

Civil Engg  
Dept.

GATE-2024  
Crash Course

Student List

2022-23  
(Even Sem)

S J P N Trust's

# Hirasugar Institute of Technology, Nidasoshi

*Inculcating Values. Promoting Prosperity*

Approved by AICTE, Recognized by Govt. of Karnataka and Affiliated to VTU Belagavi.  
Accredited at 'A' Grade by NAAC & Programmes Accredited by NBA: CSE & ECE

## GATE-2024 Crash Course Registered Student List

S.No	Name	USN
01	Chetan Mahaveer Alagur	2HN20CV001
02	Nayana Bharatesh Patil	2HN20CV002
03	Pankaj Ramesh Ankale	2HN20CV003
04	Praveen Ashok Daddannavar	2HN20CV004
05	Rohan Ramesh Devamane	2HN20CV005
06	Ruksar Vazir Jambhai .	2HN20CV006
07	Sunilgouda Iragouda Patil	2HN20CV007
08	Vijayakumar Jinnappa Imader	2HN20CV008

  
20/03/2023  
GATE Coordinator

  
20/03/2023  
HOD  
Civil Engineering  
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## GATE 2024 Syllabus and Faculty List

Staff Name	GATE 2024 Syllabus
1 Prof. S. M. Chandrakanth	<b>Transportation Infrastructure</b> Geometric design of highways - cross-sectional elements, sight distances, horizontal and vertical alignments. Geometric design of railway Track - Speed and Cant. Concept of airport runway length, calculations and corrections; taxiway and exit taxiway design.
2 Prof. Preethi. R. Patil	<b>Engineering Mechanics:</b> System of forces, free-body diagrams, equilibrium equations: Internal forces in structures; Frictions and its applications; Centre of mass; Free Vibrations of undamped SDOF system. <b>Solid Mechanics:</b> Bending moment and shear force in statically determinate beams; Simple stress and strain relationships; Simple bending theory, flexural and shear stresses, shear centre; Uniform torsion. Transformation of stress; buckling of column, combined and direct bending stresses.
3 Prof. Vishwanath. I. Patil	<b>Structural Analysis:</b> Statically determinate and indeterminate structures by force/ energy methods; Method of superposition; Analysis of trusses, arches, beams, cables and frames; Displacement methods: Slope deflection and moment distribution methods; Influence lines; Stiffness and flexibility methods of structural analysis.
4 Prof. Sudarshan. V. Jore	<b>Soil Mechanics:</b> Three-phase system and phase relationships, index properties; Unified and Indian standard soil classification system; Permeability - one dimensional flow, Seepage through soils - two - dimensional flow, flow nets, uplift pressure, piping, capillarity, seepage force; Principle of effective stress and quicksand condition; Compaction of soils; Onedimensional consolidation, time rate of consolidation; Shear Strength, Mohr's circle, effective and total shear strength parameters, Stress-Strain characteristics of clays and sand; Stress paths.
5 Prof. S. S. Beesanakoppa	<b>Fluid Mechanics:</b> Properties of fluids, fluid statics; Continuity, momentum and energy equations and their applications; Potential flow, Laminar and turbulent flow; Flow in pipes, pipe networks; Concept of boundary layer and its growth; Concept of lift and drag. <b>Hydraulics:</b> Forces on immersed bodies; Flow measurement in channels and pipes; Dimensional analysis and hydraulic similitude; Channel Hydraulics - Energy-depth relationships, specific energy, critical flow, hydraulic jump, uniform flow, gradually varied flow and

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		water surface profiles.
5	Prof. S. M. Chandrakanth	<p><b>Highway Pavements:</b>                  Highway materials - desirable properties and tests; Desirable properties of bituminous paving mixes; Design factors for flexible and rigid pavements; Design of flexible and rigid pavement using IRC codes                  Traffic Engineering: Traffic studies on flow and speed. peak hour factor, accident study, statistical analysis of traffic data: Microscopic and macroscopic parameters of traffic flow, fundamental relationships; Traffic signs; Signal design by Webster's method; Types of intersections; Highway capacity.</p>
7	Prof. Preethi. R. Patil	<p><b>Structural Analysis:</b>                  Statically determinate and indeterminate structures by force/ energy methods; Method of superposition; Analysis of trusses, arches, beams, cables and frames; Displacement methods: Slope deflection and moment distribution methods; Influence lines; Stiffness and flexibility methods of structural analysis.  <b>Concrete Structures &amp; Steel Structures:</b> Working stress and Limit state design concepts; Design of beams, slabs, columns; Bond and development length; Prestressed concrete beams. Working stress and Limit state design concepts; Design of tension and compression members, beams and beam- columns, column bases; Connections - simple and eccentric, beam-column connections, plate girders and trusses; Concept of plastic analysis - beams and frames.</p>
8	Prof. Vishwanath. I. Patil	<p><b>Construction Materials and Management:</b> Construction Materials: Structural Steel – Composition, material properties and behavior; Concrete - Constituents, mix design, short term and long-term properties. Construction Management: Types of construction projects; Project planning and network analysis - PERT and CPM: Cost estimation.  <b>Geomatics Engineering:</b>                  Principles of surveying; Errors and their adjustment; Maps - scale, coordinate system; Distance and angle measurement - Levelling and trigonometric levelling; Traversing and triangulation survey; Total station; Horizontal and vertical curves. Photogrammetry and Remote Sensing - Scale, flying height; Basics of remote sensing and GIS.</p>
9	Prof. Sudarshan. V. Jore	<p><b>Foundation Engineering:</b>                  Sub-surface investigations - Drilling bore holes, sampling, plate load test, standard penetration and cone penetration tests; Earth pressure theories - Rankine and Coulomb; Stability of slopes – Finite and infinite slopes, Bishop's method; Stress distribution in soils – Boussinesq's theory; Pressure bulbs, Shallow foundations – Terzaghi's and Meyerhoff's bearing capacity theories, effect of water table; Combined</p>

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10

Prof. S. S. Beesanakoppa

footing and raft foundation; Contact pressure; Settlement analysis in sands and clays; Deep foundations – dynamic and static formulae. Axial load capacity of piles in sands and clays, pile load test, pile under lateral loading, pile group efficiency, negative skin friction

**Water and Waste Water Quality and Treatment:**

Basics of water quality standards – Physical, chemical and biological parameters; Water quality index; Unit processes and operations; Water requirement; Water distribution system; Drinking water treatment. Sewerage system design, quantity of domestic wastewater, primary and secondary treatment. Effluent discharge standards; Sludge disposal; Reuse of treated sewage for different applications. Air Pollution: Types of pollutants, their sources and impacts, air pollution control, air quality standards, Air quality Index and limits. Municipal Solid Wastes: Characteristics, generation, collection and transportation of solid wastes, engineered systems for solid waste management (reuse/ recycle, energy recovery, treatment and disposal).

  
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**GATE-2024 CRASH COURSE**  
 Time table

Date	2:00 pm 2:55 pm	2:55 pm 3:50 pm	3:50 pm 4:45 pm	Date	2:00 pm 2:55 pm	2:55 pm 3:50 pm	3:50 pm 4:45 pm
27-05-2023	---	SMC	PRP	29-05-2023	---	SVJ	SSB
28-05-2023	VIP	SVJ	SSB	30-05-2023	SMC	VIP	PRP
03-06-2023	---	SMC	PRP	05-06-2023	---	SVJ	SSB
04-06-2023	VIP	SVJ	SSB	06-06-2023	SMC	VIP	PRP
10-06-2023	---	SMC	PRP	12-06-2023	---	SVJ	SSB
11-06-2023	VIP	SVJ	SSB	13-06-2023	SMC	VIP	PRP
17-06-2023	---	SMC	PRP	19-06-2023	---	SVJ	SSB
18-06-2023	VIP	SVJ	SSB	20-06-2023	SMC	VIP	PRP
02-07-2023	SMC	VIP	PRP	26-06-2023	---	SVJ	SSB
08-07-2023	---	SVJ	SSB	27-06-2023	SMC	VIP	PRP
09-07-2023	SMC	VIP	PRP				
15-07-2023	---	SVJ	SSB				
16-07-2023	SMC	VIP	PRP				

  
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