



GYANSUTRA

SEMESTER EXAM SUCCESS :
YOUR GO TO GUIDE



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Dear College Freshies,
Welcome to the comprehensive compilation of notes and study materials that we have meticulously put together to support you in your academic journey. As you embark on this new phase of your college experience, we are excited to share these resources with you to help you excel in your studies.

The primary aim of this document is to provide you with a valuable resource that consolidates key concepts, notes, and study materials across various subjects. Our goal is to support you in your learning process and empower you to achieve academic success.

Within this document, you will find each and every subject and topics of first year covered, including lecture notes, handwritten notes, short notes, playlists, tutorial sheets, Class Tests, previous year papers and even practical files too. Each section is carefully curated to offer a comprehensive overview of the essential information you need to succeed in your coursework.

To make the most of these materials, we recommend using them for revision, exam preparation, and as supplementary study aids. Remember, these resources are here to support you in your academic endeavors.

As you delve into these notes and study materials, remember that you have the potential to achieve great things. Stay focused, stay motivated, and never hesitate to reach out if you need help or guidance. We believe in your abilities and we are here to support you every step of the way.

We hope that this compilation serves as a valuable tool in your academic pursuits and helps you reach your full potential. Best of luck in your studies, and remember that with dedication and perseverance, you can accomplish anything.

Warm regards,
Nakshatra, The Astronomy and Mathematics Society of NSUT.

Crafted With  by:

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INDEX

S. No.	Subject	Page No.
1	Mathematics-1	6
2	English	7
3	Environmental Science and Green Chemistry	8
4	BME (Basic of Mechanical Engineering)	9
5	BCE (Basics of Civil Engineering)	10
6	CP (Computer Programming)	11
7	FEE (Fundamental of Electrical Engineering)	12
8	PEE (Principle of Electrical Engineering)	13
9	Quantum Physics	14
10	OWO (Oscillations, Waves, Optics)	15
11	ADE (Analog and Digital Electronics)	16
12	EDC (Electronic Devices and Circuits)	17
13	PPPI (Principles of Photogrammetry and Photo Interpretation)	18
14	Engineering Mechanics	19
15	Fundamentals of Remote Sensing	20
16	Mathematics-2	21
17	DSA (Data Structure and Algorithm)	22

18	<u>Discrete Structures</u>	23
19	<u>DLD (Digital Logic Design)</u>	24
20	<u>EM (Electrical Measurements)</u>	25
21	<u>ECA (Electrical Circuit Analysis)</u>	26
22	<u>NAS (Network Analysis and Synthesis)</u>	27
23	<u>EMT (Introduction to Electromagnetic Theory)</u>	28
24	<u>Data Structures</u>	29
25	<u>Surveying</u>	30
26	<u>EG-CAD</u>	31
27	<u>POM (Physics of Materials)</u>	32
28	<u>Advance Chemistry</u>	33
29	<u>IBT (Introduction to Biotechnology)</u>	34
30	<u>Strength of Materials</u>	35
31	<u>Engineering Materials and Metallurgy</u>	36
32	<u>Thermal Engineering</u>	37
33	<u>Basic Fluid Mechanics</u>	38
34	<u>Applied Physics</u>	39
35	<u>Design Thinking</u>	40
36	<u>Basic Of ECE</u>	41

Mathematics-1

Syllabus: [FCMT0101_Mathematics-1](#)

Recommended book: [Jaggi Mathur](#)

Unit	Notes	Playlist
Unit-1:	Hyperbolic Functions	Unit-1
Unit-2:	Successive Differentiation	Unit-2
Unit-3:	Application of Integrals , Integration formulas , Gamma and Beta functions	Unit-3
Unit-4:	Multiple Integrals	Unit-4
Unit-5:	Infinite Series , Maclaurin's and Taylor's Theoram	Unit-5

Revision Notes: [Complete short notes](#)

Tutorial sheets:

Tut-Sheet No.	Tut Sheet Topic	Tut Sheet Solution
1	Limit,continuity, IVT,differentiability, hyperbolic functions	Tut-1 (Solutions)
2	Tut-2	Tut-2 (Solutions)
3	Partial derivatives, Euler's Theorem, Change of variable, Taylor's Theorem.	Tut-3 (Solutions)
4	Tut-4	Tut-4(Solutions)
5	Double mid Tripe intcgral,change of variable and its appli-cation,beta and Gamma function	Tut-5(Solutions)

Previous Year Questions :

[Endsems PYQs](#)

[Midsems PYQs](#)

English

Syllabus : [English Syllabus](#)

Books : [Book \(Mainly for writing section \)](#)

Lecture Notes: [Complete Notes](#)

Practical file: [File](#)

Previous Year Questions :

[Endsems PYQs](#)

[Midsems PYQs](#)



Environmental & Green Chemistry

Lecture Notes:

- Unit-1 [Introduction to Environmental Chemistry](#)
Unit-2 [Water Chemistry](#) [Numericals](#)
Unit-3 [Green Chemistry](#)
Unit-4 [Green fuel](#) and [Bio-Polymer Chemistry](#)
Unit-5 [Chromatography](#) and [Instrumental methods of analysis](#)

Handwritten Notes: [Unit 2 to 5](#)

Question Bank:

Question Bank	QB-1	QB-2
---------------	----------------------	----------------------

Practical file: [Practical file](#)

Previous Year Questions :

[Endsem PYQs](#)
[Midsem PYQs](#)

NAKSHATRA
THE ASTRONOMY AND MATHEMATICS SOCIETY

Basic Of Mechanical Engineering

Syllabus: [Syllabus](#)

Notes:

Unit-1 : [Introduction to Engineering Mechanics](#)

Unit-2: [Introduction to Strength of Materials](#)

Unit-3: [Introduction to Thermodynamics](#)

Unit-4: [Introduction to Internal Combustion \(IC\) Engines](#)

Unit-5: [Introduction to Fluid Dynamics](#)

Previous Year Questions:

[Endsems PYQs](#)

[Midsems PYQs](#)

NAKSHATRA
THE ASTRONOMY AND MATHEMATICS SOCIETY

Basic Of Civil Engineering

Ashi Mam (Lecture Notes):

Unit-1 : [Intro to Civil Engineering & Civil Engineering Materials](#)

Unit-2 : [Building Construction and Building Services](#)

Unit-3 : [Introduction to Surveying And Levelling](#)

Unit-4 : [Basics of Soil Mechanics and Pavement Engineering](#)

Unit-5 : [Advancements in Civil Engineering](#)

Shemin Sir (Lecture Notes):

Unit-1 : [Intro to Civil Engineering & Civil Engineering Materials](#)

Unit-2 : [Building Construction and Building Services](#)

Unit-3 : [Introduction to Surveying And Levelling](#)

Unit-4 : [Basics of Soil Mechanics and Pavement Engineering](#)

Unit-5 : [Advancements in Civil Engineering](#) , [Green Building](#) , [Mass, Transit System](#)

Previous Year Questions :

[Endsems](#)

[Midsems](#)

Handwritten Notes : [Complete Handwritten Notes](#)

Assignments & Numericals : [Assignments & Numericals](#)

Important Topics : [Important Topics](#)

Computer Programming

Syllabus: [Syllabus](#)

Playlists:

Unit-1: [Introduction to Python Programming](#)

Unit-2: [OOps and Lambda function](#)

Unit-3: [Arrays and Strings](#)

Unit-4: [File and Exception Handling](#)

Unit-5: [Matplotlib](#) and [Flask](#)

Typed notes: [Notes](#)

Code with Harry notes:

Python Complete Note	OOps	Cheatsheet
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Assignment and Sample Question:

S.NO.	Assignment	Solution
1	Assignment-1	Assignment-1(Solution)
2	Assignment-2	Assignment-2(Solution)
3	Sample Question	Solutions

Practical file: [File](#)

Previous Year Questions :

[Endsems PYQs](#)

[Midsems PYQs](#)

Fundamental of Electrical Engineering

Syllabus: [Syllabus](#)

Books: [Mc Graw Hill](#)

Notes:

Unit-1: [Measurements](#)

Unit-2: [AC & DC Circuits](#)

Unit-3: [Transformer](#)

Unit-4: [Rotating Machines](#)

Unit-5: [Power Systems](#)

Complete FEE Notes: [Complete FEE](#)

Previous Year Questions :

[Endsems PYQs](#)

[Midsems PYQs](#)



Principle of Electrical Engineering

Syllabus : [Syllabus](#)

Books : [Books](#)

Notes:

Unit-1 : [D.C. Circuits](#)

Unit-2 : [AC Circuits](#)

Unit-3 : [Magnetic Circuits](#)

Unit-4 : [Signals](#)

Unit-5 : [Systems](#)

Complete OneShot Notes : [Complete Syllabus Notes](#)

Practical File : [PEE Practical File](#)

Playlists :

[For Units 1 , 2 and 3](#) (First 32 videos)

[For Units 4 and 5](#) (First 19 videos)

Previous Year Questions :

[Endsems PYQs](#)

[Midsems PYQs](#)

Quantum Physics

Lecture Notes:

Unit-1: [Unit-1](#)

Unit-2: [Unit-2](#)

Unit-3: [Unit-3](#)

Unit-4: [Unit-4](#)

Unit-5: [Unit-5](#)

Problem Questions of Unit-1 & 2:

[Part-1](#)

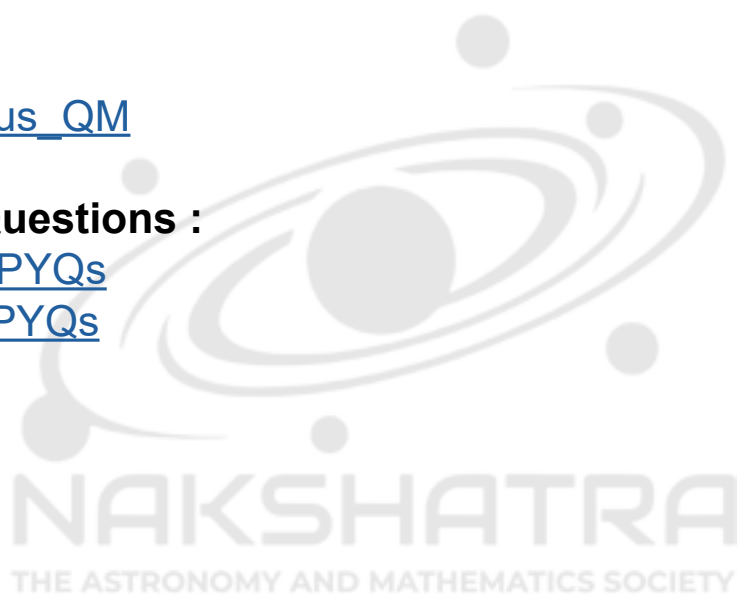
[Part-2](#)

Syllabus: [Syllabus_QM](#)

Previous Year Questions :

[Endsems PYQs](#)

[Midsems PYQs](#)



Oscillations , Waves , Optics

Syllabus: [Syllabus](#)

Book preferred: [AK Jha](#)

Notes:

Unit-1: [Introduction to Oscillations and waves](#)

Unit-2: [Wave motion](#)

Unit-3: [Wave Optics](#)

Unit-4: [Lasers](#)

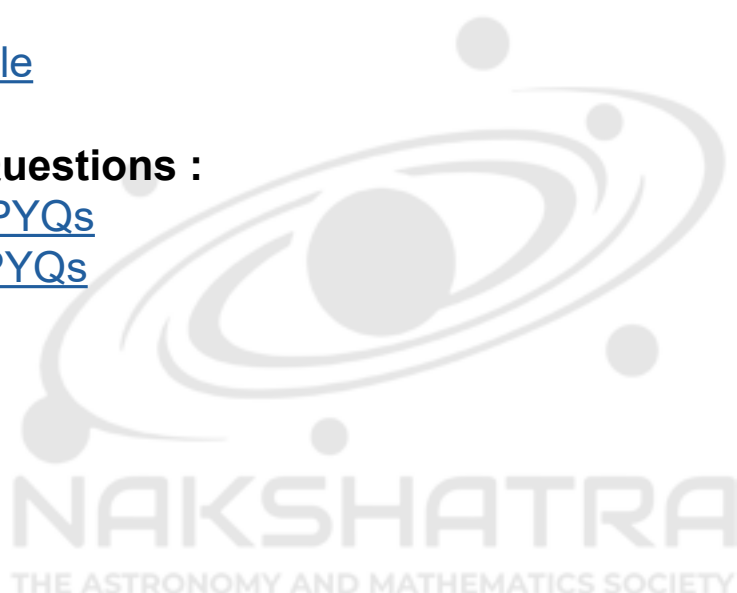
Unit-5: [Fibre Optics](#)

Practical File: [File](#)

Previous Year Questions :

[Endsems PYQs](#)

[Midsems PYQs](#)



Analog & Digital Electronics

Syllabus: [Syllabus](#)

Books suggested:

[Sedra Smith](#) (Preferred)

[Boylestad](#)

[Balbir Kumar](#)

Notes:

Unit-1: [Diode and Applications](#)

Unit-2: [BJT](#)

Unit-3: [Op-Amp and Digital Circuits](#)

Unit-4: [Combinational Logic Circuit](#)

Unit-5: [Combinational Logic Circuit](#)

Practical file: [Practical file](#)

Playlist :

[For Units 1 and 2](#)

[For Units 3 , 4 and 5](#)

Previous Year Questions :

[Endsems PYQs](#)

[Midsems PYQs](#)

Electronic Devices & Circuits

Syllabus: [Syllabus](#)

Books preferred:

[Sedra S Smith](#)

[Boylestad](#)

Notes:

Unit-1 : [Semi-Conductors](#)

Unit-2: [Diodes](#)

Unit-3: [BJT](#)

Unit-4: [MOSFET](#)

Unit-5: [Op-Amp](#)

All in one notes: [Complete Notes](#)

Practical File: [Practical file](#)

Playlists:

Playlist	Unit-1	Unit-2	Unit-3	Unit-4	Unit-5
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Previous Year Questions :

[Endsems PYQs](#)

[Midsems PYQs](#)

Principles of Photogrammetry & Photo Interpretation

Book (Preferable): [Paul R Wolf](#)

Extra Materials:

[Photogrammetry](#)

[PPPI Self Notes](#)

Syllabus: [Syllabus_PPPI](#)

Assignment:

[Questions](#)

[Answers](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)



Engineering Mechanics

Syllabus: [Syllabus](#)

Books Preferred:

[Irving H. Shames](#)

[RS Khurmi](#)

PYQs:

[Midsem 2024](#)

[Endsem 2023](#)

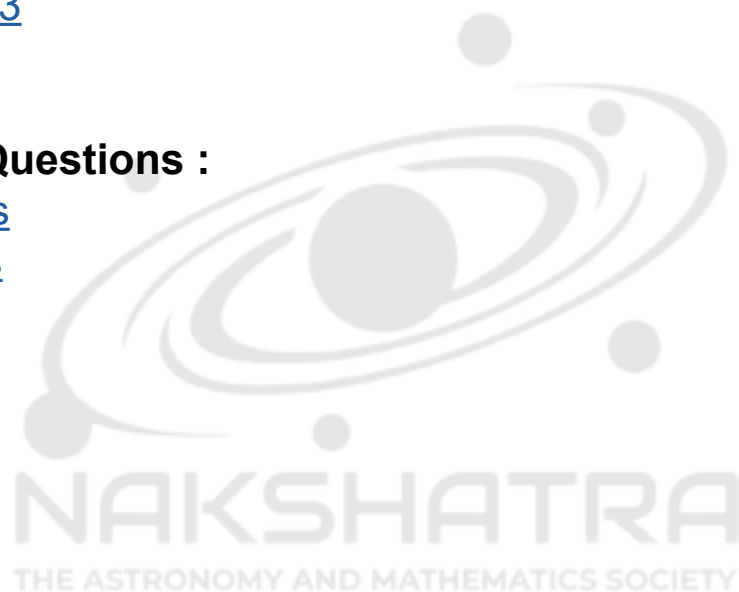
[Midsem 2023](#)

-

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)



Fundamentals of Remote Sensing

Book (Preferable):

[Anji Reddy](#)

[Basedeb Bhatta](#) (Recommended)

Syllabus: [Syllabus_FRS](#)

Extra Materials:

[Remote Sensing](#)

[Unit-4](#)

[Unit-5](#)

Practical File:

[File](#)

[Experiment_photos](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)

NAKSHATRA
THE ASTRONOMY AND MATHEMATICS SOCIETY

Mathematics-2

Playlists:

Unit-1: [Differential Equation](#)
 Unit-2: [Matrices](#)
 Unit-3: [Numerical Analysis](#)
 Unit-4: [Complex Numbers](#)
 Unit-5: [Probability and Statistics](#)

Handwritten Notes:

[Differential Equations](#)
[Matrices](#)
[Numerical Analysis](#)
[Complex Numbers](#)
[Probability and Statistics](#)

Books preferred:

[Advance Jaggi Mathur](#)
[MD Rai Singhania](#) (for ODE)

Syllabus of 1st and 2nd Sem: [Syllabus](#)

Notes of HOD of Maths:

Notes	Unit-1	Unit-2	Unit-3	Unit-4	Unit-5
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Previous Year Questions :

[Endsem PYQs](#)
[Midsem PYQs](#)

NAKSHATRA
 THE ASTRONOMY AND MATHEMATICS SOCIETY

Data Structure & Algorithm

Notes

Unit-1: [Intro to Data Structure](#)
Unit-2: [Linked Lists](#)
Unit-3: [Trees](#)
Unit-4: [Graphs](#)
Unit-5: [Searching & Sorting](#)

Playlists

[Intro to Data Structure](#)
[Linked Lists](#)
[Trees](#)
[Graphs](#)
[Searching & Sorting](#)

Handwritten Notes:

[Notes-1](#)

[Notes-2](#)

Book preferred:

[E. Horowitz and S. Sahani](#)

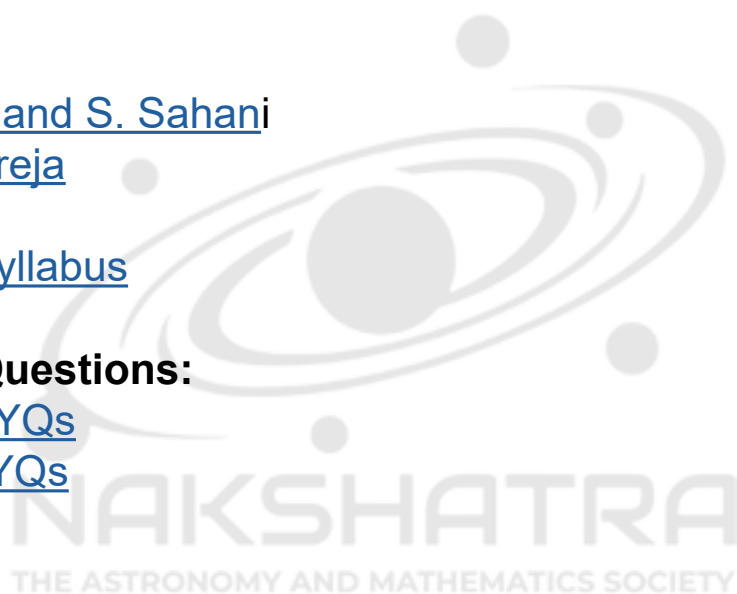
[Reema Thareja](#)

Syllabus: [DSA Syllabus](#)

Previous Year Questions:

[Endsem PYQs](#)

[Midsem PYQs](#)



Discrete Structures

Vishu's Notes: [Complete Notes](#)

Short Notes: [Revision Notes](#)

Syllabus: [Syllabus](#)

Tutorial Sheets:

[Tutsheet-1](#)

[Tutsheet-2](#)

[Tutsheet-3](#)

[Tutsheet-4](#)



Digital Logic Design

Vishu's Notes: [Complete Notes](#)

Short Notes: [Revision Notes](#)

Syllabus: [Syllabus](#)

Few questions: [Questions](#)

Some extra materials:

[VHDL](#)

[PLD](#)

[DAC](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)

NAKSHATRA
THE ASTRONOMY AND MATHEMATICS SOCIETY

Electrical Measurements

Lecture Notes:

Unit-1:	Units & Errors	Numericals-1	Numericals-2	
Unit-2:	AC Bridges	Numericals		
Unit-3:	Potentiometer	Numericals-1	Numericals-2	
Unit-4:	Potentiometer	Numericals-1	Numericals-2	Numericals-3
Unit-5:	Instrument Transformers		Numericals-1	Numericals-2

Handwritten Notes: [Complete notes](#)

Syllabus: [Syllabus](#)

Books: [AK Sawhney](#) (one and only best one)

Practical file: [Practical file-1](#) [Practical file-2](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)

NAKSHATRA
THE ASTRONOMY AND MATHEMATICS SOCIETY

Electrical Circuits Analysis

Syllabus: [Syllabus_ECA](#)

Lecture Notes:

Unit-1: [Unit-1](#)

Unit-2: [Unit-2](#)

Unit-3: [Unit-3](#)

Unit-4: [Unit-4](#)

Unit-5: [Unit-5](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)



Network Analysis & Synthesis

Complete Notes: [Raj Senani Sir Notes](#)

Handwritten Notes: [Notes](#)

Revision Notes: [Short Notes](#)

Syllabus: [Syllabus](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)



Introduction To ElectroMagnetic Theory

Notes

Unit-1: [Notes-1](#) [Notes-2](#)
Unit-2: [Notes](#)
Unit-3: [Basics](#) [Complete Notes](#) [EM Braking](#)
Unit-4: [Notes](#)
Unit-5: [Complete Notes Unit-5](#)

Syllabus: [Syllabus](#)

Books preferred: [Griffiths](#)

Assignments:

[Assignment-1](#) [Assignment-1 \(solutions\)](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)

NAKSHATRA
THE ASTRONOMY AND MATHEMATICS SOCIETY

Data Structures

Lecture Notes:

Unit-1: [Introduction to Data Structure](#)
Unit-2: [Linked Lists](#)
Unit-3: [Trees, Heaps](#)
Unit-4: [Graphs](#)
Unit-5: [Searching](#)

Playlists:

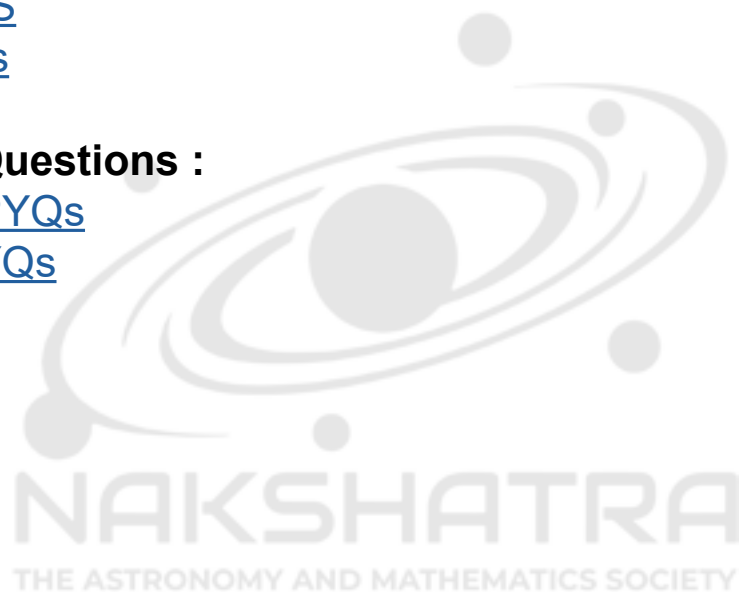
[Intro to Data Structure](#)
[Linked Lists](#)
[Trees](#)
[Graphs](#)
[Searching & Sorting](#)

Syllabus:

[Syllabus_DS](#)
[Lab syllabus](#)

Previous Year Questions :

[Endsems PYQs](#)
[Midsem PYQs](#)



Surveying

Handwritten Notes:

[Notes](#)

[Surveying Detailed Notes](#)

Book preferred:

[Dr. B.C. Punmia \(Vol 1\)](#)

[Dr. B.C. Punima \(Vol 2\)](#)

Syllabus: [Syllabus](#)

Notes:

Unit-1: [Unit-1](#)

Unit-2: [Unit-2](#)

Unit-3: [Unit-3](#)

Unit-4: [Unit-4](#)

Unit-5: [Unit-5](#)

Assignments:

[Unit-1](#)

[Unit-2](#)

[Unit-3](#)

[Unit-4](#)

[Unit-5](#)

CT:

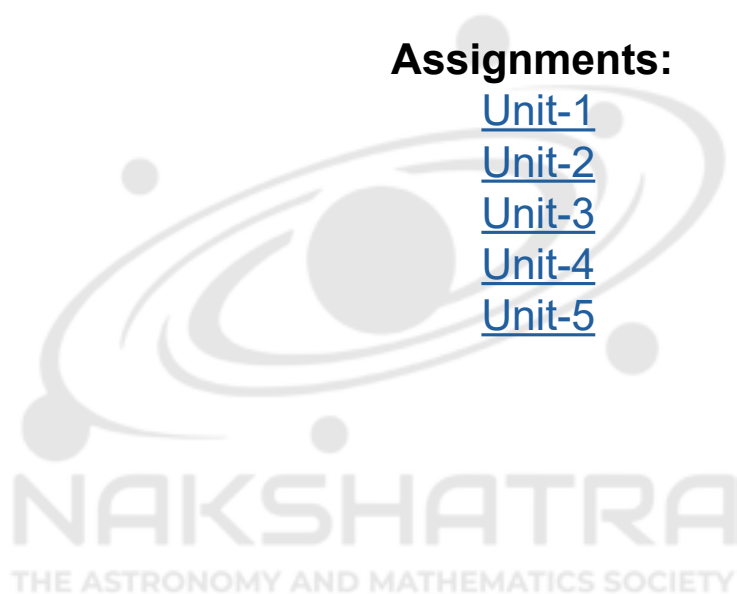
[Part-1](#)

[Part-2](#)

Previous Year Questions :

[Endsems PYQs](#)

[Midsem PYQs](#)



EG-CAD

Playlists:

Unit-1: [Cycloidal curves \(Cycloid, Epicycloid, Hypocycloid\)](#)

Unit-2: [Projection of points](#)
[Projection of lines](#)
[Projection of planes](#)

Unit-3: [Projection of solids](#)
[Development of surfaces of right regular solids](#)

Unit-4: [Isometric Projections](#)

Unit-5: [Civil Drawing](#) (Notes)

Syllabus: [Syllabus](#)

Book: [N.D Bhatt \(Engineering Drawing\)](#)

Previous Year Questions :

[Endsems PYQs](#)

[Midsems PYQs](#)

Physics Of Materials

Syllabus: [POM_Syllabus](#)

Study Materials:

[Properties of Solids](#)

[Imperfections in Solids](#)

[Crystal Structure](#)

[Defects](#)

[Quantum Mechanics \(Part-1\)](#)

[Quantum Mechanics \(Part-2\)](#)

[Quantum Mechanics \(Wave Particle Duality\)](#)

[Dielectric Materials](#)

[Magnetic Materials](#)

[Superconductivity](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)

Advance Chemistry

Syllabus: [Syllabus_Advance Chemistry](#)

Study Materials:

[Reactive Intermediates](#)

[Substitution Reaction \(Part-1\)](#)

[Substitution Reaction \(Part-2\)](#)

[Substitution Reaction \(Part-3\)](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)



Introduction To Biotechnology

Syllabus: [Syllabus](#)

Notes:

Unit-1: [Biomolecules](#)

Unit-2: [Water](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)



Strength Of Materials

Book: [RK Bansal](#)

Youtube channel recommended: [Gear Institute](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)



Engineering Materials & Metallurgy

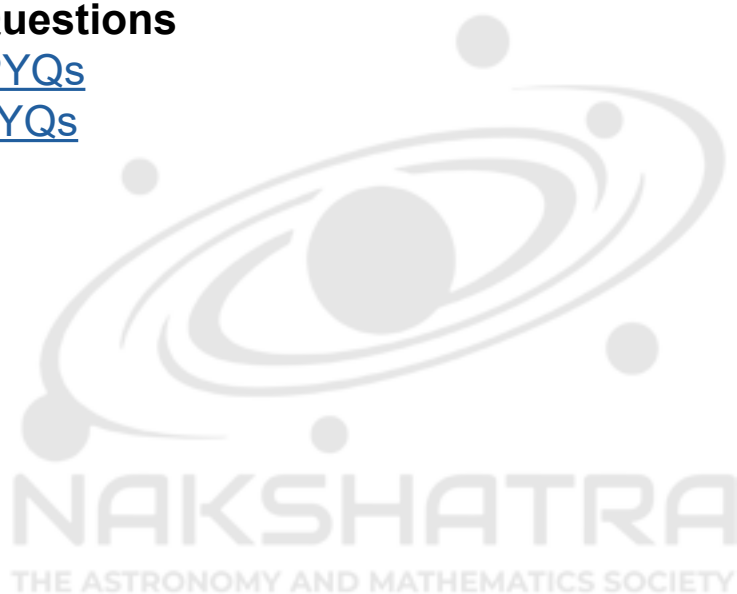
Notes:

- Unit-1: [Introduction to materials](#)
- Unit-2: [Mechanical properties and testing](#)
- Unit-3: [Phase diagram and Equilibrium Diagram](#)
- Unit-4: [Heat Treatment](#)
- Unit-5: [Composites](#)

Previous Year Questions

[Endsem PYQs](#)

[Midsem PYQs](#)



Thermal Engineering

Syllabus: [Syllabus](#)

Lecture Notes: [Lecture Notes](#)

Extra Materials:

[Introduction to Internal Combustion \(IC\) Engines](#)

[DS Kumar Entropy](#)

[DS Kumar 2nd Law of Thermodynamics](#) (most important)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)



Basic Fluid Mechanics

Syllabus: [Syllabus_Basic Fluid Mechanics](#)

Lecture Notes:

Unit-1: [Fluid Properties](#)

Unit-2: [Fluid Kinetics and Dynamics](#)

Unit-3:

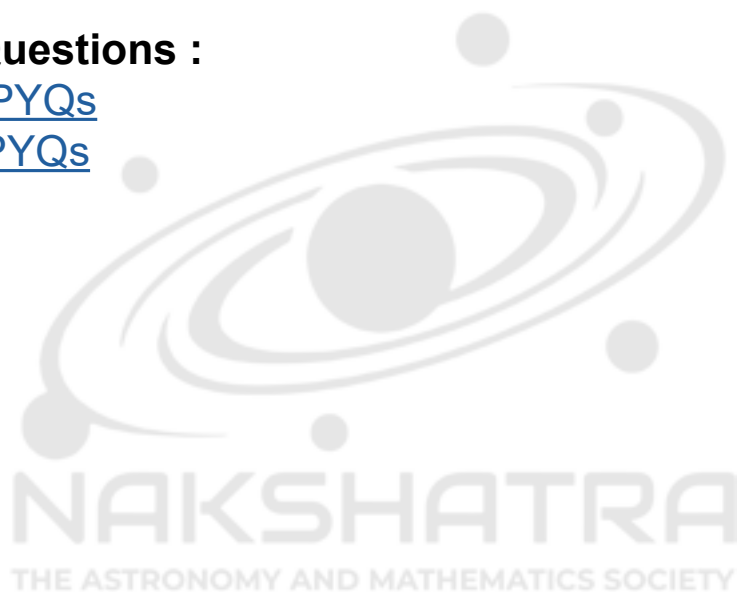
Unit-4: [Fluid Machines](#)

Unit-5: [Power Hydraulics](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)



Applied Physics

Study Material:

[Semiconductors](#)

[Introduction to Nanophysics](#)

[Applied Physics complete notes](#)

Previous Year Questions :

[Endsem PYQs](#)

[Midsem PYQs](#)



Design Thinking

Notes: [Short Notes](#)



Basics Of ECE

Book preferred:

[Boylestad](#) (For Unit 3 & 4)

Syllabus: [Syllabus](#)

Unit-1:	Lecture Notes	Handwritten Notes
Unit-2:	Lecture Notes	Handwritten Notes
Unit-3:	Part Wise	One Shot
Unit-4:	Lecture Notes	One Shot
Unit-5:	Notes	

Youtube Playlist

Unit-1:	Signals and Systems		
Unit-3:	Diode	BJT	MOSFET
Unit-4:	Op-amp		

Previous Year Questions :

[Endsems PYQs](#)

[Midsem PYQs](#)

Feedback Form

Hello Juniors!!!

As we've compiled resources of every subject of the first year of B.Tech, we want you to give us feedback of our work. Your feedback matters a lot for us. If you find something wrong or missing in Gyansutra, don't hesitate to tell us through this [Form](#) (use NSUT Email Id) or in our [WhatsApp group](#).

Form: <https://forms.gle/NSt3bpF4DiRUqhrZ9>

Whatsapp Group: <https://chat.whatsapp.com/Hx1YLNsfJOJKzw-gAC187Rc>

Now it's your turn to use this masterpiece and excel in your exams. Best of luck to all of you.

