

VAC073	DATA ANALYTICS WITH R
Contact Hours	30 Hours
Prerequisite	Nil

Course Description

This course on Data Analytics with R is designed to provide students with the knowledge and practical skills needed to perform data analysis and visualization using the R programming language. Students will learn to manipulate data, conduct statistical analysis, create data visualizations, and make data-driven decisions. The course aims to empower individuals with the ability to leverage data for informed decision-making.

Course Objectives

Students will be able to:

- Understand the fundamentals of data analytics and its significance in various domains.
- Acquire proficiency in data manipulation, cleaning, and transformation using R.
- Perform statistical analysis and hypothesis testing on data.
- Create informative data visualizations for effective communication.
- Apply predictive modeling techniques to solve real-world problems.

Course Outcomes

On completion of the course, students will be able to:

CO 1: Explain the fundamentals of data analytics and its applications.

CO 2: Manipulate and transform data using R for analysis.

CO 3: Perform statistical analysis and hypothesis testing.

CO 4: Generate data visualizations for effective communication.

Course Outline

Module 1: Introduction to Data Analytics

4 hours

- The Role of Data Analytics in Decision-Making
- Ethical Considerations in Data Analysis
- Data Analytics Workflow
- Real-world Applications of Data Analytics

Module 2: Data Manipulation with R

5 hours

- Introduction to R and RStudio
- Data Import and Export

- Data Cleaning and Preprocessing
- Data Transformation and Reshaping

Module 3: Statistical Analysis with R

5 hours

- Descriptive Statistics
- Inferential Statistics
- Hypothesis Testing
- Regression Analysis

Module 4: Data Visualization with R

5 hours

- Introduction to Data Visualization
- Data Visualization Packages in R
- Creating Static and Interactive Visualizations
- Effective Data Communication

Module 5: Predictive Modeling

5 hours

- Introduction to Predictive Modeling
- Supervised and Unsupervised Learning
- Model Building and Evaluation
- Feature Engineering and Model Deployment

Module 6: Data Interpretation and Communication

3 hours

- Interpreting Analysis Results
- Communicating Data Insights
- Data Storytelling
- Data-Driven Decision-Making

Module 7: Ethical and Legal Aspects

3 hours

- Ethical Challenges in Data Analytics
- Data Privacy and Compliance
- Data Governance and Security
- Responsible Data Analytics Practices

Practicum

The course includes a practicum where students will engage in data cleaning and transformation, conduct statistical analysis and hypothesis testing, create data visualizations, work on predictive modeling exercises, and complete a final data analytics project.

Textbook

Grolemund, H., & Wickham, H. (2016). R for Data Science. O'Reilly Media.

Reference Books

Baumer, B., Kaplan, D. T., & Horton, N. J. (2017). Modern Data Science with R. CRC Press.

	Evaluation Component	Weightage (%)
1	Activities and Assignments	20
2	Project	20
3	Attendance	10
4	End Term Examination	50



Registrar
K.R. Mangalam University
Sohna Road, Gurugram (Haryana)



K.R. MANGALAM UNIVERSITY
EDUCATION FOR LIFE
(Recognized by UGC and a member of AIU)

Ref.No.:KRMU/Admin./Notice/2021-2022/ 2433(A) Dated: 02nd August, 2021

NOTICE

This is to put for information that School of Engineering & Technology is offering Value-Added Course (VAC) for all interested students during Odd Semester as per the following specifications.

Course Code	Course Title	Coordinating Department / School	Duration
VAC069	Innovation through Design Thinking	SOET	30 Hrs.
VAC072	Applied Cryptography	SOET	30 Hrs.
VAC073	Data Analytics with R	SOET	30 Hrs.
VAC082	ORACLE	SOET	30 Hrs.
VAC083	Internet of Things (IoT)	SOET	30 Hrs.

Maximum 100 seats are available for the course.

Course Start Date: 08 September 2021

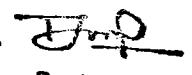
Course End Date: 29 September 2021

All interested students are required to confirm their registration with the Dean-School of Engineering & Technology latest by **24th August, 2021.**


Registrar
K.R. Mangalam University

Copy to: Sohna Road, Gurugram (Haryana)

- Vice Chancellor : For kind information
- Dean (Academics Affairs)
- Controller of Examinations
- All Deans/ School Coordinators
- All Faculty Members/ Mentors
- Notice Board
- Office Copy


Registrar
K.R. Mangalam University
Sohna Road, Gurugram (Haryana)



ATTENDANCE SHEET

VAC COURSE FOR ACADEMIC YEAR 2021-22

COURSE CODE: VAC073

COURSE TITLE: DATA ANALYTICS WITH R

ROLL NO	NAME	PROGRAMME	SEMESTER	8-Sep-21	10-Sep-21	17-Sep-21	22-Sep-21	29-Sep-21	3-Oct-21
2101050002	BHARAT SINGH SHEKHAWAT	B.Tech Civil	Semester I	P	P	P	P	P	P
2101050001	ASHISH KUMAR	B.Tech Civil	Semester I	A	P	P	A	P	P
2101030005	VARDAAN PAJNOO	B.Tech EEE	Semester I	P	P	P	P	A	P
2101560026	DHRUV SHARMA	MCA	Semester I	P	P	P	P	P	P
2101560025	RESHMA KUMARI	MCA	Semester I	P	P	A	P	P	P
2101560016	SANSKAR TYAGI	MCA	Semester I	P	P	P	P	P	P
2101560015	CHARU JAIN	MCA	Semester I	P	P	P	A	P	P
2101010016	ABHISHEK	B.Tech CSE	Semester I	P	P	P	P	P	P
2101010015	AARTI YADAV	B.Tech CSE	Semester I	A	P	P	P	P	P
2101010014	SACHIN	B.Tech CSE	Semester I	P	P	P	P	A	P
2101010010	PARAS SINGH	B.Tech CSE	Semester I	P	P	P	P	P	P
2101730009	HARSH KUMAR JHA	B.Tech CSE	Semester I	A	P	P	P	P	P
2101730008	SUMIT KUMAR JHA	B.Tech CSE	Semester I	P	P	A	P	P	P
2101730007	RITIK KUMAR	B.Tech CSE	Semester I	P	P	P	P	P	P
2101730006	AYUSH CHAUDHARY	B.Tech CSE	Semester I	P	P	P	A	P	P
2101730005	NISHCHAY VIRMANI	B.Tech CSE	Semester I	P	P	P	P	P	P
2101730004	AASHISH KAUSHIK	B.Tech CSE	Semester I	A	P	P	P	P	P
2101730003	VAIBHAV KUMAIN	B.Tech CSE	Semester I	P	P	P	P	A	P
2101730002	VAIBHAV KAUSHIK	B.Tech CSE	Semester I	P	P	P	P	P	P
2101730001	GAURAV PAL	B.Tech CSE	Semester I	P	P	P	P	P	P
2102080077	PRASHANT PATAHAK	Analytics	Semester I	A	P	P	P	P	P
2102080066	SHERIN JOY	BBA in BI and Analytics	Semester I	P	P	A	P	P	P
2101730028	SHUDHANSHU SINGH	B.Tech CSE	Semester I	P	P	P	P	P	P
2101730027	RAHUL RAJ PARIDA	B.Tech CSE	Semester I	P	P	P	A	P	P
2101730026	KARTIK NARANG	B.Tech CSE	Semester I	P	P	P	P	P	P
2101730025	MAYANK KUMAR	B.Tech CSE	Semester I	A	P	P	P	P	P
2101730024	HARSHIT CHAUHAN	B.Tech CSE	Semester I	P	P	P	P	A	P
2101730023	YASH KUMAR SHUKLA	B.Tech CSE	Semester I	P	P	P	P	P	P
2101730022	VRATIKA JAIN	B.Tech CSE	Semester I	P	P	P	P	P	P
2101730021	JAHNVI ASTHANA	B.Tech CSE	Semester I	A	P	P	P	P	P
2101730020	MANDADI PRANEETHA	B.Tech CSE	Semester I	P	P	A	P	P	P
2101030005	VARDAAN PAJNOO	B.Tech EEE	Semester I	P	P	P	P	P	P

Dr. K. K. Bhowmik
COURSE INCHARGERegistrar
K.R. Mangalam University
Sohna Road, Gurugram, (Haryana)Dr. K. K. Bhowmik
Deputy Registrar
K.R. Mangalam University
Sohna Road, Gurugram



ATTENDANCE SHEET

VAC COURSE FOR ACADEMIC YEAR 2021-22

COURSE CODE: VAC073

COURSE TITLE: DATA ANALYTICS WITH R

ROLL NO	NAME	5-Oct-21	10-Oct-21	12-Oct-21	17-Oct-21	19-Oct-21	24-Oct-21	26-Oct-21	1-Nov-21	3-Nov-21	5-Nov-21
2101050002	BHARAT SINGH SHEKHAWAT	P	P	P	P	P	P	P	P	P	P
2101050001	ASHISH KUMAR	P	A	P	P	P	P	P	P	A	P
2101030005	VARDAAN PAJNOO	P	P	P	P	P	P	P	P	P	P
2101560026	DHRUV SHARMA	A	A	P	P	P	P	A	P	P	P
2101560025	RESHMA KUMARI	P	P	P	P	P	P	P	P	P	A
2101560016	SANSKAR TYAGI	P	A	P	P	A	P	P	P	P	P
2101560015	CHARU JAIN	P	P	P	P	A	P	P	A	P	P
2101010016	ABHISHEK	P	P	P	P	P	P	P	P	P	P
2101010015	AARTI YADAV	P	P	P	P	P	P	P	P	P	P
2101010014	SACHIN	P	P	P	P	P	P	P	P	P	P
2101010010	PARAS SINGH	P	P	P	P	P	P	P	A	P	P
2101730009	HARSH KUMAR JHA	A	A	P	A	P	P	P	P	P	P
2101730008	SUMIT KUMAR JHA	P	P	P	P	P	P	P	P	P	A
2101730007	RITIK KUMAR	P	A	P	P	A	P	P	P	P	P
2101730006	AYUSH CHAUDHARY	P	P	P	P	A	P	P	A	P	P
2101730005	NISHCHAY VIRMANI	P	P	P	P	P	P	P	P	P	P
2101730004	AASHISH KAUSHIK	P	P	P	P	P	P	P	P	P	P
2101730003	VAIBHAV KUMAIN	P	P	P	P	P	P	P	P	P	P
2101730002	VAIBHAV KAUSHIK	P	P	P	P	P	P	P	A	P	P
2101730001	GAURAV PAL	P	P	P	P	P	P	P	A	P	P
2102080077	PRASHANT PATAHAK	A	A	P	A	P	P	P	P	P	P
2102080066	SHERIN JOY	P	P	P	P	P	P	P	P	P	A
2101730028	SHUDHANSHU SINGH	P	A	P	P	A	P	P	P	P	P
2101730027	RAHUL RAJ PARIDA	P	P	P	P	A	P	P	A	P	P
2101730026	KARTIK NARANG	P	P	P	P	P	P	P	P	P	P
2101730025	MAYANK KUMAR	P	P	P	P	P	P	P	P	P	P
2101730024	HARSHIT CHAUHAN	P	P	P	P	P	P	P	P	P	P
2101730023	YASH KUMAR SHUKLA	P	P	P	P	P	P	P	A	P	P
2101730022	VRATIKA JAIN	P	P	P	P	P	P	P	A	P	P
2101730021	JAHNVI ASTHANA	A	A	P	A	P	P	P	P	P	P
2101730020	MANDADI PRANEETHSA	P	P	P	P	P	P	P	P	P	A
2101030005	VARDAAN PAJNOO	P	A	P	P	A	P	P	P	P	P

Registrar

K.R. Mangalam University
Sohna Road, Gurugram, (Haryana)Shruti Bansal
COURSE INCHARGEDean
School of Learning & Technology (SOET)
K.R. Mangalam University
Sohna Road, Gurugram



ATTENDANCE SHEET

VAC COURSE FOR ACADEMIC YEAR 2021-22

COURSE CODE: VAC073

COURSE TITLE: DATA ANALYTICS WITH R

ROLL NO	NAME	10-Nov-21	12-Nov-21	17-Nov-21	21-Nov-21	24-Nov-21	26-Nov-21	1-Dec-21	3-Dec-21	8-Dec-21
2101050002	BHARAT SINGH SHEKHAWAT	P	P	P	P	P	P	P	A	A
2101050001	ASHISH KUMAR	A	P	P	P	P	P	P	P	P
2101030005	VARDAAN PAJNOO	P	P	P	P	P	P	A	P	P
2101560026	DHRUV SHARMA	P	A	P	P	P	P	A	P	P
2101560025	RESHMA KUMARI	P	P	P	P	P	A	P	P	A
2101560016	SANSKAR TYAGI	P	P	P	P	A	P	P	P	P
2101560015	CHARU JAIN	P	P	P	P	P	P	A	P	P
2101010016	ABHISHEK	P	A	P	P	P	P	P	P	P
2101010015	AARTI YADAV	P	A	P	P	P	P	P	P	P
2101010014	SACHIN	P	P	P	P	P	P	P	P	A
2101010010	PARAS SINGH	P	P	P	P	P	P	P	P	P
2101730009	HARSH KUMAR JHA	P	P	A	P	P	P	P	P	P
2101730008	SUMIT KUMAR JHA	P	P	P	P	P	A	P	P	A
2101730007	RITIK KUMAR	P	P	P	P	A	P	P	P	P
2101730006	AYUSH CHAUDHARY	P	P	P	P	P	P	A	P	P
2101730005	NISHCHAY VIRMANI	P	A	P	P	P	P	P	P	P
2101730004	AASHISH KAUSHIK	P	A	P	P	P	P	P	P	P
2101730003	VAIBHAV KUMAIN	P	P	P	P	P	P	P	P	P
2101730002	VAIBHAV KAUSHIK	P	P	P	P	P	P	P	P	P
2101730001	GAURAV PAL	P	P	P	P	P	P	P	P	A
2102080077	PRASHANT PATAHAK	P	P	A	P	P	P	P	P	P
2102080066	SHERIN JOY	P	P	P	P	P	A	P	P	A
2101730028	SHUDHANSHU SINGH	P	P	P	P	A	P	P	P	P
2101730027	RAHUL RAJ PARIDA	P	P	P	P	P	P	A	P	P
2101730026	KARTIK NARANG	P	A	P	P	P	P	P	P	P
2101730025	MAYANK KUMAR	P	A	P	P	P	P	P	P	P
2101730024	HARSHIT CHAUHAN	P	P	P	P	P	P	P	P	P
2101730023	YASH KUMAR SHUKLA	P	P	P	P	P	P	P	P	A
2101730022	VRATIKA JAIN	P	P	P	P	P	P	P	P	P
2101730021	JAHNVI ASTHANA	P	P	A	P	P	P	P	P	A
2101730020	MANDADI PRANEETHA	P	P	P	P	P	A	P	P	A
2101030005	VARDAAN PAJNOO	P	P	P	P	A	P	P	P	P

Shweta Bansal
COURSE INCHARGE

Registrar

K.R. Mangalam University

Sohna Road, Gurugram, (Haryana)

DEAN

K.R. Mangalam University
Dean Engineering & Technology (SOET)



ATTENDANCE SHEET

VAC COURSE FOR ACADEMIC YEAR 2021-22

COURSE CODE: VAC073

COURSE TITLE: DATA ANALYTICS WITH R

ROLL NO	NAME	10-Dec-21	15-Dec-21	17-Dec-21	22-Dec-21	24-Dec-21	29-Dec-21	Total	Present	Percentage
2101050002	BHARAT SINGH SHEKHAWAT	A	P		P	A	A	31	26	83.87
2101050001	ASHISH KUMAR	A	P	P	A	P	P	31	24	77.42
2101030005	VARDAAN PAJNOO	P	P	P	P	P	P	31	29	93.55
2101560026	DHRUV SHARMA	P	P	P	A	P	P	31	25	80.65
2101560025	RESHMA KUMARI	P	A	P	P	P	P	31	26	83.87
2101560016	SANSKAR TYAGI	A	P	P	P	P	P	31	27	87.10
2101560015	CHARU JAIN	P	P	P	P	P	P	31	27	87.10
2101010016	ABHISHEK	A	P	P	A	P	A	31	27	87.10
2101010015	AARTI YADAV	A	P	A	A	P	P	31	26	83.87
2101010014	SACHIN	P	P	P	A	A	A	31	26	83.87
2101010010	PARAS SINGH	P	A	P	P	A	A	31	27	87.10
2101730009	HARSH KUMAR JHA	A	P	A	P	P	P	31	24	77.42
2101730008	SUMIT KUMAR JHA	P	A	P	P	P	P	31	26	83.87
2101730007	RITIK KUMAR	A	P	P	P	P	P	31	27	87.10
2101730006	AYUSH CHAUDHARY	P	P	P	P	P	P	31	27	87.10
2101730005	NISHCHAY VIRMANI	A	P	P	A	P	A	31	27	87.10
2101730004	AASHISH KAUSHIK	A	P	A	A	P	P	31	26	83.87
2101730003	VAIBHAV KUMAIN	P	P	A	P	P	P	31	29	93.55
2101730002	VAIBHAV KAUSHIK	P	A	P	P	P	A	31	28	90.32
2101730001	GAURAV PAL	P	A	P	P	P	A	31	27	87.10
2102080077	PRASHANT PATAHAK	A	P	A	P	P	P	31	24	77.42
2102080066	SHERIN JOY									
2101730028	SHUDHANSHU SINGH	P	A	P	P	P	P	31	26	83.87
2101730027	RAHUL RAI PARIDA	A	P	P	P	P	P	31	27	87.10
2101730026	KARTIK NARANG	P	P	P	P	P	P	31	27	87.10
2101730025	MAYANK KUMAR	A	P	P	P	A	A	31	27	87.10
2101730024	HARSHIT CHAUHAN	A	A	A	P	P	A	31	25	80.65
2101730023	YASH KUMAR SHUKLA	P	P	A	A	P	A	31	27	87.10
2101730022	VRATIKA JAIN	P	A	P	P	A	P	31	27	87.10
2101730021	JAHNVI ASTHANA	P	A	A	P	P	A	31	27	87.10
2101730020	MANDADI PRANEETHSA	A	P	P	P	P	P	31	24	77.42
2101030005	VARDAAN PAJNOO	P	A	P	P	P	A	31	25	80.65

Registrar

K.R. Mangalam University
Sector Road, Gurugram, (Haryana)Sharda Bansal
COURSE INCHARGEDEAN
Department of Engineering & Technology
K.R. Mangalam University
Sector Road, Gurugram



K.R. MANGALAM UNIVERSITY

THE COMPLETE WORLD OF EDUCATION

VALUE ADDED COURSE(VAC)

ACADEMIC YEAR 2021-22

COURSE CODE: VAC073

COURSE TITLE: DATA ANALYTICS WITH R

COURSE OFFERED BY: SCHOOL OF ENGINEERING AND TECHNOLOGY (SOET)

LIST OF STUDENTS COMPLETING THE COURSE

S.NO	SESSION	ROLL NO	NAME	PROGRAMME	SEMESTER	COURSE C	COURSE TITLE	SCHOOL
1	2022-23	2101050002	BHARAT SINGH SHEKHAWAT	B.Tech Civil	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
2	2022-23	2101050001	ASHISH KUMAR	B.Tech Civil	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
3	2022-23	2101030005	VARDAAN PAJNOO	B.Tech EEE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
4	2022-23	2101560026	DHRUV SHARMA	MCA	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
5	2022-23	2101560025	RESHMA KUMARI	MCA	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
6	2022-23	2101560016	SANSKAR TYAGI	MCA	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
7	2022-23	2101560015	CHARU JAIN	MCA	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
8	2022-23	2101010016	ABHISHEK	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
9	2022-23	2101010015	AARTI YADAV	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
10	2022-23	2101010014	SACHIN	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
11	2022-23	2101010010	PARAS SINGH	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
12	2022-23	2101730009	HARSH KUMAR JHA	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
13	2022-23	2101730008	SUMIT KUMAR JHA	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
14	2022-23	2101730007	RITIK KUMAR	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
15	2022-23	2101730006	AYUSH CHAUDHARY	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
16	2022-23	2101730005	NISHCHAY VIRMANI	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
17	2022-23	2101730004	AAASHISH KAUSHIK	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
18	2022-23	2101730003	VAIBHAV KUMAIN	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
19	2022-23	2101730002	VAIBHAV KAUSHIK	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
20	2022-23	2101730001	GAURAV PAL	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
21	2022-23	2102080077	PRASHANT PATAHAK	BBA in BI and Analytics SAMATRIX	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF MANAGEMENT & COMMERCE(SOMC)
22	2022-23	2102080066	SHERIN JOY	BBA in BI and Analytics SAMATRIX	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF MANAGEMENT & COMMERCE(SOMC)
23	2022-23	2101730028	SHUDHANSHU SINGH	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
24	2022-23	2101730027	RAHUL RAJ PARIDA	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
25	2022-23	2101730026	KARTIK NARANG	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
26	2022-23	2101730025	MAYANK KUMAR	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
27	2022-23	2101730024	HARSHIT CHAUHAN	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
28	2022-23	2101730023	YASH KUMAR SHUKLA	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
29	2022-23	2101730022	VRATIKA JAIN	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
30	2022-23	2101730021	JAHNVI ASTHANA	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
31	2022-23	2101730020	MANDADI PRANEETHSA	B.Tech CSE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
32	2022-23	2101030005	VARDAAN PAJNOO	B.Tech EEE	Semester I	VAC073	DATA ANALYTICS WITH R	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)

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This is to certify that **BHARAT SINGH SHEKHAWAT**, University Enrolment No **2101050002** of **B.Tech Civil** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

Date: 21.02.2022

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This is to certify that **ASHISH KUMAR**, University Enrolment No **2101050001** of **B.Tech Civil** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

Date: 21.02.2022

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This is to certify that **VARDAAN PAJNOO**, University Enrolment No **2101030005** of **B.Tech EEE** programme has successfully qualified **VALUE ADDED COURSE VAC073** (**Data Analytics with R**) during Academic Session **2021-22** (Odd Semester).

Date: 21.02.2022

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This is to certify that **DHRUV SHARMA**, University Enrolment No **2101560026** of **MCA** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

Date: 21.02.2022

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This is to certify that **RESHMA KUMARI**, University Enrolment No **2101560025** of **MCA** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

Date: 21.02.2022

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This is to certify that **SANSKAR TYAGI**, University Enrolment No **2101560016** of **MCA** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **CHARU JAIN**, University Enrolment No **2101560015** of **MCA** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **ABHISHEK .**, University Enrolment No **2101010016** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **AARTI YADAV**, University Enrolment No **2101010015** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **SACHIN**, University Enrolment No **2101010014** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **PARAS SINGH**, University Enrolment No **2101010010** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **HARSH KUMAR JHA**, University Enrolment No **2101730009** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **SUMIT KUMAR JHA**, University Enrolment No **2101730008** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **RITIK KUMAR**, University Enrolment No **2101730007** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **AYUSH CHAUDHARY**, University Enrolment No **2101730006** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **NISHCHAY VIRMANI**, University Enrolment No **2101730005** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073** (**Data Analytics with R**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **AASHISH KAUSHIK**, University Enrolment No **2101730004** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073** (Data Analytics with R) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **VAIBHAV KUMAIN**, University Enrolment No **2101730003** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **VAIBHAV KAUSHIK**, University Enrolment No **2101730002** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **GAURAV PAL**, University Enrolment No **2101730001** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **PRASHANT PATAHAK**, University Enrolment No **2102080077** of **BBA in BI and Analytics SAMATRIX** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22** (Odd Semester).

Date: 21.02.2022

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This is to certify that **SHERIN JOY**, University Enrolment No **2102080066** of **BBA in BI and Analytics SAMATRIX** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **SHUDHANSHU SINGH**, University Enrolment No **2101730028** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **RAHUL RAJ PARIDA**, University Enrolment No **2101730027** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073** (Data Analytics with R) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **KARTIK NARANG**, University Enrolment No **2101730026** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **MAYANK KUMAR**, University Enrolment No **2101730025** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073** (**Data Analytics with R**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **HARSHIT CHAUHAN**, University Enrolment No **2101730024** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073** (**Data Analytics with R**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **YASH KUMAR SHUKLA**, University Enrolment No **2101730023** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073** (**Data Analytics with R**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **VRATIKA JAIN**, University Enrolment No **2101730022** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **JAHNVI ASTHANA**, University Enrolment No **2101730021** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073** (**Data Analytics with R**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **MANDADI PRANEETHSA**, University Enrolment No **2101730020** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC073 (Data Analytics with R)** during Academic Session **2021-22 (Odd Semester)**.

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