

VAC072	APPLIED CRYPTOGRAPHY
Contact Hours	30 Hours
Prerequisite	Nil

Course Description

This course on Applied Cryptography is designed to provide students with a comprehensive understanding of cryptographic principles and their practical applications. Students will learn about encryption, digital signatures, cryptographic protocols, and the secure design of cryptographic systems. The course aims to equip individuals with the knowledge and skills to protect sensitive data and information in various applications, from cybersecurity to secure communication.

Course Objectives

Students will be able to:

- Understand the fundamental principles of cryptography and its importance in secure communication.
- Explore encryption and decryption techniques, including symmetric and asymmetric encryption.
- Learn about cryptographic protocols for secure communication over networks.
- Analyze digital signatures and their role in data integrity and authentication.
- Apply cryptographic techniques to real-world scenarios and challenges.

Course Outcomes

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

CO 1: Explain the fundamental principles of cryptography and its importance in security.

CO 2: Utilize encryption and decryption techniques, including symmetric and asymmetric encryption.

CO 3: Implement cryptographic protocols for secure communication over networks.

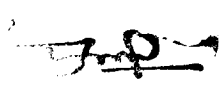
CO 4: Promote a culture of data security and privacy.

Course Outline

Module 1: Introduction to Cryptography

3 hours

- The Role of Cryptography in Data Security
- Ethical Considerations in Cryptography
- Historical Overview of Cryptography
- Modern Applications of Cryptography


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Vikhroli East, Mumbai - 400 082

Module 2: Encryption and Decryption**3 hours**

- Principles of Encryption and Decryption
- Symmetric Key Encryption
- Asymmetric Key Encryption
- Encryption Algorithms and Ciphers

Module 3: Cryptographic Protocols**3 hours**

- Secure Communication over Networks
- Secure Socket Layer (SSL) and Transport Layer Security (TLS)
- Public Key Infrastructure (PKI)
- Secure Email and Messaging Protocols

Module 4: Digital Signatures**3 hours**

- Data Integrity and Authentication
- Public Key Cryptography for Digital Signatures
- Certificate Authorities and Trust Models
- Digital Signature Algorithms

Module 5: Cryptographic Applications**3 hours**

- Data Encryption and Decryption in Practice
- Secure File Storage and Cloud Security
- Cryptographic Tools for Privacy and Anonymity
- Cryptography in Secure Communication

Module 6: Secure System Design**3 hours**

- Cryptographic System Architecture
- Key Management and Security Policies
- Common Cryptographic Vulnerabilities
- Secure Development and Best Practices

Module 7: Ethical and Legal Considerations**3 hours**

- Ethical Challenges in Cryptography
- Cryptography Regulations and Compliance
- Data Privacy and Protection Laws
- Security Breach Response and Disclosure

Practicum

The course includes a practicum where students will engage in encryption and decryption exercises, implement secure communication protocols, verify and generate digital signatures, design secure cryptographic systems, and complete a final cryptographic project.

Textbooks

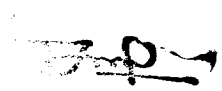
Schneier, B. (2015). Applied Cryptography: Protocols, Algorithms, and Source Code in C. Wiley.

Reference Books

Stallings, W. (2016). Cryptography and Network Security: Principles and Practice. Pearson.

Ferguson, N., Schneier, B., & Kohno, T. (2019). Cryptography Engineering: Design Principles and Practical Applications. Wiley.

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


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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.

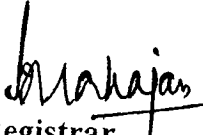
Course Code	Course Title	Coordinating Department / School	Duration
VAC069	Innovation through Design Thinking	SOET	30 Hrs.
VAC072	Applied Cryptography	SOET	30 Hrs.
VAC073	Data Analytics with R	SOET	30 Hrs.
VAC082	ORACLE	SOET	30 Hrs.
VAC083	Internet of Things (IoT)	SOET	30 Hrs.

Maximum 100 seats are available for the course.

Course Start Date: 08 September 2021

Course End Date: 29 September 2021

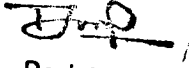
All interested students are required to confirm their registration with the Dean-School of Engineering & Technology latest by **24th August, 2021.**


Registrar Registrar
K.R. Mangalam University

Copy to: Sohna Road, Gurugram (Haryana)

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

For kind information


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



ATTENDANCE SHEET

VAC COURSE FOR ACADEMIC YEAR 2021-22

COURSE CODE: VAC072

COURSE TITLE: APPLIED CRYPTOGRAPHY

ROLL NO	NAME	PROGRAMME	SEMESTER	8-Sep-21	10-Sep-21	17-Sep-21	22-Sep-21	29-Sep-21	3-Oct-21	5-Oct-21
2101030004	BHUPESH UPADHYAY	B.Tech EEE	Semester I	A	P	F	P	P	P	P
2101010007	YASH KUMAR	B.Tech CSE	Semester I	P	P	A	P	P	P	P
2101010006	HARSH SINGH	B.Tech CSE	Semester I	P	P	P	P	P	P	A
2101010005	SUBHOJIT MUKHOPADHYAY	B.Tech CSE	Semester I	A	P	A	P	P	P	P
2101010001	SAGAR KHATANA	B.Tech CSE	Semester I	P	P	P	P	P	P	P
2101030001	HIMANSHU YADAV	B.Tech EEE	Semester I	A	P	P	A	P	P	P
2101730054	YASHIKA GUPTA	B.Tech CSE	Semester I	P	P	P	P	P	P	P
2101730053	KAPIL	B.Tech CSE	Semester I	A	P	P	P	P	P	P
2101730052	MAYANK RAJ	B.Tech CSE	Semester I	P	P	P	P	A	P	P
2101730051	KARTIK RATHI	B.Tech CSE	Semester I	P	P	P	P	P	P	P
2101730050	PRINCE DAGAR	B.Tech CSE	Semester I	A	P	P	P	P	P	A
2101730049	PARVEEN	B.Tech CSE	Semester I	A	P	A	P	P	P	P
2101730048	SHIVAM SHARMA	B.Tech CSE	Semester I	P	P	P	P	P	P	P
2101730047	PRACHI SWARNIM	B.Tech CSE	Semester I	P	P	P	A	P	P	P
2101730046	FARHAN AKHTAR	B.Tech CSE	Semester I	A	P	P	P	P	P	P
2101730045	SAGAR	B.Tech CSE	Semester I	A	P	P	P	P	P	P
2101730041	SUMIT KUMAR	B.Tech CSE	Semester I	A	P	P	A	P	P	P
2101730040	UPASANA BAFILA	B.Tech CSE	Semester I	A	P	P	P	P	P	P
2101730039	HEMAN BHATIA	B.Tech CSE	Semester I	A	P	P	P	P	P	A
2101730038	BHAVYA SHARMA	B.Tech CSE	Semester I	P	P	P	P	P	P	P
2101730037	SHAGUN BEGWANI	B.Tech CSE	Semester I	A	P	P	P	P	P	P
2101730036	SAMRAT SINGH RATHORE	B.Tech CSE	Semester I	P	P	A	P	A	P	P
2101730035	VINEET VERMA	B.Tech CSE	Semester I	A	P	P	P	P	P	P
2101730034	VANSHIKA SAXENA	B.Tech CSE	Semester I	P	A	A	P	P	P	P
2101730033	AYUSH KANTH	B.Tech CSE	Semester I	A	P	P	P	P	P	P
2101730032	AMIT KUMAR MOHANTY	B.Tech CSE	Semester I	P	P	P	P	P	P	A
2101730031	ANSH SRIVASTAVA	B.Tech CSE	Semester I	P	P	P	P	P	P	P
2101730030	ANSHITA SHARMA	B.Tech CSE	Semester I	A	P	P	P	P	P	P
2101730029	AYUSH SOLANKI	B.Tech CSE	Semester I	A	P	P	A	P	P	P
2101730028	SHUBHANSHU SINGH	B.Tech CSE	Semester I	P	P	P	P	P	P	P
2101730019	SHRUTI GUPTA	B.Tech CSE	Semester I	A	P	P	P	P	P	A
2101730018	DIKSHIT JHA	B.Tech CSE	Semester I	P	P	P	P	P	P	P

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Haryana-122001

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Sohna Road, Gurugram, (Haryana)

COURSE INCHARGE



ATTENDANCE SHEET

VAC COURSE FOR ACADEMIC YEAR 2021

COURSE CODE: VAC072

COURSE TITLE: APPLIED CRYPTOGRAPHY

ROLL NO	NAME	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	10-Nov-21
2101030004	BHUPESH UPADHYAY	P	P	P	P	P	P	P	P	P	P
2101010007	YASH KUMAR	P	P	P	P	P	P	P	P	A	P
2101010006	HARSH SINGH	A	P	P	P	P	A	P	P	P	P
2101010005	SUBHOJIT MUKHOPADHYAY	P	P	P	P	P	P	P	P	A	P
2101010001	SAGAR KHATANA	A	P	P	A	P	P	P	P	P	P
2101030001	HIMANSHU YADAV	P	P	P	A	P	P	A	P	P	P
2101730054	YASHIKA GUPTA	P	P	P	P	P	P	P	P	P	P
2101730053	KAPIL	P	P	P	P	P	P	P	P	P	P
2101730052	MAYANK RAJ	P	P	P	P	P	P	P	P	P	P
2101730051	KARTIK RATHI	P	P	P	P	P	P	P	P	P	P
2101730050	PRINCE DAGAR	A	P	A	P	P	P	P	P	P	P
2101730049	PARVEEN	P	P	P	P	P	P	P	P	A	P
2101730048	SHIVAM SHARMA	A	P	P	A	P	P	P	P	P	P
2101730047	PRACHI SWARNIM	P	P	P	A	P	P	A	P	P	P
2101730046	FARHAN AKHTAR	P	P	P	P	P	P	P	P	P	P
2101730045	SAGAR	P	P	P	P	P	P	P	P	P	P
2101730041	SUMIT KUMAR	A	P	P	P	P	P	P	P	P	A
2101730040	UPASANA BAFILA	P	A	P	P	P	A	P	P	P	P
2101730039	HEMAN BHATIA	A	P	P	P	P	A	P	P	P	P
2101730038	BHAVYA SHARMA	A	P	P	A	P	P	P	P	P	P
2101730037	SHAGUN BEGWANI	P	P	P	A	P	P	A	P	P	P
2101730036	SAMRAT SINGH RATHORE	P	P	P	P	P	P	P	P	P	P
2101730035	VINEET VERMA	A	P	P	P	P	P	P	P	P	P
2101730034	VANSHIKA SAXENA	P	P	P	P	P	P	P	A	P	A
2101730033	AYUSH KANTH	P	A	P	P	P	A	P	P	P	P
2101730032	AMIT KUMAR MOHANTY	A	P	P	P	P	A	P	P	P	P
2101730031	ANSH SRIVASTAVA	A	P	P	P	P	A	P	P	P	P
2101730030	ANSHITA SHARMA	P	P	P	A	P	P	P	P	P	P
2101730029	AYUSH SOLANKI	A	P	P	P	P	P	A	P	P	A
2101730028	SHUBHANSHU SINGH	P	A	P	P	P	P	P	A	P	P
2101730019	SHRUTI GUPTA	A	P	P	P	P	A	P	P	P	P
2101730018	DIKSHIT JHA	A	P	P	A	P	P	P	P	P	P

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VAC COURSE FOR ACADEMIC YEAR 2020-21

COURSE CODE: VAC072

COURSE TITLE: APPLIED CRYPTOGRAPHY

ROLL NO	NAME	12-Nov-21	17-Nov-21	21-Nov-21	24-Nov-21	26-Nov-21	1-Dec-21	3-Dec-21	8-Dec-21	10-Dec-21
2101030004	BHUPESH UPADHYAY	P	P	P	P	P	P	A	P	P
2101010007	YASH KUMAR	P	P	P	P	A	P	P	A	P
2101010006	HARSH SINGH	A	P	P	P	P	A	P	P	P
2101010005	SUBHOJIT MUKHOPADHYAY	P	P	P	P	A	P	P	A	P
2101010001	SAGAR KHATANA	P	P	P	A	P	P	P	P	A
2101030001	HIMANSHU YADAV	P	P	P	P	P	A	P	P	P
2101730054	YASHIKA GUPTA	A	P	P	P	P	P	P	P	A
2101730053	KAPIL	A	P	P	P	P	P	P	P	A
2101730052	MAYANK RAJ	P	P	P	P	P	P	P	A	P
2101730051	KARTIK RATHI	P	P	P	P	P	P	P	P	P
2101730050	PRINCE DAGAR	P	A	P	P	P	P	P	A	P
2101730049	PARVEEN	P	P	P	P	A	P	P	A	P
2101730048	SHIVAM SHARMA	P	P	P	A	P	P	P	P	A
2101730047	PRACHI SWARNIM	P	P	P	P	P	A	P	P	P
2101730046	FARHAN AKHTAR	A	P	P	P	P	P	P	P	A
2101730045	SAGAR	A	P	P	P	P	P	P	P	A
2101730041	SUMIT KUMAR	P	P	P	P	P	P	P	P	A
2101730040	UPASANA BAFILA	P	P	A	A	P	P	P	A	P
2101730039	HEMAN BHATIA	A	P	P	P	P	A	P	P	P
2101730038	BHAVYA SHARMA	P	P	P	A	P	P	P	P	A
2101730037	SHAGUN BEGWANI	P	P	P	P	P	A	P	P	A
2101730036	SAMRAT SINGH RATHORE	A	P	P	P	P	P	P	P	A
2101730035	VINEET VERMA	A	P	P	P	P	P	P	P	A
2101730034	VANSHIKA SAXENA	P	P	P	P	P	P	P	P	A
2101730033	AYUSH KANTH	P	P	A	A	P	P	P	A	P
2101730032	AMIT KUMAR MOHANTY	A	P	P	P	P	A	A	P	P
2101730031	ANSH SRIVASTAVA	P	P	P	A	P	P	P	P	A
2101730030	ANSHITA SHARMA	P	P	P	P	P	A	P	P	P
2101730029	AYUSH SOLANKI	P	P	P	P	P	P	P	P	A
2101730028	SHUBHANSHU SINGH	P	P	A	A	P	P	P	A	P
2101730019	SHRUTI GUPTA	A	P	P	P	P	A	P	P	P
2101730018	DIKSHIT JHA	P	P	P	P	P	P	P	P	A

[Signature]
COURSE IN-CHARGE

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Registrar

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Sohna Road, Gurugram



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VAC COURSE FOR ACADEMIC YEAR 2021-22

COURSE CODE: VAC072

COURSE TITLE: APPLIED CRYPTOGRAPHY

ROLL NO	NAME	15-Dec-21	17-Dec-21	22-Dec-21	24-Dec-21	29-Dec-21	Total	Present	Percentage
2101030004	BHUPESH UPADHYAY	A	P	A	P	P	31	27	87.10
2101010007	YASH KUMAR	A	P	A	P	P	31	25	80.65
2101010006	HARSH SINGH	P	A	A	P	P	31	24	77.42
2101010005	SUBHOJIT MUKHOPADHYAY	A	P	P	P	A	31	24	77.42
2101010001	SAGAR KHATANA	P	P	P	P	P	31	27	87.10
2101030001	HIMANSHU YADAV	P	P	P	P	A	31	25	80.65
2101730054	YASHIKA GUPTA	P	P	P	P	A	31	28	90.32
2101730053	KAPIL	P	P	P	P	P	31	28	90.32
2101730052	MAYANK RAJ	P	P	P	P	P	31	29	93.55
2101730051	KARTIK RATHI	A	P	A	P	A	31	27	87.10
2101730050	PRINCE DAGAR	P	A	P	P	P	31	24	77.42
2101730049	PARVEEN	A	P	P	P	A	31	24	77.42
2101730048	SHIVAM SHARMA	P	P	P	P	A	31	26	83.87
2101730047	PRACHI SWARNIM	P	P	P	P	P	31	27	87.10
2101730046	FARHAN AKHTAR	P	P	P	P	A	31	27	87.10
2101730045	SAGAR	P	P	A	P	P	31	27	87.10
2101730041	SUMIT KUMAR	P	P	A	P	P	31	24	77.42
2101730040	UPASANA BAFILA	P	P	P	A	P	31	24	77.42
2101730039	HEMAN BHATIA	P	P	A	P	P	31	24	77.42
2101730038	BHAVYA SHARMA	A	P	P	A	A	31	24	77.42
2101730037	SHAGUN BEGWANI	P	P	A	A	P	31	24	77.42
2101730036	SAMRAT SINGH RATHORE	P	P	P	P	P	31	27	87.10
2101730035	VINEET VERMA	P	P	P	P	A	31	26	83.87
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2101730031	ANSH SRIVASTAVA	P	P	P	A	P	31	26	83.87
2101730030	ANSHITA SHARMA	P	P	P	P	P	31	27	87.10
2101730029	AYUSH SOLANKI	P	P	A	P	P	31	24	77.42
2101730028	SHUBHANSHU SINGH	P	P	P	A	P	31	25	80.65
2101730019	SHRUTI GUPTA	P	P	A	P	P	31	24	77.42
2101730018	DIKSHIT JHA	P	P	P	P	A	31	26	83.87

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Sohna Road, Gurugram



VALUE ADDED COURSE(VAC)

ACADEMIC YEAR 2021-22

COURSE CODE: VAC072

COURSE TITLE: APPLIED CRYPTOGRAPHY

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

LIST OF STUDENTS COMPLETING THE COURSE

S.NO	SESSION	ROLL NO	NAME	PROGRAMME	SEMESTER	COURSE CODE	COURSE TITLE	SCHOOL
1	2022-23	2101030004	BHUPESH UPADHYAY	B.Tech EEE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
2	2022-23	2101010007	YASH KUMAR	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
3	2022-23	2101010006	HARSH SINGH	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
4	2022-23	2101010005	SUBHOJIT MUKHOPADHYAY	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
5	2022-23	2101010001	SAGAR KHATANA	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
6	2022-23	2101030001	HIMANSHU YADAV	B.Tech EEE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
7	2022-23	2101730054	YASHIKA GUPTA	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
8	2022-23	2101730053	KAPIL	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
9	2022-23	2101730052	MAYANK RAJ	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
10	2022-23	2101730051	KARTIK RATHI	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
11	2022-23	2101730050	PRINCE DAGAR	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
12	2022-23	2101730049	PARVEEN	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
13	2022-23	2101730048	SHIVAM SHARMA	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
14	2022-23	2101730047	PRACHI SWARNIM	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
15	2022-23	2101730046	FARHAN AKHTAR	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
16	2022-23	2101730045	SAGAR	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
17	2022-23	2101730041	SUMIT KUMAR	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
18	2022-23	2101730040	UPASANA BAFILA	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
19	2022-23	2101730039	HEMAN BHATIA	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
20	2022-23	2101730038	BHAVYA SHARMA	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
21	2022-23	2101730037	SHAGUN BEGWANI	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
22	2022-23	2101730036	SAMRAT SINGH RATHORE	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
23	2022-23	2101730035	VINEET VERMA	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
24	2022-23	2101730034	VANSHIKA SAXENA	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
25	2022-23	2101730033	AYUSH KANTH	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
26	2022-23	2101730032	AMIT KUMAR MOHANTY	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
27	2022-23	2101730031	ANSH SRIVASTAVA	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
28	2022-23	2101730030	ANSHITA SHARMA	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
29	2022-23	2101730029	AYUSH SOLANKI	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
30	2022-23	2101730028	SHUBHANSHU SINGH	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
31	2022-23	2101730019	SHRUTI GUPTA	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)
32	2022-23	2101730018	DIKSHIT JHA	B.Tech CSE	Semester I	VAC072	APPLIED CRYPTOGRAPHY	SCHOOL OF ENGINEERING & TECHNOLOGY (SOET)



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This is to certify that **BHUPESH UPADHYAY**, University Enrolment No **2101030004** of **B.Tech EEE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (Applied Cryptography) during Academic Session **2021-22** (Odd Semester).

Date: 21.02.2022

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This is to certify that **YASH KUMAR**, University Enrolment No **2101010007** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **HARSH SINGH**, University Enrolment No **2101010006** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **SUBHOJIT MUKHOPADHYAY**, University Enrolment No **2101010005** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (Applied Cryptography) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **SAGAR KHATANA**, University Enrolment No **2101010001** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (**Applied Cryptography**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **HIMANSHU YADAV**, University Enrolment No **2101030001** of **B.Tech EEE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (**Applied Cryptography**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **YASHIKA GUPTA**, University Enrolment No **2101730054** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **KAPIL .**, University Enrolment No **2101730053** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **MAYANK RAJ**, University Enrolment No **2101730052** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **KARTIK RATHI**, University Enrolment No **2101730051** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **PRINCE DAGAR**, University Enrolment No **2101730050** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **PARVEEN**, University Enrolment No **2101730049** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **SHIVAM SHARMA**, University Enrolment No **2101730048** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (Applied Cryptography) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **PRACHI SWARNIM**, University Enrolment No **2101730047** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (**Applied Cryptography**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **FARHAN AKHTAR**, University Enrolment No **2101730046** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (**Applied Cryptography**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **SAGAR**, University Enrolment No **2101730045** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **SUMIT KUMAR**, University Enrolment No **2101730041** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **UPASANA BAFILA**, University Enrolment No **2101730040** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (**Applied Cryptography**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **HEMAN BHATIA**, University Enrolment No **2101730039** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **BHAVYA SHARMA**, University Enrolment No **2101730038** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (**Applied Cryptography**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **SHAGUN BEGWANI**, University Enrolment No **2101730037** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (**Applied Cryptography**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **SAMRAT SINGH RATHORE**, University Enrolment No **2101730036** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **VINEET VERMA**, University Enrolment No **2101730035** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **VANSHIKA SAXENA**, University Enrolment No **2101730034** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (Applied Cryptography) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **AYUSH KANTH**, University Enrolment No **2101730033** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **AMIT KUMAR MOHANTY**, University Enrolment No **2101730032** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **ANSH SRIVASTAVA**, University Enrolment No **2101730031** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (**Applied Cryptography**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **ANSHITA SHARMA**., University Enrolment No **2101730030** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (**Applied Cryptography**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **AYUSH SOLANKI**, University Enrolment No **2101730029** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **SHUBHANSHU SINGH**, University Enrolment No **2101730028** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072** (**Applied Cryptography**) during Academic Session **2021-22** (Odd Semester).

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This is to certify that **SHRUTI GUPTA**, University Enrolment No **2101730019** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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This is to certify that **DIKSHIT JHA**, University Enrolment No **2101730018** of **B.Tech CSE** programme has successfully qualified **VALUE ADDED COURSE VAC072 (Applied Cryptography)** during Academic Session **2021-22 (Odd Semester)**.

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