S V NATIONAL INSTITUTE OF TECHNOLOGY, SURAT
Department of Computer Science and Engineering

No. DCSE/Comprehensive Exam/ 925 /2022-23
Date: 19/09/2022

Instructions for PhD Comprehensive Examination September 2022

PhD comprehensive written examination is scheduled on 29 September 2022 at 12:00 noon to 3:00 pm offline. The presentation/viva will be scheduled on 30 September 2022 at 2:00 pm onwards.
The syllabus detail is available on
https://www.svnit.ac.in/web/department/computer/phdCourse.php.

https://www.svnit.ac.in/web/department/computer/phd%20comprehensive%20exam%20%20%20syllabus-COED.pdf

https://www.svnit.ac.in/web/department/computer/pdf/Comprehensive-Syllabus-Research-area-June-2021.pdf

1. The comprehensive examination paper is of 150 marks. It is mandatory to attempt questions for 100 marks minimum.
2. Students have to attempt a minimum of 35 marks from each core subject and 30 marks from respective research topic-based subject.

HoD, DCSE Head,
Department of Computer Science and Engineering

1. Dean Academic

2. Department File

3. Student Notice board

COMPUTER ENGINEERING DEPARTMENT
PhD Comprehensive Examination Syllabus
September 2022
Research area specific topics

The following is the syllabus for PhD comprehensive examination to be held in the month of September 2022.

Sr. No.	Research area specific topics	Content
1	Information Security	Security Attributes, Mechanisms, Attacks. Types of Encryption Mechanisms, Authentication Mechanisms, Access Control Techniques, Designing a Security Protocol, Security Protocols in TCP/IP Protocol Stack. Design of AES, Galois fields and the related mathematics. Types of Privacy and Mechanisms.
2	Image Processing	Image Enhancement, Histogram, Image Filters, Image Transforms: DCT and Fourier Transform, Frequency and Time domain processing, Image Morphological operators
3	Distributed Computing	Scheduling algorithms, Synchronization techniques, Distributed shared memory, Agreement protocols, Deadlock handling mechanisms, Fault tolerance mechanisms
4	Database Management System	Integrity Constrains and Normalization Theory, Indexing and Hashing mechanisms, Query processing and optimization, Concurrency control protocols, Transaction and recovery
5	Data Mining	Data Pre-processing, Classification, Clustering, Association Rule Mining, Multimedia Data Mining

Head, 19/9/22
Department of Computer Science and Engineering