PHP
11. A) Explain about Creating Database and Inserting data into database using MySQL
(OR)
B) Explain about Querying the Database using Select Query
12. A) Explain about How can we link Forms together in PHP
(OR)
B) How can the user Insert & Delete Records in Relational Database
13. A) Explain about validation controls in PHP
(OR)
B) Explain the procedure to send e-mail in PHP with an example