



GATE 2022 CRASH COURSE

	S J P N Trust's Hirasugar Institute of Technology, Nidasoshi <i>Inculcating Values, Promoting Prosperity</i> 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, EEE & ME.	ECE Dept.
		Gate-2022 Crash Course
		2021-22(Odd Sem.)

08/11/2021

NOTICE

All the 7th semester students are hereby informed that department of electronics and communication engineering is conducting Gate-2022 crash course from 15/11/2021 for Gate-2022 aspirants. Therefore students those who have registered for Gate-2022 are informed to provide Name and USN to 7th semester class teacher on or before 12/11/2021.


Gate Co-ordinator


HOD 8/11/2021
Electronics & Commn. Engg. Dept.
HSIT NIDASOSHI



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ECE Dept.
Gate Coaching
Time Table
2021-22(Odd Sem.)

Gate Coaching Time Table

Sl. No.	Faculty Name	VII semester
		2.55 pm To 4:45 pm
1	Prof. S. B. Akkole	15/11/2021
2	Dr. R. R. Maggavi	25/10/2021
3	Prof. S. S. Kamate	29/11/2021
4	Prof. S. S. Malaj	06/12/2021
5	Prof. D. M. Kumbhar	13/12/2021
6	Prof. S. S. Patil	27/12/2021
7	Prof. D. B. Madihalli	03/01/2022
8	Prof. P. V. Patil	10/01/2022
9	Prof. S. S. Ittannavar	17/01/2022
10	Prof. B. P. Khot	24/01/2022


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ECE Dept.
Gate-2022
Crash Course
Syllabus
2021-22(Odd Sem.)

Gate-2022 syllabus and Faculty List

Sl. No.	Staff Name	Gate 2022 Syllabus
1	Prof. S. B. Akkole	<ul style="list-style-type: none">Random processes: autocorrelation and power spectral density, properties of white noise, filtering of random signals through LTI systems.Analog communications: amplitude modulation and demodulation, angle modulation and demodulation, spectra of AM and FM, superheterodyne receivers.Information theory: entropy, mutual information and channel capacity theorem.
2	Dr. R. R. Maggavi	<ul style="list-style-type: none">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.
3	Prof. S. S. Kamate	<ul style="list-style-type: none">Maxwell's equations: differential and integral forms and their interpretation, boundary conditions, wave equation, Poynting vector.Plane waves and properties: reflection and refraction, polarization, phase and group velocity, propagation through various media, skin depth.Transmission lines: equations, characteristic impedance, impedance matching, impedance transformation, S-parameters, Smith chart.Rectangular and circular waveguides, light propagation in optical fibers, dipole and monopole antennas, linear antenna arrays.
4	Prof. S. S. Malaj	<ul style="list-style-type: none">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 laglead compensation; State variable model and solution of state equation of LTI systems.
5	Prof. S. S. Patil	<ul style="list-style-type: none">Diode circuits: clipping, clamping and rectifiers.BJT and MOSFET amplifiers: biasing, ac coupling, small signal analysis, frequency response. Current mirrors and differential amplifiers.Op-amp circuits: Amplifiers, summers, differentiators, integrators, active filters, Schmitt triggers and oscillators.
6	Prof. D. M. Kumbhar	<ul style="list-style-type: none">Energy bands in intrinsic and extrinsic semiconductors, equilibrium carrier concentration, direct and indirect band-gap semiconductors.Carrier transport: diffusion current, drift current, mobility and resistivity, generation and recombination of carriers, Poisson and continuity equations.P-N junction, Zener diode, BJT, MOS capacitor, MOSFET, LED, photo diode and solar cell.



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Gate-2022 Crash Course
Syllabus
2021-22(Odd Sem.)

Sl. No.	Staff Name	Gate 2020 Syllabus
7	Prof. D. B. Madihalli	<ul style="list-style-type: none">• 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.
8	Prof. P. V. Patil	<ul style="list-style-type: none">• Circuit analysis: Node and mesh analysis, superposition, Thevenin's theorem, Norton's theorem, reciprocity. Sinusoidal steady state analysis: phasors, complex power, maximum power transfer. Time and frequency domain analysis of linear circuits: RL, RC and RLC circuits, solution of network equations using Laplace transform.• Linear 2-port network parameters, wye-delta transformation.
9	Prof. S. S. Ittannavar	<ul style="list-style-type: none">• Digital communications: PCM, DPCM, digital modulation schemes (ASK, PSK, FSK, QAM), bandwidth, inter-symbol interference, MAP, ML detection, matched filter receiver, SNR and BER.• Fundamentals of error correction, Hamming codes, CRC.
10	Prof. B. P. Khot	<ul style="list-style-type: none">• Semiconductor memories: ROM, SRAM, DRAM.• Computer organization: Machine instructions and addressing modes, ALU, data-path and control unit, instruction pipelining.

B. Khot
Gate Co-ordinator

[Signature]
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Gate-2022
Crash Course

Student List

2021-22(Odd Sem.)

Gate-2022 Crash Course Registered Student List

S.N.	Name	USN
1	AMRUTA BOMMANNAVAR	2HN18EC006
2	BHAGYASHRI PATIL	2HN18EC008
3	JAYASHREE MORE	2HN18EC010
4	TEJU NINGANURE	2HN18EC032
5	NILEEMA NAIK	2HN18EC036
6	SNEHAL.S.KAGI	2HN19EC400
7	TANUJA.T.KHARISINGE	2HN19EC402

Pachot
Gate Co-ordinator

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