

Advanced institute of Technology&Management,Palwal**Subject Details and Lecture Plan
(Teacher's copy)**

Subject Title: BASIC ELECTRONIC TECHNOLOGY	Subject Code: ESC-101A	
Total Contact Hours: L + T + P = 50 + 0 + 0	Duration of Exam: 03 Hrs.	
Total Internal Assessment Marks: 25	End Semester Exam. Marks: 75	Total Marks = 100

Pre-requisites: Basic fundamentals of ANALOG ELECTRONICS.

Outcomes:The Student will learn the

CO1-AnalyzeandsolveD.C.networksbydifferentanalysismethodsandtheorems.
Formulate and solve complex AC single phase and three circuits.
CO3- Identify the type of electrical machines and their applications. CO4-
Introducethecomponentsoflowvoltageelectricalinstallations.

CO2-

Reference Books:

1. D.P.Kothariand,I.J.Nagrath,“BasicElectricalEngineering”,TataMcGrawHill.
2. D.C.Kulshreshtha,“BasicElectricalEngineering”,McGrawHill.
3. L.S.Bobrow,“FundamentalsofElectricalEngineering”,OxfordUniversityPress.
4. E.Hughes,“ElectricalandElectronicsTechnology”,Pearson.

V.D.Toro,“ElectricalEngineeringFundamentals”,PrenticeHallIndia.

STUDENT ASSESSMENT:

There will be two tests of 90 minutes duration of 24 marks each. The average of best two will be considered as Final Internal Assessment marks. There will not be any further test. However, the concerned faculty member's decision is final as regards assignment of Internal Assessment is concerned.

Assessment Plan:

Internal Theory Marks Distribution			
Mid-Term Test	Attendance	Assignment	Total
10 marks	10 marks	5 marks	25 marks

Mid-Term Exams

Mid-term Exams	Examination Date
1 st Mid-term Exams	24-9-2025 to 26-9-2025
2 nd Mid-term Exams	17-11-2025 to 19-11-2025

FINAL EXAMINATION:

There will be one final examination of 3 hours duration at the end of the semester conducted by YMCA containing questions from the whole syllabus.

Scheme of End Semester Examination: Max. Marks: 75

Date: Faculty Member
(Sign.& Name)

HOD
(Signature & Name)

Lecture Plan

N.B. TWO AUDIO-VISUAL PRESENTATIONS PER WEEK.

Lecture No.	Unit / Chapter No.	Topic	Scheduled Date	Actual Date	Remarks & sign. of HOD	Teaching Aids
1.	DC Circuits:	Basic definitions	21/7/2025			
2.		Electrical circuit elements (R, L and C),	22/7/2025			
3.		Electrical circuit elements (R, L and C),	23/7/2025			
4.		voltage and current sources	28/7/2025			PPT
5.		Ohm's law	29/7/2025			
6.		Ohm's law and its limitations	30/7/2025			
7.		Kirchhoff current and voltage laws	30/7/2025			
8.		Kirchhoff current and voltage laws	31/7/2025			
9.		analysis of simple circuits	1/8/2025			

10		analysis of simple circuits	4/8/2025			PPT
11		dc excitation by mesh analysis and node analysis	5/8/2025			
12		dc excitation by mesh analysis and node analysis	6/8/2025			
13		Superposition, Thevenin's THEOREM	7/8/2025			
14		NORTAN Theorem	8/8/2025			
15		Maximum Power Transfer Theorems	11/8/2025			
16		NUMERICALS	12/8/2025			
17		NUMERICALS	13/8/2025			
18	Unit2 AC Circuits	Representation of sinusoidal waveforms	14/8/2025			
19		peak and rms values, phasor representation	18/8/2025			
20		peak and rms values, phasor representation	19/8/2025			
21		real power	21/8/2025			
22		reactive power	22/8/2025			PPT
23		apparent power, power factor	25/8/2025			
24		Analysis of single- phase ac circuits consisting of R	25/8/2025			
25		Analysis of single- phase ac circuits consisting of L	27/8/2025			
26		Analysis of single- phase ac circuits consisting of C,RL	28/8/2025			
27		Analysis of single- phase ac circuits consisting of RC	29/8/2025			
28		Analysis of single- phase ac circuits consisting of RLC	1/9/2025			
29		resonance	2/9/2025			
30		NUMERICALS	3/9/2025			
31		NUMERICALS	4/9/2025			

32	Unit3 Poly Phase Systems	Advantages of 3-phase systems	5/9/2025			
33		generation of 3-phase voltages	8/9/2025			
34		three phase connections (star and delta)	9/9/2025			PPT
35		three phase connections (star and delta)	10/9/2025			
36		voltage and current relations in star and delta connections	11/9/2025			
37		voltage and current relations in star and delta connections	16/9/2025			
38		phase powers	17/9/2025			
39		analysis of 3-phase balanced circuits	19/9/2025			PPT
40		analysis of 3-phase balanced circuits	23/9/2025			
41		measurement of 3-phase power- 2 wattmeter method	29/9/2025			
42	Unit4 Transformers	Magnetic Circuits	29/9/2025			
43		construction and working of single-phase transformer	3/10/2025			PPT
44		ideal and practical transformer	6/10/2025			
45		equivalent circuit, losses in transformers	8/10/2025			
46		regulation and efficiency, auto transformer	8/10/2025			PPT
47	Unit5 Electrical Machines	: Induction motor	9/10/2025			
48		principle and working of a three-phase induction motor	9/10/2025			
49		Single-phase induction motor	13/10/2025			
50		Construction, principle and working, Applications	13/10/2025			
51	UNIT 6 DC machine	Construction, principle and working of dc motor	15/10/2025			
52		Construction, principle and working of dc GENERATOR	16/10/2025			PPT
53		Applications Synchronous machine	27/10/2025			
54		Construction, principle and working of synchronous motor	28/10/2025			
55		Construction, principle and working of synchronous motor	29/10/2025			

56		Construction, principle and working of generators and applications	30/10/2025			PPT
57	Unit6 Electrical Installations	Components of LT Switchgear	31/10/2025			PPT
58		Fuses, MCB	3/11/2025			
59		ELCB, MCCB	4/11/2025			
60		ELCB, MCCB	6/11/2025			
61		Types of Wires	7/11/2025			
62		Power factor improvement	7/11/2025			
		Power factor improvement	10/11/2025			
		MCCB	10/11/2025			
		REVISION & CLASS TEST	11/11/2025 to 14/11/2025			

Syllabus Coverage Report

Syllabus coverage before MST-1	Satisfactory/ Lagging by ____ lectures.
Syllabus coverage before MST-2	
HoD Remarks	

General Comments of the Class Teacher about the suitability of Lecture Plan

Signature of Teacher & Date

Signature of HOD & Date

Doc No.....

Review No.....

Date.....

Advanced institute of Technology&Management,Palwal**Subject Details and Lecture Plan
(Teacher's copy)**

Subject Title:Chemistry	Subject Code:BSC102(Th)	
Total Contact Hours[L : 3; T:1; P : 0 (4 credits):	Duration of Exam: 03 Hrs	
Total Internal Assessment Marks: 25	End Semester Exam. Marks: 75	Total Marks = 100

STUDENT ASSESSMENT:

There will be two tests of 90 minutes duration of 24 marks each. The average of best two will be considered as Final Internal Assessment marks. There will not be any further test. However, the concerned faculty member's decision is final as regards assignment of Internal Assessment is concerned.

Assessment Plan:

Internal Theory Marks Distribution			
Mid-Term Test	Attendance	Assignment	Total
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Mid-Term Exams

Mid-term Exams	Examination Date
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2 nd Mid-term Exams	17-11-2025to 19-11-2025

FINAL EXAMINATION:

There will be one final examination of 3 hours duration at the end of the semester conducted by YMCA containing questions from the whole syllabus.

Scheme of End Semester Examination: Max. Marks: 75

Date: Faculty Member
(Sign.& Name)

HOD
(Signature & Name)

Lecture Plan

N.B. TWO AUDIO-VISUAL PRESENTATIONS PER WEEK.

Lecture No.	Unit / Chapter No.	Topic	Scheduled Date	Actual Date	Remarks & sign. of HOD	Teaching Aids
1.	Unit- ATOMIC AND MOLECULAR STRUCTURE	Schrodinger equation. Particle in a box solutions and their applications for conjugated molecules and nanoparticles.	14/7/2025			
2.		Forms of the hydrogen atom wave functions and the plots of these functions to explore their spatial variations	15/7/2025			
3.		Molecular orbitals of diatomic molecules and plots of the multicenter orbitals	16/7/2025			
4.		Equations for atomic and molecular orbitals. Energy level diagrams of diatomic	17/7/2025			PPT
5.		Pi-molecular orbitals of butadiene and benzene and aromaticity	18/7/2025			
6		Crystal field theory	21/7/2025			
7.		the energy level diagrams for transition metal ions	22/7/2025			
8		magnetic properties	23/7/2025			
9		Band structure of solids	28/7/2025			
10		role of doping on band structures.	29/7/2025			PPT
11		biasing circuits	30/7/2025			
12		current mirror	30/7/2025			

13			31/7/2025			
14	Unit2:- SPECTROSCOPIC TECHNIQUES AND APPLICATIONS	Principles of spectroscopy a	1/8/2025			
15		selection rules, Electronic spectroscopy,	4/8/2025			
16		Fluorescence and its applications in medicine	5/8/2025			
17		Vibrational and rotational spectroscopy of diatomic molecules	6/8/2025			
18		Vibrational and rotational spectroscopy of diatomic molecules, Applications	7/8/2025			
19		Nuclear magnetic resonance	8/8/2025			
20		magnetic resonance imaging, surface characterization techniques	11/8/2025			
21		Diffraction and scattering	12/8/2025			
22	UNIT 3:- INTERMOLECULAR FORCES AND POTENTIAL ENERGY SURFACES	Ionic, dipolar and van Der Waals interactions,	13/8/2025			PPT
23		Equations of state of real gases and critical phenomena	14/8/2025			
24		Potential energy surfaces of H ₃ , H ₂ F and HCN	18/8/2025			
25		trajectories on these surfaces.	19/8/2025			
26	UNIT 4:-USE OF FREE ENERGY IN CHEMICAL EQUILIBRIA	Thermodynamic functions: energy, entropy and free energy	20/8/2025			
27		Estimations of entropy and free energies, Free energy and emf.	21/8/2025			
28		Cell potentials, the Nernst equation and applications,	22/8/2025			
29		Acid base, oxidation reduction	25/8/2025			

30		solubility equilibria, Water chemistry Corrosion,	26/8/2025			
31		Use of free energy considerations in metallurgy through Ellingham diagrams.	27/8/2025			
32	UNIT 5- PERIODIC PROPERTIES	Effective nuclear charge, penetration of orbitals, variations of s, p, d and f orbital energies	28/8/2025			
33		electronic configurations, atomic and ionic sizes, ionization energies, e	29/8/2025			
34		electron affinity and electronegativity, polarizability, oxidation states	1/9/2025			PPT
35		coordination numbers and geometries, hard soft acids and bases, molecular geometries	2/9/2025			
36	UNIT 6- STEREOCHEMIS TRY	Representations of 3 dimensional structures, structural isomers and stereoisomers	3/9/2025			
37		configurations and symmetry and chirality, enantiomers	4/9/2025			
38		diastereomers, optical activity, absolute configurations and conformational analysis	5/9/2025			
39		Isomerism in transitional metal compounds	8/9/2025			PPT
40	UNIT 7- ORGANIC REACTIONS AND SYNTHESIS OF A DRUG MOLECULE	Introduction to reactions involving substitution	9/9/2025			
41		addition, elimination, oxidation, reduction	10/9/2025			
42		cyclization and ring openings	11/9/2025			
43		Synthesis of a commonly used drug molecule.	12/9/2025			PPT
44			15/9/2025			
45			16/9/2025			
46			17/9/2025			PPT
47			18/9/2025			
48			19/9/2025			

49						
50			23/9/2025			
51			29/9/2025			
52			30/9/2025			
53			3/10/2025			
54			6/10/2025			
55			8/10/2025			
56			9/10/2025			
57			13/10/2025			
58			14/10/2025			
59			15/10/2025			
60			16/10/2025			
61			27/10/2025			
62			28/10/2025			
			29/10/2025			
			30/10/2025			
			31/10/2025			
			3/11/2025			
			4/11/2025			
			6/11/2025			
			7/11/2025			
			10/11/2025			
			11/11/2025			
			12/11/2025			
			13/11/2025			
			14/11/2025			

Syllabus Coverage Report

Syllabus coverage before MST-1	Satisfactory/ Lagging by ____ lectures.
Syllabus coverage before MST-2	
Syllabus coverage before MST-3	
HoD Remarks	

General Comments of the Class Teacher about the suitability of Lecture Plan

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Signature of Teacher & Date

Signature of HOD & Date

ADVANCED INSTITUTE OF TECHNOLOGY AND MANAGEMENT

Lesson Plan

Discipline : **B.Tech.**
Semester : **Ist Sem**
Subject : **English (HSMC-101)**
Lesson Plan Duration : **55 min.**

Week	Theory	
	Lecture Day	Topic (Including Assignment Test)
1	2/9/2025	Concept of Word Formation
	3/9/2025	Presentation & Examples of word formation
	4/9/2025	Root words from foreign languages and their use in English
	5/9/2025	Acquaintance with prefix and suffixes
2	8/9/2025	Exercises on prefixes and suffixes
	9/9/2025	Synonyms and Antonyms
	10/9/2025	Exercise on Synonym & Antonym
	11/9/2025	Standard Abbreviations
	12/9/2025	Practice and exercise on abbreviations/acronyms/initials
3	15/9/2025	Test of unit-1
	16/9/2025	Meaning and concept of Sentence Structure
	17/9/2025	Practice and Exercise on Sentence Structure
	18/9/2025	Use of phrases in sentences
	19/9/2025	Use of clauses in Sentences
4	23/9/2025	Importance of proper punctuation
	24/9/2025	Exercise on punctuation
	25/9/2025	Assignment

	26/9/2025	Meaning of Creating coherence
5	29/9/2025	Organizing principles of paragraphs in documents
	30/9/2025	Techniques for writing precisely
	1/10/2025	Subject verb agreement
	3/10/2025	Noun – pronoun agreement
6	6/10/2025	Articles
	8/10/2025	Misplaced Modifiers
	9/10/2025	Practice and excercises
	10/10/2025	Revision
7	13/10/2025	Sessional Exam
	14/10/2025	Sessional Exam
	15/10/2025	Sessional Exam
	16/10/2025	Sessional Exam

General Comments of the Class Teacher about the suitability of Lecture Plan

Signature of Teacher & Date

Signature of HOD & Date

Advanced institute of Technology & Management, Palwal**Subject Details and Lecture Plan
(Teacher's copy)**

Subject Title: MATHEMATICS-I(CALCULUS)	Subject Code: BSC-103E	
Total Contact Hours: L + T + P = 50 + 0 + 0	Duration of Exam: 03 Hrs	
Total Internal Assessment Marks: 25	End Semester Exam. Marks: 75	Total Marks = 100

Pre-requisites: Basic fundamentals Of Engg mathematics

Outcomes: The Student will learn the

1. Understand the basic concepts of engg. Mathematics.
2. Develop basic skills for quantitative application in business situations.
3. Interpret and solve real -life business problems.
4. Understand matrices and other various mathematical concepts useful in daily life.

Materials and Resources Required: .

Reference Books:

1. G.B.Thomas and R.L.Finney, Calculus and Analytic geometry, 9th Edition, Pearson, Reprint, 2002.
2. Erwin Kreyszig, Advanced Engineering Mathematics, 9th Edition, John Wiley & Sons, 2006.
3. D.Poole, Linear Algebra: A Modern Introduction, 2nd Edition, Brooks/Cole, 2005.
4. Veerarajan T. Engineering Mathematics for first year, Tata McGraw-Hill, New Delhi, 2008.
5. Ramana B.V., Higher Engineering Mathematics, Tata McGraw Hill New Delhi, 11th

STUDENT ASSESSMENT:

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FINAL EXAMINATION:

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Scheme of End Semester Examination: Max. Marks: 75

Date: Faculty Member
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Lecture Plan

N.B. TWO AUDIO-VISUAL PRESENTATIONS PER WEEK.

Lecture No.	Unit / Chapter No.	Topic	Scheduled Date	Actual Date	Remarks & sign. of HOD	Teaching Aids
1.	MODULE1: CALCULUS	Evolutes	21/7/2025			
2.		involute	22/7/2025			
3.		Evaluation of definite integral	23/7/2025			
4.		Problems of Evaluation of definite integral	28/7/2025			
5.		Evaluation of improper integral	29/7/2025			
6.		Problems of Evaluation of improper integral	30/7/2025			
7.		Beta and Gamma functions	31/7/2025			
8.		Problems of beta functions	1/8/2025			

		Gamma functions	4/8/2025			
		Problems of gamma functions	5/8/2025			
		Problems of gamma functions	6/8/2025			
		Applications of definite integrals	7/8/2025			
		surface areas and volumes of revolutions	8/8/2025			
		surface areas and volumes of revolutions	11/8/2025			
		PROBLEMS	12/8/2025			
	MODULE2 CALCULUS	Rolle's theorem	13/8/2025			
		Mean value theorem	14/8/2025			
		Taylor's theorems	18/8/2025			
		Maclaurin 's THEOREM	19/8/2025			
		Indeterminate forms	20/8/2025			
		PROBLEMS	21/8/2025			
		PROBLEMS	22/8/2025			
		L'Hospital's rule	25/8/2025			
		Maxima and minima	26/8/2025			
25		;Maxima and minima	27/8/2025			
26	Unit 3rd	Matrices ,Addition & Scalar Multiplication of matrices	28/8/2025			
27		Inverse of matrix by Gauss elimination method	29/8/2025			
28		Rank of Matrix	1/9/2025			
29		PROBLEMS	2/9/2025			
30			3/9/2025			
31		Determinants	4/9/2025			
32		Linear system of equation	5/9/2025			

33		Cramer ’s rule	5/9/2025			
34		Vectors	8/9/2025			
35		PROBLEMS	9/9/2025			
36		PROBLEMS	10/9/2025			
37		PROBLEMS	11/9/2025			
38	UNITIV	Vector space	12/9/2025			
39		Linear dependence of vectors	15/9/2025			
40		Basis	17/9/2025			
41		problems	18/9/2025			
42		Revision of sessional exam	19/9/2025			
43		Revision of sessional exam	23/9/2025			
44		Dimension	29/9/2025			
45		Linear transformation	30/9/2025			
46		problems	3/10/2025			
47		Range & kernel of linear transformation	6/10/2025			
48		Rank& Nullity	8/10/2025			
49		Inverse of a linear transformation	9/10/2025			
50		Rank & nullity theorem	13/10/2025			
51		Composition of linear transformation	14/10/2025			
52		Matrix associated with linear map	15/10/2025			
53		PROBLEMS	16/10/2025			
54	UNIT 5	Eigen value& Eigen vectors	27/10/2025			
55		, Symmetric & Skew symmetric matrices	28/10/2025			
56		Orthogonal matrices	30/10/2025			
57		Diagonalization of matrices	31/10/2025			
58		Inner product space	3/11/2025			

59		problems	4/11/2025			
60		problems	6/11/2025			
61		Gram-Schmidt orthogonal process	7/11/2025			
62		Gram-Schmidt orthogonal process	11/11/2025			
63		REVISION& CLASS TEST	12/11/2025 TO 14/11/2025			

Syllabus Coverage Report

Syllabus coverage before MST-1	Satisfactory/ Lagging by ____ lectures.
Syllabus coverage before MST-2	
HoD Remarks	

General Comments of the Class Teacher about the suitability of Lecture Plan

Signature of Teacher & Date

Signature of HOD & Date