



**ST JOSEPH
ENGINEERING COLLEGE
MANGALURU**



TESTING & CONSULTANCY BROCHURE

**Department of
CIVIL ENGINEERING**



ABOUT US

SJEC is affiliated to Visvesvaraya Technological University, Belgaum, Karnataka and is recognized by AICTE, New Delhi. Established in 2002, the college offers top class education in Engineering, Business Administration and Computer Applications at UG, PG and Research Levels. Presently about 2500 students are studying in the college.

The Department of Civil Engineering was established in the year 2012. The department aims to produce graduate engineers equipped for careers in public and private sector. The faculty members are well trained in all major specializations of Civil Engineering. Spacious and well-equipped state-of-the-art laboratories and computing facilities are the mainstay of the department. These fulfill the needs of students and consultancy works.





WATER QUALITY ANALYSIS

- Drinking water quality parameters such as sulphate, iron, Phosphate, pH, Total Dissolved Solids, Chloride, Hardness, Dissolved Oxygen, Residual Chlorine, Sodium, Potassium And Chlorine Demand.
- Industrial wastewater analysis such as Chemical Oxygen Demand (COD), Biochemical Oxygen Demand (BOD), Dissolved Oxygen (DO), trace elements.
- Tests on water sample such as Odour, Colour, Turbidity, MPN, Iron, Acidity, Alkalinity, Total Nitrogen, Settleable solids, Suspended solids, Fixed suspended/ Dissolved solids, Coagulant dosage, Conductivity.
- Microbiological Test on industrial and waste water.
- Design of waste water treatment plant for small scale and large scale industries.
- Design of water supply and sanitary system for village and town.

TESTS CONDUCTED ON MATERIALS AND CONCRETE

1. TESTS ON CEMENT

- Normal Consistency
- Initial & Final Setting Test
- Specific Gravity
- Fineness by Air Permeability
- Soundness
- Compressive Strength (For 3 cubes)
- Deleterious Materials



2. TESTS ON BITUMEN

- Flash Point
- Fire Point
- Specific Gravity
- Ductility
- Penetration
- Softening Point
- Viscosity
- Loss on Heating
- Bitumen Extraction
- Marshall Specimen Test



3. TESTS ON CONCRETE

- Flexural Test of CC Beam
(10x10x50 cm size)
- Slump Test
- Vee Bee Test
- Compaction Factor Test
- Calibration of Proving Ring
- Permeability Tests on Concrete Cubes
- NDT of Concrete by Rebound Hammer
- Modulus of elasticity



LIST OF EXPERIMENTS UNDER GEO TECHNICAL ENGINEERING

1. Specific gravity (Course Grained Soil)
2. Specific gravity (Fine Grained Soil)
3. Natural moisture content
4. Sieve Analysis
5. Combined analysis with graphs
6. Permeability tests
 - Constant Head Method
 - Variable Head Method
7. Standard proctor compaction
8. In-situ Density
9. Swelling pressure
 - Liquid limit & plastic limit
 - Shrinkage limit
10. Laboratory CBR Test
11. Direct shear Test
12. Unconfined compressions
13. Triaxial Shear test
14. Vane Shear test
15. Triaxial Shear with Pore pressure
16. Modified proctor test
17. Sand replacement Method
18. Unit weight of Rock
19. Crushing strength (Including Sample Preparation)
20. Consolidation Tests



LIST OF EXPERIMENTS UNDER STRUCTURAL ENGINEERING (BMT LAB)

1) TESTS ON COARSE AGGREGATES

- Sieve Analysis
- Specific Gravity
- Water Absorption
- Crushing Value
- Impact Value
- Abrasion Value
- Flakiness Index
- Elongation Index
- Bulk Density

2) TESTS ON FINE AGGREGATES

- Sieve Analysis
- Specific Gravity
- Bulk Density
- Bulking Factor
- Water Absorption
- Silt Content
- Deleterious Materials
- Moisture Content

3) TESTS ON CONCRETE SOLID/HOLLOW BLOCKS

- Compressive Strength (For 3 blocks)
- Water Absorption
- Accelerated curing Tank charges for one set

4) TESTS ON BURNT CLAY BRICKS

- Compressive Strength (3 no.)
- Water Absorption (3 no.)
- Efflorescence
- Size & Weight Test

5) TESTS ON MANGALORE ROOFING TILES

- Breaking Load (3 no.)
- Water Absorption
- Size & Weight Test
- Permeability Test





6) TESTS ON LATERITE STONE

- Compressive Strength (3 no.)
- Water Absorption (3 no.)

7) TESTS ON INTERLOCKS/ PAVER BLOCKS

- Compressive Strength (3 no.)
- Water Absorption (3 no.)
- Flexural Strength

8) TESTS ON MOSAIC/CERAMIC TILES

- Breaking Load (3 no.)
- Water Absorption
- Bend Test (3 no.)

9) TESTS ON GLAZED TILES

- Impact Strength
- Water Absorption
- Crazing Test
- Chemical Resistance Test

10) TESTS ON WOOD

- Moisture Content*
- Glue Addition Test*
- Knife Test*

11) TESTS ON MS/TOR/ TMT SAMPLES

- Tension test
- Torsion Test

DEPARTMENT VISION

"To impart technical education and nurture research in Civil Engineering to meet the needs of the society."



DEPARTMENT MISSION

- ▶ Deliver curricula for students to meet the local, national and global demands of industry, society and research.
- ▶ Strengthen the skills of students through interaction with industry.
- ▶ Promote research and consultancy in all aspects of Civil engineering.
- ▶ Provide skilled training in emerging aspects of design and construction.
- ▶ Develop in students and staff the spirit of innovation and professional ethics.



Message from HOD

The Civil Engineering Department at SJEC in a short period of time has witnessed a rapid growth and diversification, which is really strengthening our influence within the student and engineering community. One priority will be to capitalize on these strengths by initiating and enhancing the Consultancy works along with academic, research, and outreach programs. The department is striving hard with full dedication and commitment to achieve its goals and service to the society.



Dr Yajnheswaran B
Professor & HOD-Civil Dept



DEPARTMENT OF CIVIL ENGINEERING St Joseph Engineering College

Vamanjoor, Mangaluru - 575 028, Karnataka | Ph : 91-824-2868100 / 2263753 / 54 / 55 / 56
FAX: 91-824-2263751 | E-mail: sjec@sjec.ac.in | www.sjec.ac.in