

## NATIONAL BOARD OF ACCREDITATION

Data Capturing Points of the Program Applied for NBA Accreditation– Tier I/II UG (Engineering) Institute Programs

|   |   |
|---|---|
| <b>Program Name :</b> Civil Engineering | <b>Discipline:</b> Engineering & Technology |
| <b>Level :</b> Under Graduate           | <b>Tier:</b> 1                              |
| <b>Application No:</b> 11109            | <b>Date of Submission:</b> 30-10-2025       |

### PART A- Profile of the Institute

**A1.Name of the Institute:** INSTITUTE OF TECHNOLOGY, NIRMA UNIVERSITY

|                              |                                      |
|------------------------------|--------------------------------------|
| Year of Establishment : 1995 | Location of the Institute: Ahmedabad |
|------------------------------|--------------------------------------|

**A2. Institute Address:** INSTITUTE OF TECHNOLOGY, NIRMA UNIVERSITY, S.G. HIGHWAY, VILL. CHHARODI

|                 |                |
|-----------------|----------------|
| City: Ahmedabad | State: Gujarat |
|-----------------|----------------|

|                  |  |
|------------------|--|
| Pin Code: 382481 | Website: www.technology.nirmauni.ac.in |
|------------------|--|

|                           |  |
|---------------------------|--|
| Email: NIT@NIRMAUNI.AC.IN | Phone No (with STD Code): 079-71652000 |
|---------------------------|--|

**A3. Name and Address of the Affiliating University (if any):**

|                          |                 |
|--------------------------|-----------------|
| Name of the University : | City: Ahmedabad |
|--------------------------|-----------------|

|                 |                  |
|-----------------|------------------|
| State : Gujarat | Pin Code: 382481 |
|-----------------|------------------|

**A4. Type of the Institution:** University

**A5. Ownership Status:** Self financing

**A6. Details of all Programs being Offered by the Institution:**

- No. of UG programs: 8
- No. of PG programs: 12

Table No. A6.1: List of all programs offered by the Institute.

| Sr.No. | Discipline               | Level of program | Name of the program                          | Year of Start | Year of Closed | Name of The Department           |
|--------|--------------------------|------------------|--|---------------|----------------|----------------------------------|
| 1      | Engineering & Technology | UG               | Artificial Intelligence and Machine Learning | 2024          | --             | Computer Science and Engineering |
| 2      | Engineering & Technology | UG               | Chemical Engineering                         | 1995          | --             | Chemical Engineering             |
| 3      | Engineering & Technology | UG               | Civil Engineering                            | 1996          | --             | Civil Engineering                |
| 4      | Engineering & Technology | PG               | Computer Aided Structural Analysis & Design  | 2002          | --             | Civil Engineering                |
| 5      | Engineering & Technology | PG               | Computer Science and Engineering             | 2004          | --             | Computer Science and Engineering |
| 6      | Engineering & Technology | UG               | Computer Science and Engineering             | 1998          | --             | Computer Science and Engineering |

|    |                          |    |   |      |      |   |
|----|--------------------------|----|---|------|------|---|
| 7  | Engineering & Technology | PG | Computer Science and Engineering (Data Science) | 2019 | --   | Computer Science and Engineering            |
| 8  | Engineering & Technology | PG | Construction Technology and Management          | 2022 | --   | Civil Engineering                           |
| 9  | Engineering & Technology | PG | Cyber Security                                  | 2022 | --   | Computer Science and Engineering            |
| 10 | Engineering & Technology | PG | Design Engineering                              | 2022 | --   | Mechanical Engineering                      |
| 11 | Engineering & Technology | PG | Electric Vehicle Technology                     | 2022 | 2024 | Electrical Engineering                      |
| 12 | Engineering & Technology | UG | Electrical Engineering                          | 1995 | --   | Electrical Engineering                      |
| 13 | Engineering & Technology | UG | Electronics & Communication Engineering         | 1995 | --   | Electronics and Communication Engineering   |
| 14 | Engineering & Technology | UG | Electronics & Instrumentation Engineering       | 1995 | --   | Electronics and Instrumentation Engineering |
| 15 | Engineering & Technology | PG | Embedded Systems                                | 2012 | --   | Electronics and Communication Engineering   |
| 16 | Engineering & Technology | PG | Masters in Computer Applications                | 1999 | --   | Computer Science and Engineering            |
| 17 | Engineering & Technology | UG | Mechanical Engineering                          | 1995 | --   | Mechanical Engineering                      |
| 18 | Engineering & Technology | PG | Robotics and Artificial Intelligence            | 2025 | --   | Electronics and Instrumentation Engineering |
| 19 | Engineering & Technology | PG | Semiconductor Technology                        | 2024 | --   | Electronics and Communication Engineering   |
| 20 | Engineering & Technology | PG | VLSI Design                                     | 2003 | --   | Electronics and Communication Engineering   |

**A7. Programs to be considered for Accreditation vide this Application:**

Table No. A7.1: List of programs to be considered for accreditation.

| Name of the Department                      | Having Allied Departments | Name of the Program                       | Program Level |
|---|---------------------------|---|---------------|
| Electrical Engineering                      | No                        | Electrical Engineering                    | UG            |
| Electronics and Instrumentation Engineering | No                        | Electronics & Instrumentation Engineering | UG            |
| Civil Engineering                           | No                        | Civil Engineering                         | UG            |

Table No. A7.2: Allied Department(s) to the Department of the program considered for accreditation as above.

Cluster ID. Name of the Department (in table no. A7.1) Name of allied Departments/Cluster (for table no. A7.1)

No Record

## PART-B: Program information

**B1. Provide the Required Information for the Program Applied For:**

Table No. B1: Program details.

A. List of the Programs Offered by the Department:

| SR.NO. | PROGRAM NAME      | PROGRAM APPLIED LEVEL | YEAR OF START / YEAR OF CLOSED | SANCTIONED INTAKE | INCREASE/ DECREASE INTAKE (if any) | YEAR OF INCREASE/ DECREASE | CURRENT INTAKE | YEAR OF AICTE APPROVAL | AICTE/ COMPETENT AUTHORITY ARROVAL DETAILS | ACCREDITATION STATUS  | FROM | TO   | NO. OF TIMES PROGRAM ACCREDITED | PROGRAM DURATION |
|--------|-------------------|-----------------------|--------------------------------|-------------------|------------------------------------|----------------------------|----------------|------------------------|--|---|------|------|---------------------------------|------------------|
| 1      | Civil Engineering | UG                    | 1996 / --                      | 120               | No                                 | NA                         | 120            | 1996                   | UGC  | Granted accreditation for 3 years for the period (specify period) | 2024 | 2026 | 1                               | 4                |
|        |                   |                       |                                |                   |                                    |                            |                |                        |  |   |      |      |                                 |                  |

List of the Allied Departments/Cluster and Programs:

**B2. Detail of Head of the Department for the program under consideration:**

|                           |                    |
|---------------------------|--------------------|
| A. Name of the HoD :      | Parul Ruchir Patel |
| B. Nature of appointment: | Regular            |
| C. Qualification:         | Ph.D               |

**B3. Program Details**

Table No.B3.1: Admission details for the program excluding those admitted through multiple entry and exit points.

| Item (Information to be provided cumulatively for all the shifts with explicit headings, wherever applicable)  | 2025-26 (CAY) | 2024-25 (CAYm1) | 2023-24 (CAYm2) | 2022-23 (CAYm3) | 2021-22 (CAYm4) | 2020-21 (CAYm5) | 2019-20 (CAYm6) |
|--|---------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| N=Sanctioned intake of the program (as per AICTE /Competent authority)   | 120           | 120             | 120             | 120             | 120             | 120             | 120             |
| N1=Total no. of students admitted in the 1st year minus the no. of students, who migrated to other programs/ institutions plus no. of students, who migrated to this program | 130           | 136             | 141             | 117             | 130             | 124             | 135             |
| N2=Number of students admitted in 2nd year in the same batch via lateral entry including leftover seats  | 0             | 14              | 14              | 40              | 20              | 23              | 16              |
| N3=Separate division if any  | 0             | 0               | 0               | 0               | 0               | 0               | 0               |
| N4=Total no. of students admitted in the 1st year via all supernumerary quotas   | 6             | 6               | 7               | 8               | 8               | 7               | 7               |

|   |     |     |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|
| Total number of students admitted in the program (N1 + N2 + N3 + N4) - excluding those admitted through multiple entry and exit points. | 136 | 156 | 162 | 165 | 158 | 154 | 158 |
|---|-----|-----|-----|-----|-----|-----|-----|

CAY= Current Academic Year. CAYm1= Current Academic Year Minus 1 CAYm2= Current Academic Year Minus 2. LYG= Last Year Graduate. LYGM1= Last Year Graduate Minus 1. LYGM2= Last Year Graduate Minus 2.

#### B4. Enrolment Ratio in the First Year

Table No. B4.1: Student enrolment ratio in the 1st year.

| Year of entry   | N (From Table 4.1) | N1 (From Table 4.1) | N4 (From Table 4.1) | Enrollment Ratio [(N1/N)*100] |
|-----------------|--------------------|---------------------|---------------------|-------------------------------|
| 2025-26 (CAY)   | 120                | 130                 | 6                   | 113.33                        |
| 2024-25 (CAYm1) | 120                | 136                 | 6                   | 118.33                        |
| 2023-24 (CAYm2) | 120                | 141                 | 7                   | 123.33                        |

Average [ (ER1 + ER2 + ER3) / 3 ] = 118.33 ≈ 100

#### B5. Success Rate of the Students in the Stipulated Period of the Program

Table No.B5.1: The success rate in the stipulated period of a program.

| Item  | (2021-22)<br>LYG | (2020-21)<br>LYGm1 | (2019-20)<br>LYGm2 |
|---|------------------|--------------------|--------------------|
| A*=(No. of students admitted in the 1st year of that batch and those actually admitted in the 2nd year via lateral entry, plus the number of students admitted through multiple entry (if any) and separate division if applicable, minus the number of students who exited through multiple entry (if any).) | 158.00           | 154.00             | 158.00             |
| B=No. of students who graduated from the program in the stipulated course duration  | 141.00           | 138.00             | 151.00             |
| Success Rate (SR)= (B/A) * 100  | 89.24            | 89.61              | 95.57              |

Average SR of three batches ((SR\_1+ SR\_2+ SR\_3)/3): 91.47

#### B6. Academic Performance of the First-Year Students of the Program

Table No.B6.1: Academic Performance of the First-Year Students of the Program.

| Academic Performance   | CAYm1( 2024-25 ) | CAYm2( 2023-24 ) | CAYm3 ( 2022-23 ) |
|--|------------------|------------------|-------------------|
| X=(Mean of 1st year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 1st year/10) | 6.99             | 7.09             | 7.21              |
| Y=Total no. of successful students   | 139.00           | 146.00           | 116.00            |
| Z=Total no. of students appeared in the examination  | 142.00           | 148.00           | 125.00            |
| API [X*(Y/Z)]  | 6.84             | 6.99             | 6.69              |

Average API[ (AP1+AP2+AP3)/3 ] : 6.84

#### B7: Academic Performance of the Second Year Students of the Program

Table No.B7.1: Academic Performance of the Second Year Students of the Program.

| Academic Performance | CAYm1 ( 2024-25 ) | CAYm2 ( 2023-24 ) | CAYm3 ( 2022-23 ) |
|----------------------|-------------------|-------------------|-------------------|
|----------------------|-------------------|-------------------|-------------------|

|  |        |        |        |
|--|--------|--------|--------|
| X=(Mean of 2nd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 2nd year/10) | 6.88   | 7.21   | 7.41   |
| Y=Total no. of successful students   | 150.00 | 155.00 | 143.00 |
| Z=Total no. of students appeared in the examination  | 160.00 | 156.00 | 157.00 |
| API [ X * (Y/Z) ]  | 6.45   | 7.16   | 6.75   |

Average API [ (AP1 + AP2 + AP3)/3 ] : 6.79

#### B8. Academic Performance of the Third Year Students of the Program

Table No.B8.1: Academic Performance of the Third Year Students of the Program

| Academic Performance   | CAYm1 (2024-25) | CAYm2 (2023-24) | CAYm3 (2022-23) |
|--|-----------------|-----------------|-----------------|
| X=(Mean of 3rd year grade point average of all successful students on a 10-point scale) or (Mean of the percentage of marks of all successful students in 3rd year/10) | 7.28            | 7.46            | 7.44            |
| Y=Total no. of successful students   | 148.00          | 142.00          | 142.00          |
| Z=Total no. of students appeared in the examination  | 155.00          | 143.00          | 150.00          |
| API [ X*(Y/Z) ]:   | 6.95            | 7.41            | 7.04            |

Average API [ (AP1 + AP2 + AP3)/3 ] : 7.13

#### B9. Placement, Higher Studies, and Entrepreneurship

Table No.B9.1: Placement, higher studies, and entrepreneurship details.

| Item   | LYG (2021-22) | LYGm1(2020-21) | LYGm2(2019-20) |
|--|---------------|----------------|----------------|
| FS*=Total no. of final year students           | 142.00        | 143.00         | 152.00         |
| X=No. of students placed                       | 50.00         | 51.00          | 71.00          |
| Y=No. of students admitted to higher studies   | 44.00         | 44.00          | 42.00          |
| Z= No. of students taking up entrepreneurship  | 13.00         | 20.00          | 17.00          |
| Placement Index(P) = (((X + Y + Z)/FS) * 100): | 75.35         | 80.42          | 85.53          |

Average Placement Index = (P\_1 + P\_2 + P\_3)/3: 80.43 Placement Index Points:

### PART C: Faculty Details in Department and Allied Departments

**(Data to be filled in for the Department and Allied Departments)**

#### C1. Faculty details of Department and Allied Departments

Table No.C1: Faculty details in the Department for the past 3 years including CAY

| Sr.No | Name of the Faculty           | PAN No.    | Highest degree | University                   | Area of Specialization               | Date of Joining in this Institution | Experience in years in current institute | Designation at Time Joining in this Institution | Present Designation | The date on which Designated as Professor/ Associate Professor if any | Nature of Association (Regular/ Contract/ Ad hoc) | Currently Associated (Y/N) | In case of NO, Date of Leaving | IS HOD? |
|-------|-------------------------------|------------|----------------|------------------------------|--------------------------------------|-------------------------------------|--|---|---------------------|---|---|----------------------------|--------------------------------|---------|
| 1     | Sunil Dineshbhai Riyani       | XXXXXXX46K | Ph.D           | Nirma University             | Structural Engineering               | 25/05/2015                          | 10.4                                     | Assistant Professor                             | Assistant Professor |   | Regular   | Yes                        |                                | No      |
| 2     | Jahanvi Miteshkumar Suthar    | XXXXXXX96N | Ph.D           | Nirma University             | Structural Engineering               | 15/05/2009                          | 16.5                                     | Assistant Professor                             | Assistant Professor |   | Regular   | Yes                        |                                | No      |
| 3     | Parul Ruchir Patel            | XXXXXXX45R | Ph.D           | IIT Bombay                   | Construction Technology & Management | 17/08/1995                          | 30.2                                     | Lecturer  | Professor           | 17/07/2013  | Regular   | Yes                        |                                | Yes     |
| 4     | Paresh Vardhamandas Patel     | XXXXXXX89A | Ph.D           | The M. S. University, Baroda | Structural Engineering               | 01/01/1997                          | 28.9                                     | Lecturer  | Professor           | 01/05/2007  | Regular   | Yes                        |                                | No      |
| 5     | Urmil Vatsalbhai Dave         | XXXXXXX53C | Ph.D           | IIT Bombay                   | Structural Engineering               | 01/09/1997                          | 28.1                                     | Lecturer  | Professor           | 09/12/2011  | Regular   | Yes                        |                                | No      |
| 6     | Sharadkumar Purnanand Purohit | XXXXXXX64L | Ph.D           | IIT Bombay                   | Structural Engineering               | 28/02/2003                          | 22.7                                     | Lecturer  | Professor           | 11/07/2013  | Regular   | Yes                        |                                | No      |
| 7     | Sonal Pragnesh Thakkar        | XXXXXXX60N | Ph.D           | Nirma University             | Structural Engineering               | 21/12/1999                          | 25.10                                    | Lecturer  | Associate Professor | 01/02/2022  | Regular   | Yes                        |                                | No      |
| 8     | Kamalendra Kumar Tripathi     | XXXXXXX33H | Ph.D           | IIT Delhi                    | Construction Technology & Management | 21/06/2022                          | 3.3                                      | Associate Professor                             | Associate Professor |   | Regular   | Yes                        |                                | No      |
| 9     | Digesh Dilipkumar Joshi       | XXXXXXX09Q | Ph.D           | Nirma University             | Structural Engineering               | 06/06/2011                          | 14.4                                     | Assistant Professor                             | Assistant Professor |   | Regular   | Yes                        |                                | No      |
| 10    | Tejas Mukundbhai Joshi        | XXXXXXX89D | Ph.D           | Nirma University             | Structural Engineering               | 01/08/2013                          | 12.2                                     | Assistant Professor                             | Assistant Professor |   | Regular   | Yes                        |                                | No      |
| 11    | Utsav Kamalbhai Koshti        | XXXXXXX04E | Ph.D           | Nirma University             | Structural Engineering               | 29/03/2014                          | 11.6                                     | Assistant Professor                             | Assistant Professor |   | Regular   | Yes                        |                                | No      |

|    |                            |            |        |                                      |                                      |            |      |                     |                     |  |                      |     |  |    |
|----|----------------------------|------------|--------|--------------------------------------|--------------------------------------|------------|------|---------------------|---------------------|--|----------------------|-----|--|----|
| 12 | Alka Murari Shah           | XXXXXXX79A | M.E.   | L. D. Engineering College, Ahmedabad | Geotechnical Engineering             | 29/05/2015 | 10.4 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 13 | Hasan Mohammedi Rangwala   | XXXXXXX69A | Ph.D   | IIT, Roorkee                         | Geotechnical Engineering             | 30/05/2015 | 10.4 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 14 | Vineet Gautamchand Kothari | XXXXXXX74K | M.E.   | L. D. Engineering College, Ahmedabad | Structural Engineering               | 18/04/2016 | 9.6  | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 15 | Arth Jtendrakumar Patel    | XXXXXXX22P | M.Tech | Dharmsinh Desai University,Nadiad    | Structural Engineering               | 28/07/2016 | 9.2  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | Yes |  | No |
| 16 | Anant Darshanbhai Patel    | XXXXXXX29K | Ph.D   | SVNIT, Surat                         | Water Resources Engineering          | 27/06/2017 | 8.3  | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 17 | Keval Hareshbhai Jodhani   | XXXXXXX60L | Ph.D   | PDEU, Gandhinagar                    | Water Resources Engineering          | 02/07/2018 | 7.3  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | Yes |  | No |
| 18 | Manish Dutta               | XXXXXXX26N | Ph.D   | NIT, Silchar                         | Transportation Engineering           | 16/08/2021 | 4.2  | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 19 | Swati Sirsant              | XXXXXXX84M | Ph.D   | IIT, Bombay                          | Water Resources Engineering          | 16/05/2022 | 3.5  | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 20 | Nitesh Gupta               | XXXXXXX08K | Ph.D   | IIT,BHU                              | Water Resources Engineering          | 01/07/2022 | 3.3  | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 21 | Prachi Kushwaha            | XXXXXXX22F | Ph.D   | IIT, Jaipur                          | Transportation Engineering           | 04/07/2022 | 3.3  | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 22 | Naman Katesaria            | XXXXXXX15F | Ph.D   | IIT, Gnadhinagar                     | Geotechnical Engineering             | 15/07/2022 | 3.3  | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 23 | Lukman Mansuri             | XXXXXXX78A | Ph.D   | SVNIT, Surat                         | Construction Technology & Management | 07/11/2022 | 2.11 | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |
| 24 | Purvesh Raval              | XXXXXXX49D | M.E.   | PDEU, Gnadhinagar                    | Construction Technology & Management | 09/02/2023 | 2.8  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | Yes |  | No |
| 25 | Indrajeet Kumar            | XXXXXXX02Q | Ph.D   | IIT, Kharagpur                       | Environmental Engineering            | 15/07/2023 | 2.3  | Assistant Professor | Assistant Professor |  | Regular              | Yes |  | No |

|    |                         |            |        |                                      |                                      |            |      |                     |                     |  |                      |     |            |    |
|----|-------------------------|------------|--------|--------------------------------------|--------------------------------------|------------|------|---------------------|---------------------|--|----------------------|-----|------------|----|
| 26 | Devi Sendhil            | XXXXXXX70F | M.E.   | Sastra Deemed University, Tamilnadu  | Construction Technology & Management | 20/08/2024 | 1.1  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | Yes |            | No |
| 27 | Aakansha Agrawal        | XXXXXXX99J | Ph.D   | NIT, Raipur                          | Environmental Engineering            | 12/07/2024 | 1.3  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | Yes |            | No |
| 28 | Ansuya Sahu             | XXXXXXX45K | Ph.D   | IIT, Jamshedpur                      | Structural Engineering               | 09/07/2025 | 0.3  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | Yes |            | No |
| 29 | Triptisingh Rajput      | XXXXXXX15E | Ph.D   | IIT, Bombay                          | Transportation Engineering           | 03/05/2025 | 0.2  | Assistant Professor | Assistant Professor |  | Regular              | No  | 05/07/2025 | No |
| 30 | Somya Agrawal           | XXXXXXX87A | Ph.D   | BITS, Pilani                         | Environmental Engineering            | 07/07/2025 | 0.3  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | Yes |            | No |
| 31 | Vishal Lad              | XXXXXXX10C | Ph.D   | SVNIT, Surat                         | Construction Technology & Management | 16/01/2023 | 1.7  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | No  | 23/08/2024 | No |
| 32 | Kumkum Bhattacharjee    | XXXXXXX43M | Ph.D   | PDEU, Gandhinagar                    | Transportation Engineering           | 12/07/2024 | 0.5  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | No  | 31/12/2024 | No |
| 33 | Pooja Kapoor            | XXXXXXX78E | M.Tech | RCEM, Nagpur                         | Structural Engineering               | 12/07/2024 | 0.4  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | No  | 30/11/2024 | No |
| 34 | Apurvakumar Prajapati   | XXXXXXX71D | M.E.   | L. D. Engineering College, Ahmedabad | Geotechnical Engineering             | 12/07/2024 | 0.5  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | No  | 31/12/2024 | No |
| 35 | Amit Sharma             | XXXXXXX57F | M.Tech | Nirma University                     | Structural Engineering               | 12/07/2024 | 0.5  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | No  | 31/12/2024 | No |
| 36 | Smita Langalia          | XXXXXXX45A | M.E.   | The M. S. University, Baroda         | Water Resources Engineering          | 12/07/2024 | 0.5  | Assistant Professor | Assistant Professor |  | Contractual Fulltime | No  | 31/12/2024 | No |
| 37 | Somil Thakur            | XXXXXXX35E | Ph.D   | VIT, Vellore                         | Environmental Engineering            | 16/01/2023 | 0.11 | Assistant Professor | Assistant Professor |  | Regular              | No  | 22/12/2023 | No |
| 38 | Hemang Amrutlal Dalwadi | XXXXXXX79J | M.Tech | CEPT University, Ahmedabad           | Transportation Engineering           | 01/05/2014 | 10.1 | Assistant Professor | Assistant Professor |  | Regular              | No  | 31/05/2024 | No |

Table No.C2: Faculty details of Allied Departments for the past 3 years including CAY.

## C2. Student-Faculty Ratio (SFR)

No. of UG(Engineering) programs in Department including allied departments/ clusters (UGn):

UG1=1st UG program

UGn=nth UG program

B= No. of Students in UG 2nd year (ST)

C= No. of Students in UG 3rd year (ST)

D= No. of Students in UG 4th year (ST)

No. of PG (Engineering) programs in Department including allied departments/ clusters (PGm):

PG1=1st PG program.

PGm=mth PG program

A= No. of Students in PG 1st year

B= No. of Students in PG 2nd year

Student Faculty Ratio (**SFR**) = S/F

S= No. of students of all programs in the Department including all students of allied departments/clusters.

**No. of students (ST)**=Sanctioned Intake (SA)+ Actual admitted students via lateral entry including leftover seats (L) if any (limited to 10 % of SA)

Students who admitted under supernumerary quotas (SNQ, EWS, etc) will not be considered in calculating SFR value. Those students are exempted.

F=Total no. of regular or contractual faculty members (Full Time) in the Department, including allied departments/clusters (excluding first year faculty (The faculty members who have a 100% teaching load in the first-year courses)).

No. of UG Programs in the Department1 No. of PG Programs in the Department2

Table No.C2.1: Student-faculty ratio.

| Description   | CAY(2025-26)       | CAYm1 (2024-25)    | CAYm2 (2023-24)    |
|---|--------------------|--------------------|--------------------|
| UG1.B   | 132                | 132                | 132                |
| UG1.C   | 132                | 132                | 132                |
| UG1.D   | 132                | 132                | 132                |
| <b>UG1: Civil Engineering</b>   | <b>396</b>         | <b>396</b>         | <b>396</b>         |
| PG1.A   | 18                 | 18                 | 18                 |
| PG1.B   | 18                 | 18                 | 18                 |
| <b>PG1: Computer Aided Structural Analysis &amp; Design</b>                         | <b>36</b>          | <b>36</b>          | <b>36</b>          |
| PG2.A   | 18                 | 18                 | 18                 |
| PG2.B   | 18                 | 18                 | 18                 |
| <b>PG2: Construction Technology and Management</b>                                  | <b>36</b>          | <b>36</b>          | <b>36</b>          |
| DS=Total no. of students in all UG and PG programs in the Department                | 468                | 468                | 468                |
| AS=Total no. of students of all UG and PG programs in allied departments            | 0                  | 0                  | 0                  |
| S=Total no. of students in the Department (DS) and allied departments (AS)          | <b>S1= 468</b>     | <b>S2= 468</b>     | <b>S3= 468</b>     |
| DF=Total no. of faculty members in the Department                                   | 29                 | 27                 | 27                 |
| AF= Total no. of faculty members in the allied Departments                          | 0                  | 0                  | 0                  |
| F=Total no. of faculty members in the Department (DF) and allied Departments (AF)   | <b>F1= 29</b>      | <b>F2= 27</b>      | <b>F3= 27</b>      |
| FF=The faculty members in F who have a 100% teaching load in the first-year courses | 0                  | 0                  | 0                  |
| Student Faculty Ratio (SFR)=S/(F-FF)  | <b>SFR1= 16.14</b> | <b>SFR2= 17.33</b> | <b>SFR3= 17.33</b> |
| Average SFR for 3 years   | <b>SFR= 16.93</b>  |                    |                    |

- Faculty qualification index (FQI) =  $2.5 * [(10X + 4Y) / RF]$  where
- X=No. of faculty members with Ph.D. degree or equivalent as per AICTE/UGC norms.
- Y=No. of faculty members with M. Tech. or ME degree or equivalent as per AICTE/UGC norms.
- RF=No. of required faculty in the Department including allied Departments to adhere to the 20:1 Student-Faculty ratio, with calculations based on both student numbers and faculty requirements as per section C2 of this documents: (RF=S/20).

Table No.C3.1: Faculty qualification.

| Year           | X  | Y  | RF    | <b>FQ = 2.5 x [(10X + 4Y) / RF ]</b> |
|----------------|----|----|-------|--------------------------------------|
| 2025-26(CAY)   | 24 | 5  | 23.00 | 28.26                                |
| 2024-25(CAYm1) | 17 | 10 | 23.00 | 22.83                                |
| 2023-24(CAYm2) | 16 | 11 | 23.00 | 22.17                                |

#### C4. Faculty Cadre Proportion

- Faculty Cadre Proportion is 1(RF1): 2(RF2): 6(RF3)
- RF1= No. of Professors required =  $1/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S)}$  as per C2 of this documents:.
- RF2= No. of Associate Professors required =  $2/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S)}$  as per section C2 of this documents:.
- RF3= No. of Assistant Professors required =  $6/9 * \text{No. of Faculty required to comply with 20:1 Student-Faculty ratio based on no. of students (S)}$  as per section C2 of this documents:.
- Faculty cadre and qualification and experience should be as per AICTE/UGC norms.

Table No.C4.1: Faculty cadre proportion details.

| Year    | Professors   |               | Associate Professors |               | Assistant Professors |               |
|---------|--------------|---------------|----------------------|---------------|----------------------|---------------|
|         | Required RF1 | Available AF1 | Required RF2         | Available AF1 | Required RF3         | Available AF3 |
| 2025-26 | 2.00         | 4.00          | 5.00                 | 2.00          | 15.00                | 16.00         |
| 2024-25 | 2.00         | 4.00          | 5.00                 | 2.00          | 15.00                | 16.00         |
| 2023-24 | 2.00         | 4.00          | 5.00                 | 2.00          | 15.00                | 17.00         |
| Average | RF1=2.00     | AF1=4.00      | RF2=5.00             | AF2=2.00      | RF2=15.00            | AF2=16.33     |

#### C5. Visiting/Adjunct Faculty/Professor of Practice

Table No. C5.1: List of visiting/adjunct faculty/professor of practice and their teaching and practical loads.

(CAYm1)

| S.No | Name of the Person | Designation           | Organization                                | Name of the Course   | No. of hours handled |
|------|--------------------|-----------------------|---|--|----------------------|
| 1    | Smita Langalia     | Assistant Professor   | SAL Institute                               | Environmental Science, Hydraulics and water resources Engineering, Professional Practice | 240.00               |
| 2    | Swati Kothary      | Assistant Professor   | Institute of Architecture, Nirma University | Urban Planning and management  | 30.00                |
| 3    | Shashikant Joshi   | Assistant Professor   | Mechanical Engineering Dept. IT-NU          | Composite Materials  | 15.00                |
| 4    | B S Munjal         | Professor of Practice | Civil Engineering Dept., IT-NU              | Major Project, Research Methodology, Minor Project, C2C                                  | 135.00               |

**(CAYm2)**

| S.No | Name of the Person | Designation           | Organization                                | Name of the Course  | No. of hours handled |
|------|--------------------|-----------------------|---|---|----------------------|
| 1    | Swati Kothary      | Assistant Professor   | Institute of Architecture, Nirma University | Urban Planning and management   | 30.00                |
| 2    | V M Rana           | Professor of Practice | Civil Engineering Dept., IT-NU              | Road safety and mgt., CEDBP, Minor Project, Water Resources and Irrigation Engg, Major Project      | 315.00               |
| 3    | B S Munjal         | Professor of Practice | Civil Engineering Dept., IT-NU              | Major Project, Introduction to Research Methodology, Composite Materials, Str. Mech., Minor Project | 165.00               |

**(CAYm3)**

| S.No | Name of the Person | Designation           | Organization                       | Name of the Course   | No. of hours handled |
|------|--------------------|-----------------------|------------------------------------|--|----------------------|
| 1    | Shiv Mohan         | Ret. Scientist        | ISRO                               | Remote Sensing, GIS and GPS  | 10.00                |
| 2    | Dhaval Shah        | Assistant Professor   | Mechanical Engineering Dept. IT-NU | Composite Materials  | 15.00                |
| 3    | V M Rana           | Professor of Practice | Civil Engineering Dept., IT-NU     | CEDBP, IWM, Major Project, Water Resources and Irrigation Engineering, FM, Minor Project | 240.00               |
| 4    | B S Munjal         | Professor of Practice | Civil Engineering Dept., IT-NU     | Major Project, Introduction to Research Methodology, Minor Project                       | 60.00                |

**C6. Academic Research**

Table No. C6.1: Faculty publication details.

| S.No. | Item  | 2024-25<br>(CAYm1) | 2023-24<br>(CAYm2) | 2022-23<br>(CAYm3) |
|-------|---|--------------------|--------------------|--------------------|
| 1     | No. of peer reviewed journal papers published | 32                 | 36                 | 24                 |

|   |  |    |    |    |
|---|--|----|----|----|
| 2 | No. of peer reviewed conference papers published | 23 | 33 | 21 |
| 3 | No. of books/book chapters published             | 17 | 18 | 10 |

### C7. Sponsored Research Project

(CAYm1)

Table No. C7.1: List of sponsored research projects received from external agencies.

| PI Name              | Co-PI names if any                         | Name of the Dept., where project is sanctioned | Project Title*  | Name of the Funding agency | Duration of the project | Amount(Lacs) i.e. 15,25,000=15.25 |
|----------------------|--|--|---|----------------------------|-------------------------|-----------------------------------|
| Dr. P. R. Patel      |  | Civil Eng.                                     | Calibration and Validation of RISAT-1 SAR Sensor  | SAC, ISRO                  | 12                      | 11.75                             |
| Dr. Jayesh Ruparelia | 1. Dr. Urmil Dave<br>2. Mr. Dipak Bholanda | Civil Eng.                                     | Studies and Prototype Development for Recycle and Reuse of Waste Streams from Stainless Steel Industries  | GUJCOST                    | 3                       | 22.33                             |
| Dr. Tejas Joshi (PI) | Dr Urmil Dave                              | Civil Eng.                                     | Feasibility study of use of Polyurethane Foam Water in Paver Block  | Q-BO Technologies Pvt. Ltd | 2                       | 10.00                             |
| Dr. Sonal Thakkar    | Dr Urmil Dave Dr Bhoomi Andharia           | Civil Eng.                                     | Deployment of Sustainable Concrete for Reducing Brine Water Losses in Earthen Salt Pans: An Experimental Investigation at CSIR- CSMCRI, Bhavnagar | GUJCOST                    | 3                       | 32.51                             |
| Dr Sonal Thakkar     | Dr Urmil Dave                              | Civil Eng.                                     | Experimental Investigation On The Use Of Kaolinite Mining Waste As A Replacement For Natural Fine Aggregate In Concrete                           | Q-BO Technologies Pvt. Ltd | 2                       | 10.00                             |
| Dr Sibhu Pillai      | Dr. U V Dave Mr. Manish Kuchya             | Civil Eng. & Chemical Eng.                     | Design and development of Green Cement  | CoE- DDU                   | 1                       | 0.75                              |
| Dr.Sonal Thakkar     | Dr Urmil Dave Dr Bhoomi Andharia           | Civil Eng.                                     | Use of Recycled C&D waste, Fly Ash, Bottom Ash, Dredged Marine Sand and Gypsum for construction   | DST                        | 2                       | 61.35                             |
|                      |  |  |   |                            |                         | Amount received (Rs.):148.69      |

## (CAYm2)

| PI Name             | Co-PI names if any                       | Name of the Dept., where project is sanctioned | Project Title*   | Name of the Funding agency | Duration of the project | Amount(Lacs) i.e. 15,25,000=15.25 |
|---------------------|--|--|--|----------------------------|-------------------------|-----------------------------------|
| Prof. S. D. Raiyani | Dr. P. V. Patel Dr. S. S. Prakash        | Civil Eng.                                     | Torsional Behaviour of Reinforced Concrete Elements Strengthened with Stainless Steel Wire Mesh                                    | SERB-TARE                  | 3                       | 18.30                             |
| Dr Manish Dutta     | Dr Suprava Jena                          | Civil Eng.                                     | Reducing riders' discomfort due to speed bumps without compromising their speed reduction abilities                                | SERB POWER                 | 2                       | 8.67                              |
| Dr. Digesh D. Joshi | Dr. Paresh V. Patel                      | Civil Eng.                                     | Experimental and numerical studies on Stainless Steel Wire Mesh (SSWM) strengthened  | SERB-SURE                  | 3                       | 25.00                             |
| Dr. Kaustav Sarkar  | Dr. Kashyap A Patel Dr. Lukman E Mansuri | Civil Eng.                                     | Towards a Circular Economy: Exploring Nanotechnology, Plastics, and Additive Manufacturing for Development of Sustainable Concrete | SPARC-UKERI                | 2                       | 44.16                             |
|                     |  |  |  |                            |                         | Amount received (Rs.):96.13       |

## (CAYm3)

| PI Name              | Co-PI names if any                           | Name of the Dept., where project is sanctioned | Project Title*   | Name of the Funding agency   | Duration of the project | Amount(Lacs) i.e. 15,25,000=15.25 |
|----------------------|--|--|--|--|-------------------------|-----------------------------------|
| Prof. Sharad Purohit | Prof. Kunal D. Kansara                       | Civil Eng.                                     | Experimental Investigations on RC Girder Model of Bridge with Half-joint and Retrofitting Strategies   | QR Global Challenges Research Fund (GCRF) at Liverpool John Moores University (LJMU), UK | 1                       | 1.98                              |
| Dr. U. V. Dave       | Prof. Monower Sadiq & Prof. Kunal D. Kansara | Civil Eng.                                     | Development of a low-carbon cementitious material by recycling Calcium Carbide Residue (CCR) waste from foundation industries to decarbonise construction sector   | Innovate UK in association with Liverpool John Moores University (LJMU), UK              | 1                       | 53.80                             |
| Prof. Sonal Thakkar  | Dr. U. V. Dave and Dr. Bhoomi R. Andharia    | Civil Eng.                                     | Use of Recycled C &D waste, Fly ash, Bottom Ash, Dredged Marine Sand and Gypsum for construction of sustainable salt pan beds for enhancement of salt productivity through Prevention of Brine Percolation | DST  | 1                       | 9.90                              |
|                      |  |  |  |  |                         | Amount received (Rs.):65.68       |

Total Amount (Lacs) Received for the Past 3 Years: 310.50

Note\*:

- Only sponsored research projects will be considered. Infrastructure-based projects will not be considered here.

Table No. C8.1: List of consultancy projects received from external agencies.



| PI Name                      | Co-PI names if any | Name of the Dept., where project is sanctioned | Project Title*  | Name of the Funding agency                            | Duration of the project  | Amount(Lacs) i.e. 15,25,000=15.25 |
|------------------------------|--------------------|--|---|---|--------------------------|-----------------------------------|
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Gujarat Narmada Valley Fertilizers and Chemicals Ltd  | 04/01/2023 to 30/06/2024 | 1.38                              |
| Joshi Tejas Mukunbhai        |                    | Civil Engineering Department                   | Cement test - Physical properties   | Gharpure Engineering And Construction Private Limited | 03-11-2024 to 24-05-2024 | 0.10                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Torrent Pharmaceuticals Ltd.                          | 04-01-2023 to 30-06-2024 | 2.31                              |
| Joshi Tejas Mukunbhai        |                    | Civil Engineering Department                   | Study the effect of multi-layered insulation material on reduction in temperature of room surface | Floor Guard Solution Pvt Ltd                          | 19-12-2023 to 29-05-2024 | 0.30                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Umiya Enviro Project Llp                              | 04-01-2023 to 30-06-2024 | 1.54                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Willowood Industries Pvt Ltd.                         | 04-01-2023 to 30-06-2024 | 1.01                              |
| Joshi Tejas Mukunbhai        |                    | Civil Engineering Department                   | Compressive & flexural Test on alumino silicate composite Sample                                  | Indian Institute of Technology, Gandhinagar           | 20-04-2024 to 20-05-2024 | 0.09                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Pratiksha Chemical Ltd                                | 04-01-2023 to 30-06-2024 | 2.02                              |
| Joshi Tejas Mukunbhai        |                    | Civil Engineering Department                   | NDT Test for reinforced concrete structure  | Mevada Green Party Plot                               | 24-06-2024 to 30-06-2024 | 0.42                              |
| Dave Urmil Vatsalbhai        |                    | Civil Engineering Department                   | Concrete Mix Design   | Mundra Solar Energy Limited                           | 20-09-2024 to 21-08-2024 | 1.00                              |
| Patel Paresh Vardhmandas     |                    | Civil Engineering Department                   | TMT Coupler Tension Test  | Nirma Limited   | 30-05-2024 to 15-6-2024  | 0.09                              |
| Patel Paresh Vardhmandas     |                    | Civil Engineering Department                   | Proof Checking of Structural Design for Fire Station Cum Multilevel Parking at Danapith           | Ahmedabad Municipal Corporation                       | 14-11-2024 to 26-11-2019 | 0.87                              |
| Utsav K Koshti               |                    | Civil Engineering Department                   | proof checking of structural design work for New division office building for SSNL at Visnagar    | Exe.Eng.Dharoi Canal Div No 3 Dharoi                  | 26-10-2024               | 1.00                              |
| Purohit Sharadkumar Puranand |                    | Civil Engineering Department                   | Evaluation of Mechanical Strength of UHPC Beam and Column of M100 Grade Concrete                  | Aarya Precast India Pvt Ltd                           | 21-10-2024 to 26-10-2024 | 0.21                              |
| Manish Dutta                 |                    | Civil Engineering Department                   | Black Spot Investigation at Degmar Lake, Talod  | Gujarat Road Safety Authority                         | 09-09-2024               | 0.25                              |
| Joshi Tejas Mukunbhai        |                    | Civil Engineering Department                   | Concrete cube compressive strength  | Anaya Infracon Pvt. Ltd.                              | 10-11-2024 to 23-10-2024 | 0.05                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Zydus Infrastructure Pvt Ltd.                         | 04-01-2023 to 30-06-2024 | 1.76                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Torrent Pharmaceuticals Ltd.                          | 04-01-2023 to 30-06-2024 | 4.13                              |

|                |  |                              |                                      |                           |                          |                             |
|----------------|--|------------------------------|--------------------------------------|---------------------------|--------------------------|-----------------------------|
| Utsav K Koshti |  | Civil Engineering Department | Proof checking for structural design | Associate Construction Co | 04-01-2023 to 31-03-2024 | 0.90                        |
|                |  |                              |                                      |                           |                          | Amount received (Rs.):19.43 |



| PI Name                      | Co-PI names if any | Name of the Dept., where project is sanctioned | Project Title*  | Name of the Funding agency                           | Duration of the project  | Amount(Lacs) i.e. 15,25,000=15.25 |
|------------------------------|--------------------|--|---|--|--------------------------|-----------------------------------|
| Patel Paresh Vardhmandas     |                    | Civil Engineering Department                   | Proof checking of Structural Design - JCB India Jaipur project  | Sijcon Consultants Pvt. Ltd                          | 02-06-2023 to 11-01-2024 | 0.25                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Maharaja International U/O Pawan Cement Ltd          | 04-01-2023 to 31-03-2024 | 2.99                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Jay Chemical Industries Private Limited              | 04-06-2023 to 31-03-2024 | 5.88                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | E-Coli Waste Management Pvt Ltd                      | 04-06-2023 to 31-03-2024 | 2.27                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Aculife Health Care Private Limited                  | 04-06-2023 to 31-03-2024 | 3.47                              |
| Purohit Sharadkumar Puranand |                    | Civil Engineering Department                   | Proof checking of structural design for multilevel parking cum commercial complex at Chandlodiya in Ahmedabad Municipal Corporation | Ahmedabad Municipal Corporation                      | 26/11/2019 to 16-06-2023 | 2.00                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Harsh Organochem Pvt Ltd                             | 04-06-2023 to 31-03-2024 | 2.82                              |
| Joshi Tejas Mukunbhai        |                    | Civil Engineering Department                   | Evaluation of Compressive strength of M 30 HRC Grade Concrete   | Desai Construction Pvt Ltd                           | 19/07/2023 to 20-07-2023 | 0.06                              |
| Joshi Tejas Mukunbhai        |                    | Civil Engineering Department                   | Compressive strength of Composite sample  | Indian Institute Of Technology, Gandhinagar          | 22/09/2023 to 25-09-2023 | 0.04                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Gujarat Narmada Valley Fertilizers And Chemicals Ltd | 04-06-2023 to 31-03-2024 | 1.23                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Alembic Limited                                      | 04-06-2023 to 31-03-2024 | 1.52                              |
| Dave Urmil Vatsalbhai        |                    | Civil Engineering Department                   | Training Programme  | Shree Digvijay Cement                                | 13-11-2023 to 21-11-23   | 0.82                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Gujarat Narmada Valley Fertilizers And Chemicals Ltd | 04-06-2023 to 31-03-2024 | 1.39                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Alembic Limited                                      | 04-06-2023 to 31-03-2024 | 1.70                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Torrent Pharmaceuticals Ltd                          | 04-06-2023 to 31-03-2024 | 4.04                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Willowood Industries Pvt Ltd                         | 04-06-2023 to 31-03-2024 | 1.67                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Environment Audit   | Sun Pharmaceutical Industries Ltd                    | 04-06-2023 to 31-03-2024 | 2.73                              |

|                             |                                 |  |  |                             |                                |
|-----------------------------|---------------------------------|--|--|-----------------------------|--------------------------------|
| Patel Paresh<br>Vardhmandas | Civil Engineering<br>Department | Proof checking of structural design for fire station cum multi-level parking at Danapith | Ahmedabad Municipal<br>Corporation     | 26/11/2019 to<br>15-02-2024 | 2.62                           |
| Patel Anant<br>Darshanbhai  | Civil Engineering<br>Department | Environment Audit  | Alembic Limited                        | 04-06-2023 to<br>31-03-2024 | 1.88                           |
| Patel Anant<br>Darshanbhai  | Civil Engineering<br>Department | Environment Audit  | Sun Pharmaceutical Industries<br>Ltd   | 04-06-2023 to<br>31-03-2024 | 1.66                           |
| Patel Anant<br>Darshanbhai  | Civil Engineering<br>Department | Environment Audit  | A One Green Environment<br>Project LLP | 04-06-2023 to<br>31-03-2024 | 1.26                           |
| Patel Anant<br>Darshanbhai  | Civil Engineering<br>Department | Environment Audit  | Rhythm Biocare                         | 04-06-2023 to<br>31-03-2024 | 1.43                           |
|                             |                                 |  |  |                             | Amount received<br>(Rs.):43.73 |



| PI Name                      | Co-PI names if any | Name of the Dept., where project is sanctioned | Project Title*  | Name of the Funding agency             | Duration of the project  | Amount(Lacs) i.e. 15,25,000=15.25 |
|------------------------------|--------------------|--|---|--|--------------------------|-----------------------------------|
| Hingekar Karishma Durgesh    |                    | Civil Engineering Department                   | Environmental Audit   | Tata Motors Passenger Vehicle Limited. | 01-04-2022 to 31-03-2023 | 1.50                              |
| Rangwala Hasan Mohammedi     |                    | Civil Engineering Department                   | Soil investigation work   | Nirma Limited                          | 02-04-2022 to 30-04-2022 | 1.10                              |
| Dave Urmil Vatsalbhai        |                    | Civil Engineering Department                   | Concrete cube compressive strength  | Shaswat Heights                        | 15-03-2022 to 06-07-2022 | 0.07                              |
| Dave Urmil Vatsalbhai        |                    | Civil Engineering Department                   | Training programme on building construction water proofong, module II, batch -3 | Pidilite Industries Limited            | 20-06-2022 to 05-07-2022 | 1.00                              |
| Patel Anant Darshanbhai      |                    | Civil Engineering Department                   | Water Testing   | Maheshwari Engineers                   | 20-05-2022 TO 25-05-2022 | 0.01                              |
| Hingekar Karishma Durgesh    |                    | Civil Engineering Department                   | Environment Audit   | Torrent Power Limited                  | 01-04-2022 to 31-03-2023 | 0.25                              |
| Patel Paresh Vardhmandas     |                    | Civil Engineering Department                   | Fire Resistance Test on Precast Beam  | Urbanaac Infrastructure Pvt. Ltd.      | 26-08-2022 to 14-09-2022 | 0.15                              |
| Dave Urmil Vatsalbhai        |                    | Civil Engineering Department                   | Concrete Mix Design   | Anon Infra Management Llp              | 08-06-2022 to 01-08-2022 | 0.10                              |
| Patel Paresh Vardhmandas     |                    | Civil Engineering Department                   | Tiles Testing   | Umiya Vijay Infracon                   | 12-01-2023 to 30-01-2023 | 0.03                              |
| Dave Urmil Vatsalbhai        |                    | Civil Engineering Department                   | Concrete Mix Design   | LCC Projects Private Limites           | 19-04-2022 TO 14-06-2022 | 0.18                              |
| Dave Urmil Vatsalbhai        |                    | Civil Engineering Department                   | Heat Resisting Concrete Testing   | Jindal Saw Limited                     | 29-06-2022 to 15-08-2022 | 0.69                              |
| Dave Urmil Vatsalbhai        |                    | Civil Engineering Department                   | Tile Adhesive Product   | Cera Sanitaryware Limited              | 22-07-2022 to 16-09-2022 | 0.24                              |
| Dave Urmil Vatsalbhai        |                    | Civil Engineering Department                   | Training programme on building construction water proofing                      | Pidilite Industries Limited            | 02-09-2022 to 17-09-2022 | 1.00                              |
| Purohit Sharadkumar Puranand |                    | Civil Engineering Department                   | Proof Checking of structural Design of building of JCB India- Jaipur            | Sijcon Consultants Pvt.                | 31-12-2022 to 02-03-2022 | 0.75                              |
| Patel Paresh Vardhmandas     |                    | Civil Engineering Department                   | Flexural Test on Precast Beam   | Urbanaac Infrastructure Pvt. Ltd       | 31-01-2023 to 25-02-2023 | 0.12                              |
| Joshi Digesh Dilipkumar      |                    | Civil Engineering Department                   | Testing Glazed Tile   | Umiya Vijay Infracon                   | 01-03-2023 to 30-03-2023 | 0.13                              |
| Joshi Tejas Mukundbhai       |                    | Civil Engineering Department                   | Glazed, Vitrified Tile Testing  | Anaya Infracon Pvt Ltd                 | 01-03-2023 to 30-03-2023 | 0.12                              |
| Joshi Tejas Mukundbhai       |                    | Civil Engineering Department                   | Evaluation of Compressive Strength of M30 Grade Concrete                        | Desai Construction Pvt Ltd             | 10-03-2023 to 12-03-2023 | 0.06                              |

|                             |  |                              |  |  |                             |                                |
|-----------------------------|--|------------------------------|--|--|-----------------------------|--------------------------------|
| Joshi Digesh<br>Dilipkumar  |  | Civil Engineering Department | Chequered and Vitrified Tile Testing                               | Karmik Infravison C/O<br>(Soham Infra Group) | 02-03-2023 to<br>30-03-2023 | 0.06                           |
| Patel Anant<br>Darshanbhai  |  | Civil Engineering Department | Environment Audit  | Rhythm Biocare                               | 01-04-2022 to<br>31-03-2023 | 2.15                           |
| Patel Paresh<br>Vardhmandas |  | Civil Engineering Department | Proof Checking of structural Design of sports complex at Naranpura | Ahmadabad Municipal Corporation              | 01-01-2023 to<br>31-03-2023 | 5.00                           |
| Patel Anant<br>Darshanbhai  |  | Civil Engineering Department | Environment Audit  | The Narol Dyestuff Enviro Society            | 01-04-2022 to<br>31-03-2023 | 1.21                           |
| Patel Anant<br>Darshanbhai  |  | Civil Engineering Department | Environment Audit  | Aculife Health Care Private Limited          | 01-04-2022 to<br>31-03-2023 | 0.60                           |
| Patel Paresh<br>Vardhmandas |  | Civil Engineering Department | Fire Resistance test on Precast Hollow Core Slab                   | Urbanaac Infrastructure pvt. ltd             | 01-08-2022 to<br>30-09-2022 | 0.15                           |
| Patel Paresh<br>Vardhmandas |  | Civil Engineering Department | Water Absorption of Concrete Block                                 | Urbanaac Infrastructure pvt. ltd             | 01-02-2023 to<br>28-02-2023 | 0.00                           |
| Patel Paresh<br>Vardhmandas |  | Civil Engineering Department | Evaluate the precast column under axial compression                | Urbanaac Infrastructure pvt. ltd             | 01-02-2023 to<br>28-02-2023 | 0.06                           |
| Patel Paresh<br>Vardhmandas |  | Civil Engineering Department | Flexural performance of fire affected beam                         | Urbanaac Infrastructure pvt. ltd             | 01-02-2023 to<br>28-02-2023 | 0.27                           |
|                             |  |                              |  |  |                             | Amount received<br>(Rs.):17.00 |

**Total amount (Lacs) received for the past 3 years: 80.16**

**Note\*:**

- Only consultancy projects will be considered. Infrastructure-based projects will not be considered here.

#### **C9. Institution Seed Money or Internal Research Grant to its Faculty for Research Work**

Table No. C9.1: List of faculty members received seed money or internal research grant from the Institution.

| Faculty name   | Project title/ Support for Activity  | Duration of the project | Amount(Lacs)<br>i.e. 15,25,000=15.25 | Amount Utilized(Lacs)<br>i.e.<br>15,25,000=15.25 | Outcomes of the project   |
|--|--|-------------------------|--------------------------------------|--|---|
| Dr. Indrajeet Kumar (PI), Dr. Hasan Rangwala (Co-PI) and Dr. Hardik Bhatt (Mentor) | Preparation of silica-hydrochar nanocomposites for water and wastewater treatment's            | 1 Yr                    | 1.00                                 | 0.95   | U.G Students Hiral Chauhan (22BCL504) and Jahanvi Bhagora (22BCL507) have carried our Research Project.     |
| Dr. D. D. Joshi (PI), Dr. P. V. Patel (Mentor)                                     | Performance of SSWM strengthened interior precast beam-column connections under cyclic Loading | 1 Yr                    | 1.00                                 | 0.99   | Ph.D Student Rinkesh Makawana (21PTPHDE239) have carried our Research work.                                 |
| Dr. Swati Sirsant (PI), Prof. Anant Patel (Co-PI)                                  | Identification of Flood-Afflicted Roads using Remote Sensing and Social Media Data             | 1 Yr                    | 0.75                                 | 0.72   | U.G Students Lakhani Niket (22BCL060), and Manan Upadhyay (22BCL052) were involved and paper was published. |
| Prof. Pratima Singh (PI), Dr. Tejas Joshi (Co-PI)                                  | Exploring the potential use of stone dust for construction building material                   | 2 yr                    | 2.00                                 | 1.00   | U.G & P.G students involved for research project.   |
|  |  |                         | Amount received (Rs.): 4.75          |  |   |

| Faculty name   | Project title/ Support for Activity   | Duration of the project | Amount(Lacs)<br>i.e. 15,25,000=15.25 | Amount Utilized(Lacs)<br>i.e.<br>15,25,000=15.25 | Outcomes of the project  |
|--|---|-------------------------|--------------------------------------|--|--|
| Dr. Naman Kantesaria (PI), Dr. Hasan Rangwala (Co-PI)  | Sustainable Technique of Desiccation Crack Mitigation in Expansive Soil using Natural Fibres    | 1 yr                    | 1.00                                 | 0.97   | U.G Students were involved in project work Chirag Varma (21BCL504) Kashish Khushalani (21BCL509). A journal paper was published. |
| Dr. Manish Dutta (PI) Dr. Manish Dutta (PI), Prof. Hemang Dalwadi (Co-PI), Dr. B. S. Munjal (Mentor) | Estimating risk involved in evasive action of vehicles at unsignalized intersections            | 1 yr                    | 0.60                                 | 0.59   | U.G Students Bansil Korat (19BCL049), Sarthak Bhandari (19BCL009) carried out U.G Research project. Journal Paper published      |
| Dr Paresh Patel, Dr Digesh Joshi   | Strengthening Precast Beam Column Connections using Stainless Steel Wire Mesh (SSWM)            | 1 yr                    | 28.40                                | 28.20  | Ph.D Student Rinkesh Makawana (21PTPHDE239) and P.G Student Kevin Patel (20MCLC12) involved                                      |
| Prof. Utsav Koshti (PI), Dr. Sharad Purohit (Mentor)   | Experimental Study on Particle Damper for the Model Building                                    | 1 yr                    | 1.00                                 | 0.99   | P.G Student Patel Abhishek (20MCLC08) have carried our Research Project  |
| Dr. Swati Sirsant (PI), Prof. Anant Patel (Co-PI) Dr. V. M. Rana (Mentor)                            | Enhanced Flood Inundation Mapping using Near Real-time Satellite Imagery and Real-Time Geo-Tags | 1 yr                    | 0.75                                 | 0.70   | Two students presented a poster in Student Research Symposium  |
| Dr. Prachi Kushwaha (PI), Prof. Hemang Dalwadi (Co-PI) Dr. B. S. Munjal (Mentor)                     | Evaluating the effectiveness of different warm mix additives on binder properties               | 1 yr                    | 0.97                                 | 0.85   | U.G Students Shreyansh Shah (21BCL126) and Dhrashti Gosai (21BCL037) have carried our Research Project.                          |
| Dr. Nitesh Gupta (PI), Prof. Anant Patel (Co-PI) Dr. V. M. Rana (Mentor)                             | Identification of flood prone area using HEC-RAS: A case study of Sukal River Gujarat           | 1 yr                    | 0.75                                 | 0.48   | U.G students involved in this project and carried out a project work.  |
|  |   |                         | Amount received (Rs.): 33.47         |  |  |

| Faculty name   | Project title/ Support for Activity  | Duration of the project | Amount(Lacs)<br>i.e. 15,25,000=15.25 | Amount Utilized(Lacs)<br>i.e.<br>15,25,000=15.25 | Outcomes of the project  |
|--|--|-------------------------|--------------------------------------|--|--|
| Dr.Sonal Thakkar   | Study of Self-Compacting Metakaolin-based Alkali-Activated Concrete          | 1 yr                    | 1.00                                 | 1.00   | Ph.D Student Ms Ridhi Vora 19FTPHE32 have carried our Research Project                                       |
| Dr. Manish Dutta (PI) Prof. Hemang Dalwadi (Co-PI)       | Reducing riders' discomfort due to speed breakers                            | 1 yr                    | 1.00                                 | 0.71   | U.G Students Advani, Nainesh (19BCL003), Het Danak (19BCI023) involved.                                      |
| Prof Vineet Kothari (PI) Dr.Urmil Dave (Mentor)          | Evaluation of Durability Properties and                                      | 1 yr                    | 1.00                                 | 0.58   | A book chapter was published in Springer.  |
| Prof. Utsav Koshti (PI) Dr. Sharadkumar Purohit (Mentor) | Development of Pneumatic Base Hysteresis type cost effective                 | 1 yr                    | 1.00                                 | 1.00   | P.G Student Patel Abhishek (20MCLC08) was involved   |
| Dr.Sonal Thakkar (PI) Dr.Urmil Dave (Mentor)             | Study on Self-Healing Capability of Calcium Nitrate                          | 1 yr                    | 1.00                                 | 1.00   | Ph.D Student Ms Ridhi Vora 19FTPHE32 have carried our Research   |
| Prof. Alka Shah (PI) Dr. Hasan Rangwala (Co-PI)          | Use of solid waste for subgrade improvement                                  | 1 yr                    | 0.80                                 | 0.80   | U.G Students Avish Shah (18BCL006), Preet Jain (18BCI088) have carried our Research                          |
| Dr.Digesh Joshi (PI) Dr. Paresh V. Patel (Mentor)        | Evaluation of Mechanical and Durability Properties of GFRP-SSWM hybrid wraps | 1 yr                    | 1.00                                 | 1.00   | P.G Student Anilkumar Jitarwal (21MCLC02), Meet Limbachiya (20MCLC03) and Vipul Kalyani (20FTPHE48) involved |
|  |  |                         | Amount received (Rs.): 6.80          |  |  |

Total amount (Lacs) received for the past 3 years : 45.02

## PART D: Laboratory Infrastructure in the Department

(Data to be filled in for the Department)

### D1. Adequate and Well-Equipped Laboratories, and Technical Manpower

Table No.D1.1: List of laboratories and technical manpower.

| Sr. No | Name of the Laboratory                    | Number of students per set up(Batch Size) | Name of the Important Equipment  | Weekly utilization status(all the courses for which the lab is utilized) | Technical Manpower Support  |                       |                          |
|--------|---|---|--|--|-----------------------------|-----------------------|--------------------------|
|        |   |   |  |  | Name of the Technical staff | Designation           | Qualification            |
| 1      | Geotechnical Engineering                  | 18  | Digital Triaxial Compression Test Apparatus, Block vibration test apparatus, Digital Direct shear                                    | 26   | Mr. Rajendra. D. Shal       | Laboratory Supervisor | B.Sc. in Chemistry       |
| 2      | Water Resources and Hydraulic Engineering | 18  | Hydraulic Model Structure Demonstrator, Soil Tensiometer, Double Ring Infiltrometer, Non-Resonating Densometer, Automatic Densometer | 23   | Mr. Satyaprakash Ch.        | Laboratory Assistant  | B E in Civil Engineering |

|    |   |    |   |    |                     |                       |                              |
|----|---|----|---|----|---------------------|-----------------------|------------------------------|
| 3  | Surveying   | 18 | Total Station (Pentax Window CE Total Station (Model:W-1505N), GNSS Receiver, Total Station     | 28 | Mr. Mahendarsinh Ra | Laboratory Assistant  | B E in Civil Engineering     |
| 4  | Construction Material Laboratory                                    | 18 | Tensile Testing Machine, CLC Block Making Machine, Concrete Planetary Mixer, Vertical ball      | 21 | Mr. Prahalad Raval  | Laboratory Supervisor | Diploma in Civil Engineering |
| 5  | Strength of Material  | 18 | Universal Testing Machine (40 T capacity), Rockwell / Brinell Hardness Testing Machine,         | 34 | Mr. Satyaprakash Ch | Laboratory Assistant  | B E in Civil Engineering     |
| 6  | Structural Mechanics  | 18 | Frame for Measurement of Beam Deflection, Bending Moment and Shear Force Apparatus, Pin         | 11 | Mr. Sunil Regar     | Laboratory Assistant  | B E in Civil Engineering     |
| 7  | Transportation Engineering  | 18 | Ring and Ball Apparatus, Los Angeles Abrasion Testing Machine, Marshal Stability Test           | 17 | Mr. Mahendarsinh Ra | Laboratory Assistant  | B E in Civil Engineering     |
| 8  | Computer Center-1   | 18 | Computer Intel Core i3 3210 CPU 3.2GHZ, 4 GB, 500 GB Hard Drive (29 Nos), Intel Core i5- 1 Nos. | 26 | Mr. Kaushal Darji   | Laboratory Assistant  | Diploma in Computer          |
| 9  | Engineering Mechanics   | 18 | Universal Force Table, Coplanar Non-Concurrent Force Apparatus, Support Reaction of Beam        | 22 | Mr. Satyaprakash Ch | Laboratory Assistant  | B E in Civil Engineering     |
| 10 | Environmental Engineering   | 18 | Digital Conductivity Meter, Digital TDS Meter, Distillation Apparatus, Microcontroller-based    | 20 | Mrs. Dhara K. Joshi | Senior Laboratory As  | M.Sc. Microbiology           |
| 11 | Project Laboratory  | 18 | Display Board of Types of Bends and Ties, Display Board of Types of wood and plywood            | 11 | Mrs. Dhara K. Joshi | Senior Laboratory As  | M.Sc. Microbiology           |
| 12 | Structural Engineering Research Centre                              | 18 | EOT Crane - 5T capacity, Gantry Crane 5T, Loading Frame (1000 kN capacity), Torsion Frame       | 30 | Mr. Sunil Regar     | Laboratory Assistant  | B E in Civil Engineering     |
| 13 | Concrete Technology   | 18 | Digital Compression Testing Machine, Flexural Testing Machine, Drum type Concrete Mixture (1/2  | -  | Mr. Prahalad Raval  | Laboratory Supervisor | Diploma in Civil Engineering |
| 14 | Computer Center-2   | 18 | Computer Intel Core i3 3210 CPU 3.2GHZ, 4 GB, 500 GB Hard Drive (28 Nos), Intel Core i5- 1 Nos. | 20 | Mr. Sunil Regar     | Laboratory Assistant  | B E in Civil Engineering     |
| 15 | Fluid Mechanics * (* shared with Mechanical Engineering Department) | 18 | Redwood Viscometer, Piezometer, Manometer, Orifice Meter, Venturi Meter. Pipe Network           | 16 | Mr Sanjay Trivedi   | Laboratory Assistant  | Diploma in Mechanical        |

## D2. Safety Measures in Laboratories

Table No. D2.1: List of various safety measures in laboratories.

| Sr. No | Laboratory Name | Safety Measures |
|--------|-----------------|-----------------|
|        |                 |                 |

|   |   |   |
|---|---|---|
| 1 | Geotechnical Engineering                  | Functional fire extinguisher installed and maintained regularly. Emergency first aid kit available PPE such as gloves, and helmets used as applicable in field tests. Safety charts and emergency information displayed at visible points.  |
| 2 | Water Resources and Hydraulic Engineering | Functional fire extinguisher installed and inspected regularly. Emergency first aid kit available Safety charts, lab rules, and emergency contact details displayed clearly.  |
| 3 | Construction Material Laboratory          | Functional fire extinguisher installed and inspected regularly. Emergency first aid kit available PPE (helmets, safety shoes, gloves, goggles) mandatory due to handling of aggregates, concrete, mixers, and heavy equipment. Safety charts and emergency instructions displayed clearly. Equipment such as planetary mixers, rheometer, and ball mill arranged with sufficient clearance to avoid accidental contact. Chemicals, additives, and cementitious materials stored in ventilated, clearly labeled areas to prevent exposure. |
| 4 | Surveying                                 | Functional fire extinguisher installed and inspected regularly. Emergency first aid kit available PPE such as helmets and reflective jackets used when handling outdoor surveying instruments. Safety charts, laboratory rules, and emergency contact details displayed at appropriate locations. Instruments such as Total Stations, GPS units, and Theodolites are arranged systematically with clear movement space to prevent accidental damage or tripping hazards.  |
| 5 | Strength of Material                      | Functional fire extinguisher installed and inspected periodically. Emergency first aid kit available Safety charts, operating instructions, and emergency contacts displayed prominently. All machines arranged with adequate spacing; moving components of UTM, impact testers, and rotating parts guarded to prevent accidental contact. Stable foundations provided for heavy equipment like UTM and fatigue testing machine to avoid vibration-related hazards.   |
| 6 | Structural Mechanics                      | Functional fire extinguisher available and regularly inspected. Emergency first aid kit available Safety charts and operating guidelines displayed clearly within the lab.  |
| 7 | Transportation Engineering                | Functional fire extinguisher installed and inspected routinely. Emergency first aid kit available PPE (safety jackets) required during bitumen handling, aggregate preparation, and equipment operation. Safety charts and emergency contacts displayed prominently. Bitumen-related tasks carried out with heat-resistant gloves and under proper ventilation. Ovens used for aggregate and bitumen sample heating require heat-proof gloves and caution during loading/unloading.   |
| 8 | Computer Center-1 & 2                     | Functional fire extinguisher installed and checked periodically. Safety charts and emergency contact details displayed at the entrance. Electrical outlets, power sockets, and cables maintained in good condition to prevent short circuits or tripping hazards. Workstations arranged with adequate spacing to allow safe movement and avoid congestion. Air-conditioning and ventilation maintained to prevent overheating of computer systems.  |
| 9 | Engineering Mechanics                     | Functional fire extinguisher installed and inspected regularly. Emergency first aid kit available Safety charts with lab rules and emergency procedures displayed prominently.  |

|    |   |   |
|----|---|---|
| 10 | Environmental Engineering   | Functional fire extinguisher installed and checked regularly. Emergency first aid kit available PPE (gloves, lab coats, masks) mandatory for all wet-lab and chemical-handling tasks. Safety charts, emergency contacts, and chemical-handling guidelines displayed clearly. Equipment arranged with sufficient working space; wet and dry sections kept separated to avoid cross-contamination. All chemicals stored in labeled, ventilated storage areas with proper containment. Dedicated waste-disposal area for tested samples, sludge, filters, and other lab scrap. Hazardous chemical waste stored in sealed, labeled dark containers and handed over to an authorized waste-management agency as per CPCB guidelines. |
| 11 | Project Laboratory  | Functional fire extinguisher installed and inspected periodically.  |
| 12 | Concrete Technology & Structural Engineering Research Centre (SERC) | Functional fire extinguishers installed and regularly checked. Emergency first aid kit available PPE (helmets, gloves, safety shoes, protective eyewear) worn during experiments and testing. Safety charts and emergency procedures prominently displayed. Equipment arranged systematically with sufficient working space to avoid accidents. Heavy machinery installed on stable foundations; vibration-free operation ensured. Designated disposal area for tested specimens, waste materials, and scrap, following institutional guidelines.   |
| 13 | Fluid Mechanics   | Functional fire extinguishers installed and regularly checked. Emergency first aid kit available Safety charts and emergency procedures displayed at multiple locations.  |

### D3. Project Laboratory/Research Laboratory

| Sr. No. | Name of the Laboratory                      |
|---------|---|
| 1       | Center for Research in Geotechnical Textile |

Nirma University was established with an aim to shape a better future for mankind by developing effective and socially responsible individuals and organization. The Department of Civil Engineering at Nirma University has achieved a milestone by securing a grant of Rs. 4.22 crores from the National Technical Textiles Mission (NTTM), a Government of India initiative. Of the total amount, a Rs. 3.92 crore has been earmarked for the establishment of “Centre for Research in Geotechnical Textiles”. A sum of Rs. 30 lakhs has been allocated to support training of faculty and staff members of the department. Establishing a Centre for Research in Geotechnical Textile is a step forward to firmly achieve this aim of the University towards the research and development.

The textiles used for the purpose of introducing or enhancing the engineering properties/ technical parameters of a material is called Technical Textiles. The technical textile used to enhance the engineering properties of soil is called Geotechnical Textiles or Geotextiles. The engineering properties include physical, mechanical, hydraulic, endurance and degradation properties. Geotextiles not only include tensile strength (reinforcement) in the soils but also have various functions including Fluid barrier, Separation, Filtration, Drainage and Protection & Erosion control.

The centre aims to provide the facilities for cutting edge research and development in the domain of geotextiles. It will facilitate academicians, research scholars, post-graduate students, under-graduate students and Civil Engineering professionals to enhance their skills and knowledge in the field of geotechnical application and ground improvement through geotextile materials. The centre would be a focal point of collaboration with academia, research organizations and industries to develop new products and techniques which will bring innovative solutions for addressing the present problems and find sustainable alternatives to scarce natural resources for sustainable infrastructure development of the nation.

Following areas of research have been identified for the centre:

- Soil Stabilization: Enhancing soil strength and stability.
- Drainage Systems: Efficient water management in geotechnical applications.
- Pavement material and execution methodology for different types of roads.
- Railway sub-ballast/ sub- structure strengthening using geo-textiles
- Landslide prevention: slope protection using geo-textiles including jute/coir/natural fiber
- Water infrastructure – Erosion Control: Preventing soil erosion due to natural forces
- Reinforcement: Strengthening soil and structures.
- Environmental Protection: Applications in landfill liners and waste containment.
- Coastal Engineering: Coastal protection and marine infrastructure.
- Sustainability: Eco-friendly and recyclable geotextile materials.
- Seismic Mitigation: Earthquake-resistant construction techniques.
- Innovative Applications: Exploring new uses for geotechnical textiles.
- Standards and Guidelines: Ensuring industry best practices and quality control.

Centre will be offering specialized testing & consultancy services to ensure quality, durability and suitability of geotextiles for specific engineering applications.

- Mass per Unit Area Test
- Thickness Test
- Stiffness Test
- Grab Strength Test
- Trapezoid Tear Test
- Puncture Resistance Test
- CBR Puncture Test
- Bursting Strength test
- Cone drop test
- Interface Shear Strength Test

- Pull-out Strength Test
- Permittivity Test
- Transmissivity Test
- UV Degradation Test
- Creep Test
- Gradient Ratio Test
- Long Term Flow Test
- Analysis and Design of Geosynthetic Reinforced Geotechnical Structures

|   |  |
|---|--|
| 2 | Structural Engineering Research Center |
|---|--|

Nirma University aims to serve society through knowledge and resources. Adhering to the set aim, the Civil Engineering Department, established the Structural Engineering Research Centre (SERC) in 2019. It aims to provide application-centric solutions that benefit society. Major emphasis is laid on conducting an experimental investigation on structural elements and/or structural systems composed of Reinforced Concrete (RC), Steel, Composite, and Masonry materials, adhering to Indian Standards, ASTM Standards, etc. SERC cater to the diversified need of structural engineering that includes small & full scale testing of structural elements/systems under monotonic gravity and/or lateral loading through loading frames and strong floor; dynamic response studies of half-scale structures through unique shock table facility; torsional response study of structural element through unique torsional testing facility; system identification for small scale linear system using harmonic shake tables; durability studies of hardened concrete specimens through various durability testing equipment; fire effects on concrete elements with fire furnace and testing of cementitious materials through various testing instruments. Various consultancy and testing assignments have been carried out, which were of societal importance, and this trend will continue.

#### Laboratory Resources

SERC comprises three specialized domains: (i) Experimental Structural Mechanics; and (ii) Cement and Concrete Testing; (iii) Structural Dynamics and Earthquake Engineering.

##### (i) Experimental Structural Mechanics

This domain utilizes Strong Floor facilities, Loading Frames, and Universal Testing Machines to conduct experimental investigations on the behavior of structural elements/systems under axial, flexural, shear, and torsional loading. Such investigations are carried out with RC, Steel, Composite, Masonry, and fiber-reinforced composite materials, among others. Various professional assignments and material testing have been carried out using the equipment and facilities listed. Research activities are also routinely conducted. Experimental investigations carried out under the said domain include;

- Behavior of RC, Steel, Composite, Masonry, and Fiber Reinforced Composite structural elements/systems under axial, flexural, shear, and torsional loading
- Reinforcement testing conforming to IS:1608
- Bricks testing (Red clay, AAC block, Fly Ash, CSEB block) conforming to IS:3495
- Health monitoring of various types of structural elements and/or structures

##### (ii) Cement and Concrete Testing

The design of concrete mixtures and in-situ strength evaluation of concrete structures are common requirements in the professional field. The domain of Cement and Concrete Testing aims to carry out concrete mix design, durability, and NDT testing of various structures. SERC is equipped with the required conventional & advanced equipment catering to the above objective. It also houses a gas-fired furnace facility to study the effect of fire on various structural elements. Fundamental and applied research activities have been conducted in this domain to develop various types of concrete and its applications. Professional consultancy assignments and testing related to cement and concrete are routinely conducted.

Various investigations carried out under the domain of cement and concrete testing include;

- Mixture design for different types of concrete
- Evaluation of the mechanical properties of concrete and advance concrete materials.
- Physical and Chemical durability assessment of RC, Steel, and Masonry structures
- Non-destructive evaluation of various structural elements and/or structures
- Repair and rehabilitation of RC, Steel, and Masonry structural elements and/or structures

### (iii) Structural Dynamics and Earthquake Engineering

Equipment and facilities in this domain are used for system identification of discrete linear structural models and the dynamic response of half-scale stone masonry, brick masonry, RC, Steel, Composite, and Pre-fabricated structures. The major thrust is to study the behaviour of scaled RC, Steel, Composite, Masonry, and Pre-fabricated structural elements/systems under monotonic lateral loading using the Strong Floor Facility. SERC houses a unique Shock Table facility, one of its own kind, to simulate the seismic response of various types of structures. Equipment and facilities have been utilized for conducting various consultancy and testing assignments in conjunction with research activities. Experimental investigations carried out under the said domain include;

- System identification of discrete linear structural models.
- Dynamic response of half-scale Stone masonry, Brick masonry (Red clay, AAC block, Fly ash, CSEB block, etc.), RC, Steel, Composite, and Pre-fabricated structural models.
- Seismic behavior of scaled RC, Steel, Composite, Pre-fabricated, and Masonry structural elements/systems under monotonic lateral loading.

### Consultancy Services

SERC offers consultancy services in the following areas of Structural Engineering

- Proof checking for structural design
- Finite element analysis of structures
- Numerical simulations of structural elements/systems under a variety of loading conditions and their combinations
- Seismic analysis and design of structures
- Non-destructive evaluation of structures
- Damage assessment of fire-affected buildings
- Repair and retrofitting of concrete structures
- Structural health monitoring of structures

### Testing Services

Testing has been an integral and ever-growing activity at SERC, which includes;

- Cement & admixtures
- Proportioning of concrete
- Distress evaluation study
- Non-destructive testing
- Quality assurance and control
- Evaluation of mechanical properties of reinforcing steel, metal, wood, bricks, tiles, etc. under tension, compression, shear &; hardness tests, transverse loading, bend &; re-bend, weight &; dimension test, bond &; adhesive properties
- Masonry unit &; prism testing
- Buckling and transverse strength of pultruded FRP sections
- Customised testing of materials/structural elements as per the client's specifications

### Industry Linkages

#### Memorandum of Understanding (MoU)

The Department of Civil Engineering has executed MoUs with the Dr. FIXIT Institute for Structural Protection and Rehabilitation of Structures. MoU has also been signed with

CSIR-CBRI, CSIR-AMPRI, SAC-ISRO, and ATIRA to promote collaborative research for faculty members and students.

The following is an indicative list of our valued professional organizations with whom SERC has collaborated in the past.

- Oil and Natural Gas Corporation
- Gujarat Industrial Development Corporation
- Gujarat Water Supply &; Sewerage Supply Board
- Roads and Building Department (Gujarat Circle)
- Sardar Sarovar Narmada Nigam Limited
- Institute for Plasma Research
- Institute of Seismological Research
- Indian Institute of Management, Ahmedabad
- Gujarat International Finance Tec-City
- Sintex Private Limited
- Larsen & Toubro India
- Linde Engineering India
- PMC Projects Private Limited
- MEGHA Engineering and Infrastructures Limited
- Reliance Gas Transportation Infrastructure Limited
- Vastushilpa Consultants
- VMS Engineering &; Design Services
- STUP Consultants
- DUCON Consultants Private Limited
- Multimedia Consulting Engineers

## PART E: First Year faculty and financial Resources

(Data to be filled in for the first year course faculty and budget allocation and utilization)

## **E1. First Year Student-Faculty Ratio (FYSFR)**

Table No. E1.1: FYSFR details.

| Year           | Sanctioned intake of all UG programs (S4) | No. of required faculty (RF4= S4/20) | No. of faculty members in Basic Science Courses & Humanities and Social Sciences including Management courses (NS1) | No. of faculty members in Engineering Science Courses (NS2) | Percentage= No. of faculty members ((NS1*0.8) +(NS2*0.2))/(No. of required faculty (RF4)); Percentage=((NS1*0.8) +(NS2*0.2))/RF |
|----------------|---|--------------------------------------|---|---|---|
| 2023-24(CAYm2) | 960                                       | 48                                   | 37  | 29  | 74  |
| 2024-25(CAYm1) | 1020                                      | 51                                   | 41  | 29  | 76  |
| 2025-26(CAY)   | 1020                                      | 51                                   | 45  | 29  | 82  |

## **E2. Budget Allocation, Utilization, and Public Accounting at Institute Level**

Table No. E2.1: Budget and actual expenditure incurred at Institute level

| Items | Budgeted in 2024-2025 | Actual Expenses in 2024-2025 till | Budgeted in 2023-2024 | Actual Expenses in 2023-2024 till | Budgeted in 2022-2023 | Actual Expenses in 2022-2023 till | Budgeted in 2021-2022 | Actual Expenses in 2021-2022 till |
|-------|-----------------------|-----------------------------------|-----------------------|-----------------------------------|-----------------------|-----------------------------------|-----------------------|-----------------------------------|
|-------|-----------------------|-----------------------------------|-----------------------|-----------------------------------|-----------------------|-----------------------------------|-----------------------|-----------------------------------|

|   |                   |                  |                   |                   |                   |                   |                   |                   |
|---|-------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Infrastructure Built-Up                             | 23790000          | 7130691          | 94141895          | 21910646          | 34007425          | 14509388          | 161883377         | 6443377           |
| Library   | 32135000          | 19914730         | 31535000          | 17803157          | 29362000          | 21799291          | 26262000          | 19320000          |
| Laboratory equipment                                | 50747000          | 8934417          | 51755000          | 12810805          | 44683000          | 18016465          | 32851000          | 21682000          |
| Teaching and non-teaching staff salary              | 937553000         | 315571583        | 818553000         | 711167765         | 789433000         | 668591341         | 708067000         | 572462000         |
| Outreach Programs                                   | 1200000           | 26400            | 1305000           | 1083296           | 1117000           | 1063648           | 883379            | 695794            |
| R&D   | 60102000          | 9242566          | 46335000          | 62749165          | 46434000          | 63873869          | 49319000          | 37780032          |
| Training, Placement and Industry linkage            | 22523000          | 420619           | 20922000          | 15802569          | 18931000          | 15741323          | 13706000          | 13997813          |
| SDGs  | 6380000           | 1402461          | 9506263           | 5130800           | 7036951           | 4976179           | 5841659           | 6330702           |
| Entrepreneurship                                    | 200000            | 0                | 1375000           | 35235             | 1730000           | 80718             | 970000            | 218812            |
| Others, (* Others include : Maintenance and Spares, | 886543000         | 275640641        | 930509842         | 651916513         | 904089624         | 662821579         | 731376585         | 640158934         |
| <b>Total</b>  | <b>2021173000</b> | <b>638284108</b> | <b>2005938000</b> | <b>1500409951</b> | <b>1876824000</b> | <b>1471473801</b> | <b>1731160000</b> | <b>1319089464</b> |

### E3. Budget Allocation, Utilization, and Public Accounting at Program Specific Level

Table No. E3.1: Budget and actual expenditure incurred at program level.

| Items                           | Budgeted in 2024-2025 | Actual Expenses in 2024-2025 till | Budgeted in 2023-2024 | Actual Expenses in 2023-2024 till | Budgeted in 2022-2023 | Actual Expenses in 2022-2023 till | Budgeted in 2021-2022 | Actual Expenses in 2021-2022 till |
|---------------------------------|-----------------------|-----------------------------------|-----------------------|-----------------------------------|-----------------------|-----------------------------------|-----------------------|-----------------------------------|
| Laboratory equipment            | 2190000               | 80782                             | 2675000               | 1762531                           | 5192293               | 5110238                           | 4980000               | 4922705                           |
| Software                        | 1500000               | 5600                              | 300000                | 272967                            | 1300000               | 872467                            | 608000                | 272683                            |
| SDGs                            | 481877                | 105927                            | 754405                | 407174                            | 535994                | 379028                            | 476379                | 516260                            |
| Support for faculty development | 629000                | 151784                            | 609000                | 250741                            | 562000                | 333048                            | 321607                | 229093                            |
| R & D                           | 400000                | 88695                             | 450000                | 438620                            | 350000                | 331392                            | 340000                | 250884                            |

|  |                |               |                |                |                |                |                |                |
|--|----------------|---------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Industrial Training, Industry expert, Internship | 375000         | 6036          | 350000         | 137152         | 300000         | 242799         | 250000         | 164780         |
| Miscellaneous Expenses*                          | 100000         | 8013          | 45000          | 34141          | 60000          | 34657          | 55000          | 54961          |
| <b>Total</b>                                     | <b>5675877</b> | <b>446837</b> | <b>5183405</b> | <b>3303326</b> | <b>8300287</b> | <b>7303629</b> | <b>7030986</b> | <b>6411366</b> |