



Government of Goa
Goa College of Engineering
Farmagudi - Goa



गोवा अभियांत्रिकी महाविद्यालय, फार्मागुडी - गोवा



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Prospectus

MASTER OF ENGINEERING ADMISSION-2024



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Final Submission

“Bhauasaheb Bandodkar Technical Education Complex”, Farmagudi- Ponda Goa-403401

Ph: +91-832 2336301/306, Email:ppl@gec.ac.in

Web:www.gec.ac.in

FACULTY OF ENGINEERING

Affiliated to Goa University

Under Graduate Programs

| | |
|----|---------------------------------------------------------|
| 1. | B.E. Civil Engineering |
| 2. | B.E. Mechanical Engineering |
| 3. | B.E. Electrical & Electronics Engineering |
| 4. | B.E. Electronics & Telecommunication Engineering |
| 5. | B.E. Computer Engineering |
| 6. | B.E. Information Technology & Engineering |
| 7. | B.E. Mining Engineering |
| 8. | B.E. Electronics Engineering (VLSI Design & Technology) |

Ph.D. Research Centre

| | |
|----|---------------------------------------------|
| A. | Civil Engineering |
| B. | Mechanical Engineering |
| C. | Electrical & Electronics Engineering |
| D. | Electronics & Telecommunication Engineering |

Director of Technical Education

Dr. Vivek B. Kamat

Principal

Dr. M.S. KRUPASHANKARA

Head of Departments

Post Graduate Programs

| | |
|----|---------------------------------------------------------------|
| 1. | M.E. Geotechnical Engineering |
| 2. | M.E. Industrial Engineering |
| 3. | M.E. Electronics Communications & Instrumentation Engineering |
| 4. | M.E. Power & Energy Engineering |
| 5. | M.E. Computer Science & Engineering (AI & ML) |
| 6. | M.E. Industrial Automation & Robotics |
| 7. | M.E. Structural Engineering |
| 8. | M.E. Information Technology & Engineering |

| | |
|---------------------------------------------|--------------------------|
| Civil Engineering | Dr. A.K.Bhaduria |
| Mechanical Engineering | Dr. Suraj S. Rane |
| Electrical & Electronics Engineering | Dr. G.R.Kunkolienkar |
| Electronics & Telecommunication Engineering | Dr. H.G.Virani |
| Computer Science & Engineering | Dr. J. A. Laxminarayanan |
| Information Technology & Engineering | Dr. Nilesh B. Fal Dessai |
| Mining Engineering | Dr. Ulhas Sawaiker |

Institute Faculty on Goa University Academic Panels

Dr. M.S. Krupashankara

Dean- Faculty of Engineering

Chairman, Board of Studies

| | | | |
|------------------------|--------------------------|---------------------------------------------|---------------------|
| Civil Engineering | Dr. Nisha Prakash Naik | Electronics & Telecommunication Engineering | Dr. Nitesh Guinde |
| Mechanical Engineering | Dr. Jagannath B. Hirkude | Electrical & Electronics Engineering | Dr. G.R.Kunkollikar |
| Computer Engineering | Dr. J.A. Laxminarayan | | |

GOA COLLEGE OF ENGINEERING, FARMAGUDI, PONDA GOA

Prospectus for Admissions to Master of Engineering (M.E.) 2024-25

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1. Admission Schedule

| | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| Application schedule | 20 th August 2024 to 26 th August 2024 |
| Last date of receipt of applications | 26 th August 2024 |
| Display of Merit list for candidates who are eligible for admission without GU-QET in relevant program | 27 th August 2024 |
| Admission schedule for candidates who are eligible for admission without GU-QET in relevant program | 28 th August 2024 at 11:00 AM |
| Goa University - Qualifying Entrance Test (GU-QET) Schedule | 02 nd September 2024 & 03 rd September 2024 |
| Admission schedule for candidates with qualifying marks at GU-QET in relevant program | 10 th September 2024 at 11:00 AM |
| Last date for Cancellation of Seats with Full Refund as per AICTE | 11 th September 2024. |
| First Day of Classes | 12 th September 2024 |
| Last date for commencement of classes for First year students as per AICTE | 15 th September 2024 |
| SCHEDULE OF ADMISSION ACTIVITIES, INCLUDING SUBMISSION OF APPLICATION FORMS, DISPLAY OF MERIT LISTS, AND CONDUCT OF GU-QET SHALL BE NOTIFIED ON COLLEGE WEBSITE (https://www.gec.ac.in). ALL APPLICANTS SHALL THEREFORE REGULARLY REFER TO THE COLLEGE WEBSITE FOR INFORMATION ON ADMISSION ACTIVITIES | |

Note:

- a) Principal, Goa College of Engineering, reserves the right to modify the above schedule depending on prevailing exigency, if any.
- b) **FOR CONFIRMATION OF ADMISSION TO THE ALLOTTED PROGRAM, THE CANDIDATE HAS TO MANDATORILY PAY THE FEES ON THE SAME DAY OF SEAT ALLOTMENT.**
- c) Admissions to all the courses shall be carried out as per the notified schedule.

2. Introduction

Goa College of Engineering (Government of Goa), GEC is the oldest Engineering College in Goa and was established in 1967 and is affiliated to Goa University.

The campus houses 7 departments namely Civil Engineering, Mechanical Engineering, Electrical & Electronics Engineering, Electronics & Telecommunication Engineering, Computer Engineering, Information Technology and Mining Engineering. The campus also houses student hostels and staff quarters and has general amenities like Bank, Post Office, Medical facilities, Gymkhana, Transport facilities, co-operative society, canteen, central computing facilities.

The College is situated on a nearly 264-acre campus at Farmagudi plateau which is at a distance of 4 kms from Ponda city, 26 kms from Panaji city, 23 kms from Madgaon Railway station and 33 kms from Dabolim International Airport.

Vision

A Technical Institute with a Focus on Excellence in Academics, Research, Industry Collaboration, and Nurturing Human Values in Students.

Mission

1. Formulate & implement curriculum that ensures high academic standards.
2. Provide infrastructure that meets academic & advanced research requirements.
3. Collaborate with national, international institutions, laboratories and industries through student and faculty exchange programs and internships.
4. Undertake consultancy projects that are relevant to the state & nation.
5. Impart human values, awareness of environment and sustainable solutions in students and faculty.
6. Nurture innovation, entrepreneurship, leadership & resource management skills.

Governing Committee

Government of Goa has set up a Governing Committee (GC) headed by the Director of National Institute of Oceanography, Goa. The Governing Committee is responsible for overseeing the College activities, guiding the future direction, and fostering an environment in which the College Vision and Mission is achieved thereby ensuring full confidence of the stakeholders. The members of the Governing Committee with their rich experience and background guide the Goa College of Engineering to accomplish a place of eminence in the field of technical education.

Faculty

The faculty members are recruited through the Goa Public Service Commission as per the qualifications laid down by All India Council for Technical Education (AICTE), New Delhi. In addition to teaching, faculty members are engaged in research, laboratory development and consultancy activities. The department wise list of Faculty members is given at Annexure - A.

3. Distribution of Seats

| Sr. No | Name of Programme / Course | Intake |
|--------|----------------------------------------------------------------------------------|--------|
| 1) | M.E. (Geotechnical Engineering) | 18* |
| 2) | M.E. (Structural Engineering) | 24* |
| 3) | M.E. (Industrial Engineering) | 18* |
| 4) | M.E. (Power & Energy Engineering) | 18* |
| 5) | M.E. (Electronics Communication & Instrumentation) | 15* |
| 6) | M.E. (Industrial Automation & Robotics) | 18* |
| 7) | M.E. Computer Science & Engineering (Artificial Intelligence & Machine Learning) | 18* |
| 8) | M.E. (Information Technology & Engineering) | 18* |

**Supernumerary quota of additional two seats in each Programme for the Economically Weaker Section (EWS) students.*

DURATION OF THE PROGRAM

The duration of the above programs shall be for TWO years. However, students registered as per University curriculum (either for all the courses of that semester or part of them and hence take longer time to complete the program) it is a regular Program with a duration of THREE years. The college authorities reserve the right to provide option of three years depending on the availability of faculty and infrastructure.

Last date for online submission of Application Form along with the application fee is 26-08-2024 (Monday) on <https://www.gec.ac.in>

4. Eligibility for Admission

Nationality

The applicant must be a citizen of India.

i) ELIGIBILITY FOR CANDIDATES WHO ARE ELIGIBLE FOR ADMISSION WITHOUT GU-QET IN RELEVANT PROGRAM

Students with the Bachelor of Engineering (BE) Degrees (as per LIST I) are eligible to seek admission to above mentioned ME programs, provided they have 50% marks in Bachelor's Degree (45% marks in case of candidates belonging to SC/ST/OBC-NCL) or equivalent CGPA (as per AICTE Handbook 2024-27) WITHOUT the Goa University - Qualifying Entrance Test (GU-QET). The merit list will be based on candidates with GATE score followed by candidates with total marks from Semester V to VIII or equivalent CGPA. Candidates who have qualified GATE (valid score) shall be given preference. The merit list for non-GATE candidates shall be prepared based on Semester V to VIII marks or equivalent CGPA.

ELIGIBILITY FOR GOA UNIVERSITY-QUALIFYING ENTRANCE TEST (GU-QET)

Candidates who have completed 4 year UG Program in Engineering or 3 year UG and 2-year PG program or 5-year Integrated program (UG+PG) in Science-Technology-Engineering- Mathematics (STEM) Programs shall be eligible for admission to Master of Engineering Programs in other discipline provided the candidate qualifies in the Goa University - Qualifying Entrance Test (GU-QET), as per the Curriculum & Credit Framework for Postgraduate Program of University Grants Commission.

Eligibility of 50% marks in Bachelor's degree or Master's degree (45% marks in case of candidates belonging to SC/ST OBC (NCL) category) or equivalent CGPA are eligible to take the GU-QET.

Merit list for such candidates shall be prepared based on marks obtained in the GU-QET. If more than one candidate has the same score in GU-QET, then candidate having higher total marks/CGPA in Master's Degree (MSc (Semester I-IV)) /BE (Semester V to VIII) will be considered for admission against the vacant seats available, if any, after candidates from the merit lists of programs of the candidates who are eligible for admission without GU-QET in relevant program are given admission.

LIST I

(A) Candidates with the following Bachelor of Engineering degree are permitted to take admission without GU-QET for M.E. in Structural Engineering, M.E. in Computer Aided Structural Engineering and M.E. in Geotechnical Engineering.

1. Building and Construction Technology
2. Civil and Rural Engineering
3. Civil Engineering
4. Civil Engineering with Computer Application
5. Civil Engineering and Planning
6. Structural Engineering
7. Civil Environmental Engineering
8. Civil Engineering (Construction Technology)
9. Civil and Infrastructure Engineering
10. Civil Technology
11. Civil Engineering (Public Health Engineering)
12. Environmental Planning
13. Construction Automation
14. Construction Engineering
15. Construction Engineering and Management
16. Construction Technology
17. Construction Technology and Management
18. Geospatial Technology and Geoinformatics
19. Geo Informatics
20. Environment Engineering
21. Civil and Environmental Engineering
22. Civil Engineering (Environmental Engineering)
23. Civil Engineering Environment and Pollution Control
24. Environment Engineering
25. Environmental Engineering
26. Energy and Environmental Management
27. Environmental Science and Engineering
28. Environmental Science and Technology
29. Civil Engineering (Environmental Engineering)
30. Civil and Water Management Engineering

- (B) Candidates with the following Bachelor of Engineering degree are permitted to take admission without GU-QET for M.E. Computer Science and Engineering (Artificial Intelligence and Machine Learning) and M.E in Information Technology and Engineering.
1. Artificial Intelligence (AI) and Data Science
 2. Artificial Intelligence and Machine Learning
 3. Computer and Communication Engineering
 4. Computer Science and Applied Mathematics
 5. Computer Engineering
 6. Computer Engineering (Software Engineering)
 7. Computer Engineering and Application
 8. Computer Science and Biosciences
 9. Computer Science and Design
 10. Computer Networking
 11. Computer Science and Engineering
 12. Computer Science and Social Sciences
 13. Cyber Physical Systems
 14. Computer Science
 15. Computer Science and Business Systems
 16. Computer Science and Engineering (Internet of Things and Cyber Security Including Block Chain Technology)
 17. Computer Science and Medical Engineering
 18. Computer Science and Technology
 19. Robotics and Artificial Intelligence
 20. Computer Science and Systems Engineering
 21. 3-D Animation and Graphics
 22. Advanced Computer Application
 23. Computer Science and Engineering (Internet of Things)
 24. Computer Science and Engineering and Business Systems
 25. Computer Science and Information Technology
 26. Computer Science and Engineering (Artificial Intelligence and Machine Learning)
 27. Computer Science and Engineering (Cyber Security)
 28. Computer Science and Engineering (Networks)
 29. Computer Science and Engineering (Data Science)
 30. Computer Science and Engineering (Artificial Intelligence)
 31. Computer Technology
 32. Computing in Computing
 33. Computing in Multimedia
 34. Computing in Software
 35. Electrical and Computer Engineering
 36. Electronics and Computer Science
 37. Electronics and Computer Engineering

38. Mathematics and Computing
39. Software Engineering
40. Information and Communication Technology
41. Information Engineering
42. Information Science and Engineering
43. Information Science and Technology
44. Information Technology
45. Information Technology and Engineering

(C) Candidates with the following Bachelor of Engineering degree are permitted to take admission without GU-QET for M.E.in Power and Energy Engineering

1. Electrical and Electronics (Power System)
2. Electrical and Electronics Engineering
3. Electrical and Instrumentation Engineering
4. Electrical and Power Engineering
5. Electrical Engineering
6. Electrical Engineering (Electronics and Power)
7. Electrical Instrumentation and Control Engineering
8. Electrical Power Engineering
9. Electrical, Electronics and Power Engineering
10. Electronics Engineering
11. Electronic Instrumentation and Control Engineering
12. Electronic Science and Engineering
13. Electronics and Computer Science
14. Electronics and Control Systems
15. Electronics and Electrical Engineering
16. Electronics and Instrumentation Engineering
17. Electronics Engineering (VLSI Design and Technology)
18. Electronics Instrument and Control
19. Electronics Instrumentation and Control Engineering
20. Electronics System Engineering
21. Electronics Technology

(D) Candidates with the following Bachelor of Engineering degree are permitted to take admission without GU-QET to M.E.in Industrial Automation and Robotics; M.E.in Electronics Communication and Instrumentation

1. Electrical and Computer Engineering
2. Electrical and Electronics (Power System)
3. Electrical and Electronics Engineering

4. Electrical and Instrumentation Engineering
5. Electrical and Power Engineering
6. Electrical Engineering
7. Electrical Engineering (Electronics and Power)
8. Electrical Instrumentation and Control Engineering
9. Electrical Power Engineering
10. Electrical, Electronics and Power Engineering
11. Electronic Engineering
12. Electronic Instrumentation and Control Engineering
13. Electronic Science and Engineering
14. Electronics and Biomedical Engineering
15. Electronics and Communication (Communication System Engineering)
16. Electronics and Communication Engineering (Advanced Communication Technology)
17. Electronics and Communication Engineering (VLSI Design & Technology)
18. Electronics and Communication Engineering
19. Electronics and Communication Engineering (Bio-Medical Engineering)
20. Electronics and Communication Engineering (Microwaves)
21. Electronics and Computer Science
22. Electronics and Control Systems
23. Electronics and Electrical Engineering
24. Electronics and Instrumentation Engineering
25. Electronics and Power Engineering
26. Electronics and Telecommunication
27. Electronics and Telecommunication Engineering
28. Electronics and Tele-Communication Engineering
29. Electronics and Telecommunications Engineering
30. Electronics and Telematics Engineering
31. Electronics Communication and Instrumentation Engineering
32. Electronics Design Technology
33. Electronics Engineering
34. Electronics Engineering (VLSI Design and Technology)
35. Electronics Instrument and Control
36. Electronics Instrumentation and Control Engineering
37. Electronics System Engineering
38. Electronics Technology
39. Electronics and Communication Technology
40. Electronics and Computer Engineering

(E) Candidates with the following Bachelor of Engineering degree are permitted to take admission without GU-QET to M.E.in Industrial Engineering

1. Industrial and Production Engineering
2. Industrial Engineering
3. Industrial Engineering and Management
4. Industrial Production Engineering
5. Logistics & Supply Chain Management
6. Manufacturing Engineering

7. Manufacturing Engineering and Technology
8. Manufacturing Process and Automation Engineering
9. Manufacturing Science and Engineering
10. Manufacturing Technology
11. Mechanical and Automation Engineering
12. Mechanical and Mechatronics Engineering (Additive Manufacturing)
13. Mechanical and Rail Engineering
14. Mechanical and Smart Manufacturing
15. Mechanical Engineering
16. Mechanical Engineering (Automobile)
17. Mechanical Engineering (Manufacturing Engineering)
18. Mechanical Engineering (Production)
19. Mechanical Engineering (Welding Technology)
20. Mechanical Engineering Design
21. Production and Industrial Engineering
22. Production Engineering

- ii) Candidates with qualifying degrees other than Goa University shall be provisionally admitted to the respective M.E. program subject to submission of Provisional Eligibility Certificate issued by the Goa University.
- iii) Candidates having any other degree not specified in the list notified by Goa University shall apply for issue of Provisional Eligibility Certificate to the Goa University. Such cases shall be decided by Goa University.

5. General Rules of Admission

Following are the general rules of admission for the M.E. Programs

- i) The applicants desirous of admission must comply with the provisions of this prospectus.
- ii) The application form for the admission is available on the college website <https://www.gec.ac.in>.
- iii) Candidates shall submit online application form together with scanned copies of all required documents and fees on or before 26-08-2024 (Monday).
- iv) The candidate applying for more than one P.G. Course (Geotechnical Engineering, Structural Engineering, Industrial Engineering, Power & Energy Engineering, Electronic Communication and Instrumentation, Industrial Automation and Robotics, Computer Science & Engineering (Artificial Intelligence & Machine Learning), Information Technology & Engineering) shall select appropriate choices in the online form.

- v) Merit list shall be prepared for admissions to all M.E. programs.
- vi) Candidates eligible to answer GU- QET are permitted to apply for a maximum of TWO M.E. programs.
- vii) The merit list shall be displayed at 6.00 pm on the designated date.
- viii) If the number of candidates for any program is less than five, then provisional admission will be given to these candidates. Further, if the number of candidates for any program is less than five even after the final round then, The Principal, Goa College of Engineering reserves the right to decide whether to admit any students for that program for that year or not.
- ix) The Principal, Goa College of Engineering, reserves the right to modify the schedule of admission, depending upon the prevailing exigency if any.
- x) No correspondence shall be entertained from the candidates regarding the selection.
- xi) The selected candidates shall file affidavits online on Anti- Ragging at www.amanmovement.org/ or www.antiragging.in/ and submit signed ANTI RAGGING undertaking by Students and Parents in the Institute.

5.1 Admission for GU-QET candidates

- (i) Candidates shall refer to the respective college website or contact college administration. Application fees for admission, if any to be paid to the respective college.
 - (ii) The GU-QET fees for candidates eligible to answer GU-QET is as follows, and to be paid to the respective colleges at the time of submission of applications:
 - INR 700 in case Un-reserved/ EWS/OBC * per subject/specialization.
 - INR 350 in case of SC/ST of Goa. * per subject/specialization.
 - No fees shall be charged from Persons with Disability.
- *Candidates applying for admission under these categories shall be required to submit a valid certificate to that effect issued by the Officer of the rank of the Deputy Collector or any other authorized Officer as notified by the Government of Goa.
- (iii) Candidates shall be permitted to apply for a maximum of TWO programs for GU-QET.
 - (iv) The GU-QET shall be for a duration of TWO hours. The question paper shall be of 100 marks. The question paper pattern shall be Multiple Choice Question (MCQ) type. There shall be no NEGATIVE marking. The minimum qualifying marks is 40 marks. The syllabus for GU-QET is given at LIST II.

LIST-II SYLLABUS FOR GU-QET

(A) Syllabus for the Goa University- Qualifying Entrance Test GU-QET (Civil Engineering) for the following ME programs

- M.E. in Structural Engineering
- M.E. in Geotechnical Engineering

Equilibrium of Forces, Analysis of trusses by method of joints and method of sections, Simple lifting machines - Calculation of mechanical advantage, Velocity ratio and efficiency, determination of deflection of beam by using Macaulay's method, Moment Area method and Conjugate beam method, Shear force & bending moment diagrams for various types of beams and loadings - determination of point of zero shear, points of contra-flexure and maximum bending moment, direct & bending stresses, stresses in an element, principal stresses and planes; degree of indeterminacy, Analysis of beams and frames by using Moment Distribution, Slope Deflection methods, Kani's method and matrix methods, Various types of loads on structures, Properties of Concrete, mix design, concrete composition and admixtures; Limit state theory of RC design Design of reinforced Concrete, beams, columns, slabs, footings, Prestressed Concrete members; Steel Structures, tension , compression and flexural members , bolted and welded connections, Three phase relationships of soil, Index properties of soils, shear strength of Soils, permeability and seepage, Flow net, compaction, consolidation, Boussines and westergaard theory of stress distribution in soils, Stress distribution on a horizontal and vertical plane in soils, pressure bulb, Concept of Effective stress and pore pressure in soils, bearing capacity definitions, estimation of bearing capacity by Terzaghi's, Meyerhof's and IS method, Estimation of earth pressure, Estimation of settlement of soils; Types of shallow and deep foundations, proportioning of shallow foundations, estimation of load carrying capacity of single pile and pile groups, Ground Improvement Techniques for weak soils, stability analysis of finite and infinite slopes.

(B) Syllabus for the Goa University- Qualifying Entrance Test GU-QET (Computer and Information Technology) for the following ME programs

- M.E. Computer Science and Engineering (Artificial Intelligence and Machine Learning);
- M. E. in Information Technology and Engineering.

Programming in C: Data Types, variables, constants, operators, expressions, input and output, Decision making and branching, and Arrays. Digital Electronics: Decimal, binary, octal, hex number systems and their inter conversions, Binary arithmetic, Introduction to BCD codes, Gray codes, Excess-3 codes & ASCII codes, Basic Gates-NOT, OR, AND, Universal Logic Gates-NOR, NAND, Combinational Logic Circuits, Boolean Laws and Theorems, Reducing Boolean Expressions, Converting AOI to NAND/NOR Logic. Operating Systems: Operating System Structure, Operating System Services, Types of System calls. Process scheduling, Inter-process communication. Multithreading models, Threading issues. CPU Scheduling Algorithms: FCFS, SJF, SRTF / SRTN, Priority Scheduling, Round Robin Scheduling. Computer Networks: The OSI and TCP/IP Reference Models.

Theoretical Basis for Data Communication. The Maximum Data Rate of a Channel. Data Link Layer Design Issues, Framing, Error Control, Flow Control Error-Correcting Codes, Error -Detecting Codes. Sliding Window protocol.

(C) Syllabus for the Goa University- Qualifying Entrance Test GU-QET (Electrical and Electronics Engineering) for the following ME program

- M.E.in Power and Energy Engineering

Electrical & Electronic Circuits: Kirchhoff's voltage & current laws (KCL, KVL), Node and Mesh analysis; Network Theorems: Thevenin's, Norton's, Superposition and Maximum Power Transfer theorem. Simple diode circuits: clipping, clamping, rectifiers; Amplifiers: biasing. Electrical Machines: Single phase transformer: equivalent circuit, phasor diagram, open circuit and short circuit tests, regulation and efficiency; Three-phase transformers: connections, vector groups, parallel operation; Three-phase induction machines: principle of operation, types, performance, torque-speed characteristics, no-load and blocked-rotor tests, equivalent circuit, starting and speed control; Operating principle of single-phase induction motors; Synchronous machines: cylindrical and salient pole machines, performance and characteristics, regulation and parallel operation of generators, starting of synchronous motors; Types of losses and efficiency calculations of electric machines. Power Systems-Basic concepts of electrical power generation, ac and dc transmission concepts, Models and performance of transmission lines and cables. Symmetrical and unsymmetrical fault analysis, Principles of over-current, differential, directional and distance protection; Circuit breakers, System stability concepts. Control System: Mathematical modelling and representation of systems, Feedback principle, transfer function, Block diagrams and Signal flow graphs Power Electronics- Static V-I characteristics and firing/gating circuits for Thyristor, MOSFET, IGBT, DC to DC conversion: Buck, Boost and Buck-Boost Converters, Single-phase and three-phase voltage and current source inverters, sinusoidal pulse width modulation.

(D) Syllabus for the Goa University-Qualifying Entrance Test GU-QET (Electronics and Telecommunication Engineering) for the following ME programs

- M.E.in Industrial Automation and Robotics
- M.E.in Electronics Communication and Instrumentation Engineering

Engineering Mathematics: Linear Algebra: Vector space, basis, linear dependence and independence, matrix algebra, Eigenvalues and eigenvectors, rank, solution of linear equations- existence and uniqueness; Signals and Systems: Continuous-time signals: Fourier series and Fourier transform, sampling theorem and applications. Discrete-time signals: DTFT, DFT, z-transform, discrete-time processing of continuous-time signals. LTI systems: definition and properties, causality, stability, impulse response, convolution, poles and zeroes, frequency response, group delay, phase delay. Digital Circuits: Number representations: binary, integer and floating-point- numbers. Combinatorial circuits: Boolean algebra, minimization of functions using Boolean identities and Karnaugh map,

logic gates and their static CMOS implementations, arithmetic circuits, code converters, multiplexers, decoders. Sequential circuits: latches and flip-flops, counters, shift-registers, finite state machines, propagation delay, setup and hold time, critical path delay. Data converters: sample and hold circuits, ADCs and DACs. Control Systems: Basic control system components; Feedback principle; Transfer function; Block diagram representation; Signal flow graph; Transient and steady-state analysis of LTI systems; Frequency response; Routh-Hurwitz and Nyquist stability criteria; Bode and root-locus plots; Lag, lead and lag-lead compensation; State variable model and solution of state equation of LTI systems. Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, super heterodyne receivers. Digital communications: PCM, DPCM, digital modulation schemes (ASK, PSK, FSK, QAM), bandwidth.

(E) Syllabus for the Goa University- Qualifying Entrance Test GU-QET (Mechanical Engineering) for the following ME program

- M.E.in Industrial Engineering

Introduction to manufacturing processes: Sheet metal forming, Sheet metal cutting, Metal joining processes. Linear Measurement: Vernier Instruments, Micrometer Instruments and Slip gauges. Angular Measurement: Sine Bar Probability Preliminary: Introduction to Probability, definition, Sample Space, Events, Conditional Probability, Theorem on total probability, Random Variable: Introduction, Discrete and Continuous, Characteristics-Mean and Variance. Probability distributions: Bernoulli trial, Binomial, Geometric, Exponential and Normal - Probability law, mean and variance. Concept of Productivity, Production vs Productivity, Productivity Measures, Work Study, Method Study, Procedure of Method Study, Work Measurement, Work Measurement Techniques (Work Sampling, Time Study), Wages and Incentives. Plant layout (Process layout and product layout) Forecasting, Project scheduling (CPM), Inventory, ABC analysis, Basic EOQ model, Assembly line balancing, Sequencing and scheduling. Management theories, Manager V/S Leader, Organisation, Organisational structure, Span of control, Authority Responsibility and Delegation, Leadership, Leadership styles, Motivation, Maslow's Theory of Motivation, Communication, Communication process model.

5.2 Intimation of Merit List of Admission

- i) The applications in the prescribed form received for admission will be scrutinized in terms of the provisions in the prospectus. The Merit list of the eligible candidates shall be displayed on the College website (<https://www.gec.ac.in>).
- ii) The candidates are advised to refer to the schedule of admission process as notified on the College website (<https://www.gec.ac.in>) from time to time.

- iii) If a candidate fails to confirm her/his seat as per the schedule, or is found to be ineligible as a result of scrutiny of her/ his certificates, the allotted seat shall be cancelled and the same will be allotted to the next eligible candidate in the Merit list.

5.3 Cancellation of Admission

- i) Incomplete Applications or applications without supporting documents (as required) shall be summarily rejected.
- ii) Any candidate who is allotted a seat must pay the prescribed fees on the day of admission. The admission shall be treated complete only after the submission of all the required original documents and payment of full fees, failing which the admission is liable to be cancelled.
- iii) Admission offered to a candidate shall be cancelled at any time if Goa University declares that the candidate is not eligible for the admission.
- iv) If a candidate fails to join the college within fifteen days from the date of commencement of academic term, or remains absent for more than fifteen days, without prior permission, The Principal, Goa College of Engineering reserves the right to cancel her/his admission.
- v) If any information furnished by the candidate in connection with her/his admission is found to be incorrect, at any point of time, the admission of such candidate will be cancelled and fees paid by the candidate shall get forfeited. The decision of The Principal, Goa College of Engineering in this matter shall be final and binding.

5.4 Provisional Eligibility Certificate/ Migration Certificate

The candidates who have passed the qualifying examination from University other than the Goa University and seeking admission to M.E. Program shall have to submit a provisional eligibility certificate from The Registrar, Goa University along with their online application for admission, without which the application is liable to be rejected. Such candidates are also required to submit Migration Certificate.

Detailed instructions regarding provisional eligibility certificate can be obtained from The Registrar, Goa University, Taleigao plateau, Goa. Candidates may refer Goa University website www.unigoa.ac.in for further details.

5.5 Documents and Certificates

Candidates are required to upload legible scanned copies of the following documents along with the online application:

- i) Bachelor's Degree in engineering or Passing certificate in qualifying degree.
- ii) Marks sheets of all Semesters of qualifying examinations.
- iii) College Leaving Certificate.
- iv) Provisional Eligibility Certificate from Goa University (if applicable).
- v) Migration Certificate (if applicable).
- vi) Valid Gate Score Card (if any).
- vii) Valid Qualifying Entrance Test (GU-QET) Certificate of PG program, in relevant program. (Wherever applicable)
- viii) SC/ST Certificate for Group IV (Annexure - 1)
- ix) Valid OBC Certificate for Group V (Annexure - 2)
- x) Person with disability Certificate from Goa Medical College.
- xi) Sponsorship Certificate for Group II (Annexure - 3)
- xii) EWS Certificate (if applicable) (Annexure - 4)
- xiii) Undertaking by Student (Annexure - 5)

6 Group Wise Seat Allotment

| SN | Group | Details | Seats | Seats | Seats |
|----|-----------|---------------------------------------------------------------------------------|-----------|-----------|-----------|
| 1) | Group I | Students passing B. E. Exam under Goa University (GU) ## | 04 | 05 | 08 |
| 2) | Group II | Sponsored Candidates | 02 | 02 | 03 |
| 3) | Group III | Students passing B.E. Exam of any University including Goa University (General) | 02 | 02 | 03 |
| 4) | Group IV | Candidates belonging to SC/ST of Goa | 02 | 03 | 03 |
| 5) | Group V | Candidates belonging to OBC of Goa | 04 | 05 | 06 |
| 6) | Group VI | Persons with disabilities from Goa | 01 | 01 | 01 |
| | | TOTAL NUMBER OF SEATS | 15 | 18 | 24 |

Including Students passing B. E. Exam from Goa College of Engineering (under Bombay University) prior to establishment of Goa University.

Supernumerary quota of additional two seats in each Program for the Economically Weaker Section (EWS) students.

Rules for Group Wise Allotment

- i) The candidates applying for Group I, IV, V & VI should possess qualifying Degree from Goa University##.
- ii) The candidates applying for Group II should possess a certificate indicating that they are employed for a minimum period of six months (Annexure - 3).
- iii) All the candidates with the qualifying Degree from any University including Goa University are considered in Group III (General). Admission process will start with Group III.
- iv) Following Order shall be followed for seat allotment
Group III-I-IV-V-II-VI.
- v) The candidates applying for Group IV should submit SC/ST Certificate (Annexure - 1).

- vi) The candidates applying for Group V should submit Valid OBC Certificate (Annexure - 2).
- vii) The candidates applying for Group VI must produce a certificate from the Medical Board of GMC regarding disability.
- viii) The Formats for the respective certificates / undertaking shall be as per Annexure -1 to Annexure - 5.
- ix) Any seat remaining unfilled in any Group, shall be first transferred to Group I. If there are no eligible candidates remaining in Group I, then seats remaining shall be transferred to Group III, i.e. in case list of candidates having qualifying degree from Goa University is exhausted, remaining seats will be offered to candidates having qualifying degree from any recognised University.
- x) The candidates qualifying GU-QET will be considered for admission against the vacant seats available, if any, after candidates from the merit lists of programs eligible for admission without GU-QET in relevant program are given admission.
- xi) The merit list will be based on the valid GATE score.**
 - a) If GATE scores are equal, then candidates with higher percentage of aggregate marks in last four semester of B.E. Degree shall be placed higher in the merit list.
 - b) If the percentages of aggregate marks in last four semesters of B.E. Degree are equal, then the candidate with a higher percentage of aggregate marks of all semesters of B.E. Degree shall be placed higher in the merit list.
- xii) If any seats remain vacant in any of the category after considering the candidates with GATE score, merit for the remaining seats shall be decided based on the percentage of aggregate marks secured in last four semesters of B.E. Degree.

If the percentages of aggregate marks in last four semesters of B.E. Degree are equal, then the candidate with a higher percentage of aggregate marks of all semesters of B.E. Degree shall be placed higher in the merit list.
- xiii) At the time of such provisional admissions, the candidate will have to pay full fees, as applicable. If a candidate becomes ineligible after the declaration of BE results, the refund of fees shall be made as per the prescribed rules.

- xiv) Admission to candidates qualified through GU-QET shall be filled up only against the vacant seats available, if any, after candidates from the merit lists of programs, who are eligible for admission without GU-QET in relevant program are admitted.
- xv) When the final year B.E. marks are provided in Grade points, then they shall be converted to percentage by the formula provided by concerned University. The following formula as prescribed by Goa University shall be used to compute the percentage when the formula is not provided by concerned University:

$$\text{Average Percentage of Marks: } (\text{CGPA} - 0.75) \times 10.$$

Reservation for Economically Weaker Sections (EWS)

Government has approved implementation of reservation for Economically Weaker Sections (EWS) for admissions to Professional courses.

Applicants wishing to avail admissions to seats reserved for EWS are required to produce Income and Assets Certificate in specified format(Annexure - 4), issued by Mamlatdar of concerned Taluka along with the online application.

7 Details of Fees and Refund

Prescribed fees as shown in the following Table shall be deposited in the college by the student to confirm admission after the seat allotment.

| Sr. No. | Description | Amount Per Year/Semester | Total Amount |
|---------------------|----------------------------------|-------------------------------|--------------------|
| 1) | Admission Fee (one time only) | Rs. 2500/- (Non - refundable) | Rs. 2500/- |
| College Fees | | | |
| 2) | Tuition Fee* | a) Rs 20000/- per semester | Rs. 28500/- |
| 3) | Development Fee* | a)Rs 6225/- per semester | |
| 4) | Gymkhana Fee | Rs 150/- per semester | |
| 5) | Annual Social Gathering | Rs 100/- per year | |
| 6) | Students Aid Fund | Rs 150/- per year | |
| 7) | Magazine Fee | Rs 150/- per year | |
| 8) | Group Insurance Fee | Rs 125/- per year | |
| 9) | Identity Card | Rs 100/- (One time) | |
| Deposits | | | |
| 10) | Library Deposit | Rs. 750/- Refundable | |
| 11) | Caution Money Deposit | Rs 750/- Refundable | |
| Hostel fees | | | |
| 1) | Hostel Rent | Rs. 3600/- per semester | Rs. 7400/- |
| 2) | Hostel Maintenance Fee | Rs. 2800/- per semester | |
| 3) | Hostel Deposit | Rs. 1000/- Refundable | |

* Based on students preferences, programme with 3 year duration, shall have Tuition Fees will be Rs.14000/- per semester and the Development Fees will be Rs.4,000/- per semester.

The regulatory authorities and Govt. of Goa may revise the above fee structure from time to time.

Students requiring hostel accommodation shall apply through administrative section in the specified format. Students shall pay the Hostel fees to confirm Hostel accommodation.

All Fees will have to be paid through online mode only.

Account details and online payment link will be provided by the college at the time of admission rounds

Refund of Fees

- a) If a student cancels the admission by written application addressed to The Principal on or before 11th September 2024, then all fees paid by a student at the time of admission shall be refunded to her/him.
- b) If a student cancels the admission by written application addressed to The Principal, after 11th September 2024, then Caution Money Deposits, Library Deposits, Hostel Deposits if paid, will be refunded to the candidate. No other fees shall be refunded.
- c) Admission fee of Rs. 2500/- shall not be refunded under any circumstances.

NOTE:

- a) No additional fees are applicable in case the candidate migrates to other program offered within the College.
- b) Prescribed examination fees and its refund are subject to the rules of Goa University from time to time.

Refund of Deposits

Caution money deposit, Hostel deposit and Library deposit shall be refundable to a student on receipt of an application along with original fee receipt within six months of declaration of result of the final semester examination by the University. The refund will be subject to the recovery of dues towards breakage, loss, damage, etc of the College property. All other fees are non-refundable.

8. Academic Term and Examinations

Goa University conducts examinations at the end of every semester as per its rules and regulations. Students appearing for the examinations have to pay the prescribed examination fees.

9. Conduct Rules

Goa University Ordinances regarding attendance, conduct, discipline, and rules for keeping of terms by the students shall be followed.

- i) Class work such as laboratory journals, workshop practices are also counted towards the University results. Principal of the college shall be the competent authority not to forward the candidate's application for the University Examination, in case her/ his performance is not found to be satisfactory.
- ii) Principal reserves the right to remove the name of any student from the rolls for failure to pay the College or hostel dues in time.

- iii) Use of mobile phones in the Academic Area (class rooms, corridors of Main Building and Departmental buildings, laboratories, library, Academic section and offices) is restricted.
- iv) Institute is a Tobacco Free Campus. Use of tobacco in any form is punishable offence as per the prevailing Government rules.

Hostel Rules

- i) Hostel accommodation to PG students is subject to availability.
- ii) Admission to the hostel and allocation of rooms is left to the discretion of the Chief Warden /Hostel Superintendent, upon submission of medical fitness certificate, from a registered medical practitioner. No student shall be admitted to the Hostel, unless she/he has paid the hostel fees, and deposit.
- iii) Outsiders are not allowed to stay in the hostels except for social visits during the day time and under no circumstance after 7:00 pm.
- iv) Residents shall maintain discipline and cleanliness in the hostel premises and shall be held responsible for any damage to the hostel property and appropriate cost towards the same, shall be recovered from her/him in the manner as directed by the Principal.
- v) Any student not showing satisfactory progress at the College examination is liable to forfeit the place in the hostel.
- vi) The Hostel facility will be provided only for two years of the academic term of ME program. Students shall vacate and hand over the possession of the allotted rooms every year at the end of even semester examinations in view of the maintenance works of the hostels to be carried out by PWD.
- vii) Any contravention to these rules shall render student concerned to be expelled from the hostel and Principal's decision in this regard shall be final.
- viii) **Ragging in any form will result in instant expulsion of student/s responsible.**
- ix) Re- allotment of hostel accommodation for a fresh term shall be done only if a student has vacated the allotment in previous term in time and eligible to attend semester.

Annexure - A

Details of the Departments

Civil Engineering Department

The Department of Civil Engineering (CED), Goa College of Engineering provides a broad-based educational experience in the various arrays of civil engineering that is firmly founded upon science, mathematics, and the humanities. The CED encourages basic learning, research, and the contemporary problems of technology and civil engineering society at large. The Department emphasizes the skills of problem-solving, ethics, teamwork, communications, and management while providing multidisciplinary design experiences to prepare graduates for the challenges of the profession. The department encourage service to the engineering profession and society by all faculty and students. The Department promotes sustainability and embraces technology by encompassing technology as per the AICTE syllabus.

The CED offers degree programs in civil engineering and PG programs in Structural Engg. and Geotechnical Engg. The Department's research programs focus on the areas of environmental and water resources engineering, geotechnical engineering, structural engineering. UG program is NBA accredited for 3 years up to 30th June 2025.

The Department's ICI, IEI, IGBC, IGS students Chapters, and IPA- institutional Memberships are active. Students' projects are mostly industry oriented. We dedicate a semester as an internship with local consultants and Govt. organizations at the PG level. The PG course runs with its fullest capacity right from its inception.

Civil engineering students pursuing an educational program at CED have a great opportunity to learn from a spectacular well-rounded faculty, interact with a wonderful student body, and prepare for an exciting professional career.

Mechanical Engineering Department

Mechanical Engineering Department was established in the year 1967. It is approved by AICTE and affiliated to Goa University. The Department offers a full-fledged Under-Graduate program in Mechanical Engineering. It offers a Post Graduate Program in Industrial Engineering affiliated to University.

The following are the salient features of the department

- UG program in Mechanical Engineering is NBA accredited for 3 years up to 30th June 2025.
- Department has highly qualified faculty members.
- Department is the only recognized PhD research centre in Mechanical Engineering under Goa University with 4 recognized supervisors.

- Department has signed MoUs with industries to promote industry-institute interactions.
- Alumni have been working at senior positions
 - in industries in Goa such as Goa Shipyard Ltd.-Vasco, Mormugao Port Trust- Mormugao, Zuari Industries Ltd. - Sancoale, Deccan Fine Chemicals - Corlim, Siemens-Verna, MacBroust Engg. Pvt. Ltd.-Margao, MRF Ltd.-Usgao, CommScope-Verna, CG Power and Industrial Solutions Limited-Bethora and Kundaim, Lift Controls Private Limited-Khandepar, Godrej & Boyce Mfg Co. Ltd.-Madkai, Pentair Water India Pvt. Ltd., Verna.
 - in various departments under Government of Goa.
 - in reputed Management institutes, Engineering colleges and Polytechnics in the state
- Alumni also have their own business enterprises.
- The Post Graduate degree is eligible for PhD admissions in Centrally Funded Institutions like IISc, IIT, NIT, Central and State Universities.
- Well-equipped laboratories with software's like Isograph, Minitab, MATLAB.
- Project and Dissertation work involves application of state-of-the-art Industrial Engineering techniques at the work place of the student.
- Student/Faculty research work is published in reputed International journals indexed in Web of Science and Scopus or are presented in reputed International conferences.
- Various FDP, STTP, seminars are organized under the banner of AICTE ATAL FDP, IIIE Goa Chapter and ISHRAE Goa Chapter.

Electrical & Electronics Engineering Department

Electrical & Electronics Department is one of the oldest departments in the college established in the year 1967. It is approved by AICTE and affiliated to Goa University. The Department offers a full-fledged Under-Graduate program in Electrical & Electronics Engineering. It also offers a Post Graduate Program in Power & Energy Systems affiliated to Goa University. It is also recognised as a PhD research centre. The department has its spacious building housing lecture halls, seminar hall, laboratories, and computer centre. The department has well qualified, experienced and dedicated faculty with active research involvement.

The following are key features of the department.

- Highly qualified, experienced and motivated faculty.
- UG program is NBA accredited for 3 years up to 30th June 2025.
- Well-equipped Laboratories having state of art equipment's like Power Analysers, variable frequency drives, Thermal Camera, Matrix Convertor to mention a few.

- Alumni are holding key positions in Goa Electricity Department and other Government institutions and various major Industries in Goa like, Zuari Agro chemicals, Siemens, Bosch, Lupin Laboratories, Nestle etc
- Faculties and research scholars publish research outcomes in International journals and conferences.

Electronics & Telecommunication Engineering Department

Established in the year 1983, the department offers two full-fledged Under-Graduate programs in E&TC Engineering and VLSI Design & Technology. The Department also offers 2 Post Graduate Programs: i) Electronics Communication & Instrumentation and ii) Industrial Automation & Robotics approved by AICTE and affiliated to Goa University.

The following are the salient features of the department

- UG program in Electronics & Telecommunication Engineering is NBA accredited for 3 years up to 30th June 2025.
- Recognized as a PhD research Centre in 2014.
- 11 PhD scholars presently registered and 01 student has successfully completed as on date.
- A strong Industry linkage with over 20 companies offering Placements, Internships and apprenticeship to Students.
- Highly Qualified and Experienced Faculty.
- Well-equipped facilities in VLSI design, Embedded systems, Parallel Processing & GPGPU's, Communication Engineering, Microwave, RF, EMI/EMC, Antenna Design & Instrumentation.
- Research Paper Publications in Reputed SCI/SCOPUS Journals & International Conferences by Faculty & Students like IEEE communications surveys & tutorials, IEEE Transactions on Vehicular Technology, IET Communications, IEEE Transactions on Electron Devices, Elsevier Optic, IETE Journal of Research, Springer Optical and Quantum Electronics.
- Faculty Development Programs under ATAL Academy, Workshops & Seminars organized regularly
- Association of E&TC Students (ASSETS) for Co-curricular & Extra Curricular Activities
- IEEE students Chapter & IETE students forum.
- Active Subscription to IEEE Xplore & Science Direct Elsevier Journals

Computer Engineering Department

The Department of Computer Engineering was established in 1989 and currently offers an undergraduate programme for Degree in Computer Engineering and offered postgraduate programme in Computer Science and Engineering since the year 2011. Currently from this year the department shall substitute this programme with postgraduate programme in Computer Science and Engineering (Artificial Intelligence and Machine Learning). The Department is housed in an independent

spacious ground plus one building on G.E.C campus at Farmagudi, Goa. Recently an annexe building is added with state of art facility.

- State-of-the-art facilities
- UG program is NBA accredited for 3 years up to 30th June 2025.
- Well-equipped Laboratories
- Adequate classrooms
- Department library
- Research areas: Networks, Databases, Theoretical Computer Science, Machine Learning, Artificial Intelligence, Image processing, Software Engineering, Data Mining
- Innovative practices like Student Counselling, Mini Project Exhibition, Visiting Village Schools, Promotion of Internship, Encouraging Entrepreneurship, Organizing Workshops, Seminars, Talks and Involving alumni in curriculum development, project selection, industry internship and examination yielded very good results.

Information Technology Department

The Information Technology department was established in the year 2001 with an intake of 60 students with a goal to impart high quality knowledge and skills to students in the field of Information Technology, motivate research, encourage industry consultancy projects and nurture human values and life skills. Till date we have 19 successful batches graduated from our department.

The following are the key features of the department

- The department is well equipped with 11 professional laboratories, seminar/conference room, auditorium, Incubation Centre and an independent department library.
- UG program is NBA accredited for 3 years up to 30th June 2025.
- The department has 14 well qualified faculty members with expertise in various fields of Information Technology and specialized in the fields of Natural Language Processing, Security, Artificial Intelligence, Data Mining, Image Processing, Networking, Cloud Computing, etc.
- The department also offers a Post Graduate program in Information Technology and Engineering. We have 05 successful batches that have post graduated from our department and are being placed.
- The department organizes various technical events under ITCEP (Information Technology Continuing education Programme).

Annexure - B

Details of College Faculty Members

Department of Civil Engineering

Dr. A.K.S Bhadauria - Head of Department (Areas of Interest - Environmental Engineering)

| Sr. No. | Names of Faculty | Areas of Interest |
|---------|--------------------------|--------------------------------------------------------------------|
| 1 | Dr. Purnanand_Savoikar | Geotechnical Engg. |
| 2 | Dr. Ulhas G. Sawaikar | Environmental Engg. |
| 3 | Dr. Ganesh Narayan Hegde | Structural Engg. Earth Quake Engg. Structural Health Monitoring |
| 4 | Dr. Nisha Naik | Geotechnical Engg. |
| 5 | Dr. Sumitra_Kandolkar | Geotechnical Engg. |
| 6 | Ms. Wilma Fernandes | Geotechnical Engg. |
| 7 | Mr. H.S. Prasannakumar | Geotechnical Engg. |
| 8 | Mr. Vikas_Chodankar | Structural Engineering |
| 9 | Ms. Smita_Aldonkar | Geotechnical Engg. |
| 10 | Mr. Guruvendra Velip | Structural Engineering |
| 11 | Mr. Madhuraj Naik | Structural Engineering |

Department of Mechanical Engineering

Dr. Suraj S. Rane - Head of Department (Areas of Interest - Quality & Reliability Engineering, Six Sigma Management, Maintenance Engineering, Industrial Engineering)

| Sr. No. | Names of Faculty | Areas of Interest |
|---------|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Dr. Rajesh S. Prabhu Gaonkar (Presently on deputation to IIT Goa) | Industrial Engineering, CAD/CAM, Reliability Engineering, Multi attribute Decision Making |
| 2. | Dr. Vinay A. Shirodkar | Operations Research, Engineering Statistics, Industrial Engineering, Economic Lot Scheduling |
| 3. | Dr. Akshay Vithal Nigalye | Design Engineering, Stress Analysis, FEM |
| 4 | Dr. Mahesh Dhawalikar | Industrial Engineering, Operations Management, Work System Design |
| 5 | Dr. Jagannath Hirkude | Thermal and Energy Systems Engineering |
| 6 | Dr. Milind Sakhardande | Industrial Engineering, Reliability Engineering, Supply Chain Management |
| 7 | Dr. B. S. Manohar Shankar | Fluid Mechanics, Mechatronics, Dielectric Elastomer Applications |
| 8 | Mr. Vivek W. Belokar | Thermal Engineering, Industrial Engineering |
| 9 | Mr. Gajesh G. S. Usgaonkar | Hydraulics, Industrial Engineering, Engineering Measurements and Metrology |
| 10 | Dr. Shridhar Mhalsekar | Industrial Engineering, Fluid Mechanics, Manufacturing Technology, Automobile Engineering, Gas Dynamics and Turbomachinery's. |
| 11 | Dr. Mahesh Caisucar | Analysis and Synthesis of Mechanism, Dynamics of Machinery, Fluid Power Control, Mechatronics, Operations Research, Industrial Engineering |
| 12 | Dr. Raghavendra Naik, | Design Engineering, Nonlinear Vibration, Vibration Attenuation |
| 13 | Dr. Harichandra U. Chandekar | CAD/CAE, Composite Materials |

Department of Electrical & Electronics Engineering

Dr. G. R. Kunkolienkar - Head of Department (Areas of Interest - High Voltage Engg., Electromagnetics, Power Systems)

| Sr. No | Name of the faculty | Areas of Interest |
|--------|---------------------------|------------------------------------------------------------------------------------------|
| 1 | Dr. V. N. Shet | Power Factor Correction, Power Quality Issues, Grid connected systems, Power Electronics |
| 2 | Dr. Anant J. Naik | Renewable Energy, Power electronics Power Quality |
| 3 | Dr. Sangeeta Mahaddalkar | VLSI, Embedded system, Image Processing, Analog and Digital Electronics, Power Quality |
| 4 | Dr. Suneeta Raykar | Artificial Neural Network, Digital/ Analog Electronics |
| 5 | Mr. Nilesh W. S. Borkar | Electrical Machines, Power System and Protection, Energy conservation techniques |
| 6 | Dr. Sonali Pandit | Control systems, VLSI design, Signal Processing, DSP, Digital Electronics |
| 7 | Mr. Jayesh kumar Priolkar | Energy Management |
| 8 | Dr. Samarth B. Borker | Signal & Image Processing |
| 9 | Mr. Noah Dias | Electrical Power system, Energy Management, Electrical Machines |
| 10 | Dr. Aditi A. Desai | Renewable energy, Special Electrical machines |
| 11 | Ms. Ankita A Kanekar | Electrical Power systems, Power Electronics, Renewable Energy, VLSI |
| 12 | Ms. Sneha Phadte | Electrical Machines, Electrical Power systems, Renewable Energy |
| 13 | Ms. Kavita Nanshikar | Power Electronics, Renewable Energy Systems |

Department of Electronics & Telecommunication Engineering

Dr. Hassanali G. Virani – Head of Department (Area of interest – Micro Electronics)

| Sr.No. | Names of Faculty | Areas of Interest |
|--------|-----------------------------|----------------------------------------------------------------------|
| 1. | Dr. Rajesh B. Lohani | Electronic Devices |
| 2. | Dr. Ameeta G. Sinai Amonkar | VLSI, Micro-Electronics |
| 3. | Dr. Nitesh B. Guinde | Micro-Electronics & Parallel Processing |
| 4. | Ms. Nayana Shenvi | Embedded System, Communication & Instrumentation |
| 5. | Ms. Sonia Kuwelkar | Micro-Electronics |
| 6. | Dr. Shajahan Kutty | Communication Engineering |
| 7. | Ms. Amita Dessai | Communication & Instrumentation |
| 8. | Mr. Chetan Desai | RF & Microwave Engineering, Parallel Processing |
| 9. | Mr. Milind Fernandes | Robotics, Control Systems, RF and Communication |
| 10. | Mr. Devendra Sutar | Industrial Automation, Networking, Embedded System & Instrumentation |
| 11. | Mr. Sangam Borkar | RF and Microwave Engineering, Antenna & Radar |
| 12. | Ms. Purti Savardekar | Communication & Instrumentation |
| 13. | Ms. Geeta Shet | Micro-Electronics |
| 14. | Ms. Palhavi Kerkar | Micro-Electronics |

Department of Computer Engineering

Dr. Jayapura Ananthiah Laxminarayana Head of Department (Area of interest - Artificial Intelligence, Machine Learning, Pattern Recognition)

| Sr. No. | Name of Faculty | Areas of Interest |
|---------|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Mr. Umesh A. Bapat | Software Engineering, DBMS, Data Mining |
| 2 | Ms. Maruska F.C Mascarenhas | Data Structures, Design and Analysis of Algorithms, Data Mining, Machine Learning, Theory of Computation and Compilers |
| 3 | Mr. Nagraj S Vernekar | Networking, Architectures & Object Oriented Programming |
| 4 | Mr. Vineet Jain | Computer Networking, Web Technology, DBMS |
| 5 | Dr. Gajanan Gawde | Data Mining, Machine Learning, Cryptography and Compilers |
| 6 | Ms. Manisha Babuso Naik Gaonkar | Databases, Machine Learning and Speech Processing |
| 7 | Ms. Rachel Dhanaraj | Computer Vision, Image Processing and Deep Learning |
| 8 | Dr. Nitesh Naik | Data Science, Machine and Deep Learning, Data Analytics, Geo Spatial Data Analysis, Computational Intelligence, Cloud Computing and Security |
| 9 | Ms. Melina Afonso | Database Systems, Data Networks & Brain Computing Interface |
| 10 | Ms. Sherica Menezes | Data Science and knowledge Discovery, Data Structures and Algorithms & Graph Theory |
| 11 | Mr. Amit Patil | Natural language processing, Data Mining & Soft Computing |
| 12 | Mr. Teslin J. Jacob | Web Technologies & Theory of Computation |
| 13 | Ms. Shruti Pednekar | Data Mining, Operating System |
| 14 | Ms. Sulana Rebelo | Data Mining & Machine learning |

Department of Information Technology

Dr. Nilesh B. Fal Dessai - Head of Department (Area of interest- Speech Technology, Natural Language Processing, Soft Computing, Genetic Algorithm)

| Sr. No. | Name of Faculty | Areas of Interest |
|---------|----------------------------------------------------------|---------------------------------------------------------------------|
| 1. | Dr. Aisha Fernandes | Software Engineering and Security |
| 2. | Ms. Vaishali Shirodkar | Database Management Systems, Data Mining, Brain Computer Interface |
| 3. | Mr. Ganesh V. Manerkar | Computer Networks, Indian knowledge Systems, Block Chain Technology |
| 3. | Ms. Deepali M. Raikar (Presently deputed to DTE, Goa) | Compilers, Theory of Computation & Optimization |
| 4. | Ms. Siddhi P. Naik | Image Processing, Cryptography |
| 5. | Mr. Mario Pinto | Operating System, Mobile Computing |
| 6. | Ms. Megha Nayak | Cloud Computing, Cryptography |
| 7. | Ms. Nadine Dias | Database Systems, Web Technology |
| 8. | Mr. Amogh Sanzgiri | Intelligent Agent, Data Mining, Soft Computing |
| 9. | Ms. Soniya Usgaonkar | Computer Graphics, Data Mining, Brain Computer Interface |
| 10. | Mr. Bipin Naik | Web Technology, Data structures |
| 11 | Ms. Aparna Rane | Compilers, Databases, computer organization |
| 12 | Ms. Diana Miranda | Machine Learning, Natural Language Processing |

Annexure - C
Important Contacts

| | | |
|----|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | Principal | Dr. Krupashankara M.S. Office, Main Building, GEC. Ph:2336301 Email: - ppl@gec.ac.in |
| 2. | Deputy Registrar | Ms. Durga D Kinlekar @ Naik Estt. Section, Main Building, GEC. Ph: 2336303 Email: - dr@gec.ac.in |
| 3. | Prof. In-charge, Academic | Dr. Anant J. Naik Academic Section, GEC. Ph: 2336306 Email: - ajn@gec.ac.in |
| 4. | Librarian | Dr. Vinay Shirodkar (In-charge Librarian) Library Building, GEC. Ph. 2336391 Email: - librarian@gec.ac.in |
| 5. | Assistant Registrar (Academic) | Mr. Ketan A. Naik Academic Section, GEC. Ph: 2336306 Email: - kn@gec.ac.in |
| 6. | Assistant Accounts Officer | Ms. Chitra A. Dhavalikar Account Section, Main Building, GEC. Ph: 2336304 Email:- ao@gec.ac.in |
| 7. | Head, Civil Engineering Dept. | Dr. A. K. S. Bhaduria Civil Engineering Dept. GEC. Ph: 2336318/9145752386 Email:- aksb@gec.ac.in |
| 8. | Head, Mechanical Engineering Dept. | Dr. Suraj S. Rane Mechanical Engineering Dept. GEC. Ph: 2336429/9890202390 Email:- ssr@gec.ac.in |

| | | |
|-----|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 9. | Head, Electrical & Electronics Engineering Dept. | Dr. Govind Ramrao Kunkolienker Electrical & Electronics Engineering Dept. GEC. Ph: 2336330/9420978274 Email:- grk@gec.ac.in |
| 10. | Head, Electronics & Telecommunication Engineering Dept. | Dr. Hassanali G. Virani Electronics & Telecommunication Engineering Dept. GEC. Ph: 2336340/341/9158614320 Email:- virani@gec.ac.in |
| 11. | Head, Computer Engineering Dept. | Dr. J.A. Laxminarayana, Computer Engineering Dept. GEC. Ph:2336352/9326124463 Email:- jal@gec.ac.in |
| 12. | Head, Information Technology Dept | Dr. Nilesh B. Fal Dessai Information Technology Dept, GEC. Ph: 2336361/9850409579 Email:- nfd@gec.ac.in |
| 13. | Head, Mining Engineering Dept. | Dr. Ulhas G. Sawaikar Mining Engineering Dept. GEC. Ph: 2336480/9422456117 Email:- ugs@gec.ac.in |
| 14. | Head, Science and Humanities Dept. | Dr. Sebestian Mesquita Science and Humanities Dept. GEC. Ph: 2336371/9226897659 Email:- sm@gec.ac.in |
| 15. | Chief Warden, Hostels | Dr. Ganesh Hegde Civil Engineering Dept. GEC. Ph: 9420978458 Email:- gh@gec.ac.in |
| 16. | Training & Placement | Dr. Manoj Choukuse T&P Cell, Main Building, GEC Ph:9423810809 Email:- placement@gec.ac.in |
| 17. | Public Information Office | Dr. Adlete Mascarenhas Main Building, GEC Ph: 9850090585 Email:- aaa@gec.ac.in |

| | | |
|-----|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 18. | Cultural In-charge | Dr. Milind Sakhardande Mechanical Engineering Dept. GEC. Ph: 2336328/9764964497 Email:- milind@gec.ac.in |
| 19. | Sports In-charge | Dr. Mahesh Caisucar Mechanical Engineering Dept., GEC. Ph: 2336391/9850459459 Email: - maheshc@gec.ac.in |
| 20. | Central Computing Facility | Dr. Nitesh Guinde Electronics & Telecommunication Engineering Dept. GEC. Ph: 2336442/9423821445 Email:- nitesh.guinde@gec.ac.in |
| 21. | Telephone/Wireless Communication | Dr. Shajahan Kutty Electronics & Telecommunication Engineering Dept. GEC. Ph: 2336349/9881217949 Email:- skutty@gec.ac.in |
| 22. | Women Cell | Prof. Ujwala Phadke Science and Humanities Dept. GEC. Ph: 2336373/9422440255 Email:- ujwala@gec.ac.in |
| 23. | Internal Complaints Committee | Dr. Sumitra Kandolkar Civil Engineering Dept. GEC. Ph:2336321/9762565036 Email:- sumitra@gec.ac.in |
| 24. | Workshop Section | Mr. Balkrishna Chodankar Assistant Workshop Suptd., GEC Ph:2336421/9822483951 Email:- balkrishna@gec.ac.in |

M. E Admission Committee- 2024-25

| | |
|----------------------------|------------------|
| Dr. Akshay V. Nigalye | Chairman |
| Dr. Suraj S. Rane | Member |
| Dr. Aisha Fernandes | Member |
| Prof. Jayesh Priolkar | Member |
| Prof. Sangam Borkar | Member |
| Prof. Manisha Naik Gaonkar | Member |
| Prof. Madhuraj K. Naik | Member |
| Mr. Ketan A. Naik | Member Secretary |

Annexure - 1

Government of Goa
GOA COLLEGE OF ENGINEERING, FARMAGUDI
Ponda- Goa, 403401, Phone -0832-2336301/302/306, Telfax : 0832-2335021
web: www.gec.ac.in, email: ppl@gec.ac.in

CASTE CERTIFICATE (SC / ST)

1. This is to certify that Shri/Kum. _____

Son/daughter of _____ of village / town

_____ of the state of Goa belongs to the _____

Caste / Tribe which is recognised as a Scheduled Caste under:

The Constitution (Goa, Daman and Diu) Scheduled Caste order, 1968

The Constitution (Goa, Daman and Diu) Scheduled Tribes order, 1968

2. Shri/Kum. _____ and or his/her family ordinarily resides in village/town _____ of Goa and is non-migrant / migrant (from the State of _____) as per the Presidential Order dated 19th February, 1968.

Signature: _____

Place: _____

(with seal of Office)

Date: _____

Designation: Deputy Collector

NOTE: The Term "Ordinarily reside" used here will have the same meaning as in section 20 of the Representation of the Peoples Act, 1950.

Annexure - 2

Government of Goa
GOA COLLEGE OF ENGINEERING, FARMAGUDI
Ponda- Goa, 403401, Phone -0832-2336301/302/306, Telfax : 0832-2335021
web: www.gec.ac.in, email: ppl@gec.ac.in

CASTE CERTIFICATE (OBC)

FORM OF BACKWARD CLASS CERTIFICATE
OFFICE OF DISTRICT MAGISTRATE /SUB-DIVISIONAL MAGISTRATE/
MAMLATDAR

This is to certify that Shri/Kum. _____ son /daughter of _____ of village / town _____ of the State of Goa belongs to the _____ caste/ community, which is recognised as a backward class under the Government of India, Ministry of Welfare, resolution No.12011/68/93-BCC (C) dated 10th September, 1993 and resolution No. 12011/44/96-BCC (C) dated 6th December, 1996, published in Gazette of India, Extraordinary, Part I, Section I, dated 13th Sept, 1993 and dated 11th December, 1996 respectively, as also mentioned under Govt. of Goa notification No. 13/3/84-LAWD/OBC dated 12.6.1987, No. 13 /25/ 92-SWDPart dated 4.10.1995, No. 13/1/97-SWD dated 3.3.1997, No. dated 13.5.1997, No. dated 12.12.1997, No. dated 23.9.1998, No. dated 30.6.2000 as amended.

Shri/Kum. _____ and or his/her family ordinarily resides at House No. _____ in village / town _____ Taluka _____ of Goa. It is certified that he/she as on the date of issue of this certificate belongs to persons/sections of non-creamy / creamy layer mentioned in column 3 of the schedule of the Government of India, Department of Personnel & Training O.M. No. 36012/22/93/Est)SCT) of 1993.

Shri/Kum. _____ and or his/her family ordinarily resides in village/town _____ of Goa and is non-migrant / migrant (from the state of _____) as per the presidential order dated 19th February, 1968.

Place: _____

Signature:

Date: _____

Designation:
(with seal of Office)

NOTE: The Term "Ordinarily reside" used here will have the same meaning as in section 20 of the Representation of the Peoples Act, 1950.

Annexure - 3

SPONSORSHIP CERTIFICATE FROM THE EMPLOYER *(for sponsored candidates only)*

SPONSORSHIP CERTIFICATE

(Please note that the Sponsorship Certificate must be sent on the Company's Authentic Letter Head)

We, _____ hereby Sponsor
Shri/Kum/Mrs. _____, Who is Employed
with us from ___/___/___ to ___/___/___ for M.E. Programme
_____(branch) at Goa College of Engineering -
Farmagudi, Ponda Goa. He/ She will be Permitted to attend Course work/lecture
for the entire durations of the Programme.

Name of the Institute/ Organisation

Signature of the employer with seal

Date:-

Annexure - 4

9. FORMAT OF INCOME & ASSETS CERTIFICATE TO BE PRODUCED BY ECONOMICALLY WEAKER SECTION(EWS)

(To be issued by Mamlatdar of concerned Taluka)

Certificate No. _____

Date: _____

VALID FOR THE YEAR _____

This is to certify that Shri/Kum. _____ son/daughter/wife of _____ permanent resident of _____, Village / Street _____, Post Office District _____ in the State/Union Territory _____ Pin Code _____ whose photograph is attested below belongs to Economically Weaker Sections, since the gross annual income* of his/her 'family**' is below Rs. 8 lakhs (Rupees Eight Lakhs only) for the financial year _____ is/her family does not own or possess any of the following assets***:

- I. 5 acres of agricultural land above;
- II. Residential flat of 1000 sq.ft. and above:
- III. Residential plot of 100 sq.yards and above in notified municipalities:
- IV. Residential plot of 200 sq.yards and above in areas other than notified municipalities:

2. Shri/Smt./Kumari _____ belongs to the _____ caste which is not recognised as a Scheduled Caste, Scheduled Tribe and Other Backward Classes (Central List)

Signature with seal of

Recent
Passport size
attested
photograph of
the applicant

Office _____

Name _____

Designation _____

Note:

*Income covered all sources i.e. salary, agriculture, business, Profession, etc.

**The term 'Family' for this purpose include the person, who seeks benefit of reservation, his/her parents and siblings below the age of 18 years as also his/her spouse and children below the age of 18 years.

***The property held by a 'Family' in different locations or different places/cities have been clubbed while applying the land or property holding test to determine EWS status.

Annexure - 5

DECLARATION OF APPLICANT

Certified that I, _____ have read and accepted the provisions of the Prospectus, and have enclosed the self-attested copies of all the certificates in proper order as required, and submitted the application complete in all respects. In the event of my application found to be deficient or incomplete, and rejected by Admitting Authority, I shall be held responsible for the same. I, _____ hereby declare that the particulars furnished above are true, complete, and correct to the best of my knowledge and belief. I am fully aware that in the event of any information being found false or incorrect, or ineligible, being detected before or after the admission, appropriate action as deemed fit, by the Competent Authority, can be taken against me.

PLACE: _____

(Signature of the Applicant)

DATE: _____

Name as signed (Write in Capital letters) _____

ADDRESS : _____

MOBILE: _____ (PROVIDE MOBILE NO. WHERE APPLICANT CAN
BE CONTACTED) ADDITIONAL MOBILE NO. / LANDLINE NO.:



M.E. ADMISSION 2024

CONTACT INFORMATION

ADMINISTRATION

**Dr. M.S.KRUPASHANKARA
PRINCIPAL**

Tel:0832-26336301/303
ppl@gec.ac.in
Mobile:9421281420

OTHER CONTACTS:

Dr. Anant J. Naik
Prof.InCharge Academic & Exam
Tel:0832-2336306
Email: ajn@gec.ac.in|Mob.:9850466424

Mr. Ketan Ashok. Naik
Assistant Registrar(Academic)
Tel:0832-2336306
Email:kn@gec.ac.in

Dr. Milind Sakhardande
Incharge Cultural Affairs
Tel:0832-2336328
Email:milind@gec.ac.in|Mob.:9527527375

Ms. Durga Kinlekar @Naik
Deputy Registrar
Tel:2336302/303
Email: dr@gec.ac.in

Dr. Vinay Shirodkar
Prof. Incharge -Library
Tel:0832-2336390/391
Email: librarian@gec.ac.in

Dr. Ganesh Hegde
Chief Warden, Hostel
Mob.:9420978458
Email: gh@gec.ac.in



GOVT. OF GOA
GOA COLLEGE OF ENGINEERING
Bhausahab Bandodkar Technical Education Complex
Farmagudi, Ponda- Goa
Ph: 0832-2336306, Fax: 0832-2336301, email: ppl@gec.ac.in

