

8. Status of Department labs Session 2022-23

B.Tech(CSE, AIML, AIDS) 1st Year (1st and 2nd Sem) Labs

Practical/Viva Voce					
Group	Paper Code	Paper	L	P	Credits
BS	BS-151, BS-152	Physics-I Lab and Physics Lab-II	-	2	1
BS	BS-155	: Applied Chemistry	-	2	1
ES	ES-157	Engineering Graphics-I	-	4	2
ES	ES-159	Electrical Science Lab	-	2	1
BS	BS-161	Environmental Studies Lab	-	-	-
ES	ES-158	Engineering Graphics-II	-	2	1
ES	ES-164	Workshop Practice	-	4	2

B.Tech(CSE, AIML, AIDS) 1st Year Labs

PaperCode: BS-151	Paper: Applied Physics - I Lab.	L	P	C
		-	2	1
Marking Scheme: 1. Teachers Continuous Evaluation: 40 marks 2. Term end Theory Examinations: 60 marks				

Instructions:

1. The course objectives and course outcomes are identical to that of (Applied Physics - I) as this is the practical component of the corresponding theory paper.
2. The practical list shall be notified by the teacher in the first week of the class commencement under intimation to the office of the Head of Department / Institution in which the paper is being offered from the list of practicals below. Atleast 8 experiments must be performed by the students

1. To determine the wavelength of sodium light by Newton's Rings.
2. To determine the wavelength of sodium light by Fresnel's biprism.
3. To determine the wavelength of sodium light using diffraction grating.
4. To determine the refractive index of a prism using spectrometer.
5. To determine the dispersive power of prism using spectrometer and mercury source.
6. To determine the specific rotation of cane sugar solution with the help of half shade polarimeter.
7. To find the wavelength of He-Ne laser using transmission diffraction grating.
8. To determine the numeral aperture (NA) of an optical fibre.
9. To plot a graph between the distance of the knife-edge from the center of the gravity and the time period of bar pendulum. From the graph, find (a) The acceleration due to gravity (b) The radius of gyration and the moment of inertia of the bar about an axis.
10. To determine the velocity of ultrasound waves using an ultrasonic spectrometer in a given liquid (Kerosene Oil).
11. To verify inverse square law.
12. To determine Planck's constant.

PaperCode: BS-155 / BS-156	Paper: Applied Chemistry Lab.	L	P	C
		-	2	1
Marking Scheme: 1. Teachers Continuous Evaluation: 40 marks 2. Term end Theory Examinations: 60 marks				
Instructions: 1. The course objectives and course outcomes are identical to that of “Applied Chemistry” as this is the practical component of the corresponding theory paper. 2. The practical list shall be notified by the teacher in the first week of the class commencement under intimation to the office of the office of the Head of Department / Institution in which the paper is being offered from the list of practicals below. Atleast 8 experiments must be performed by the students				

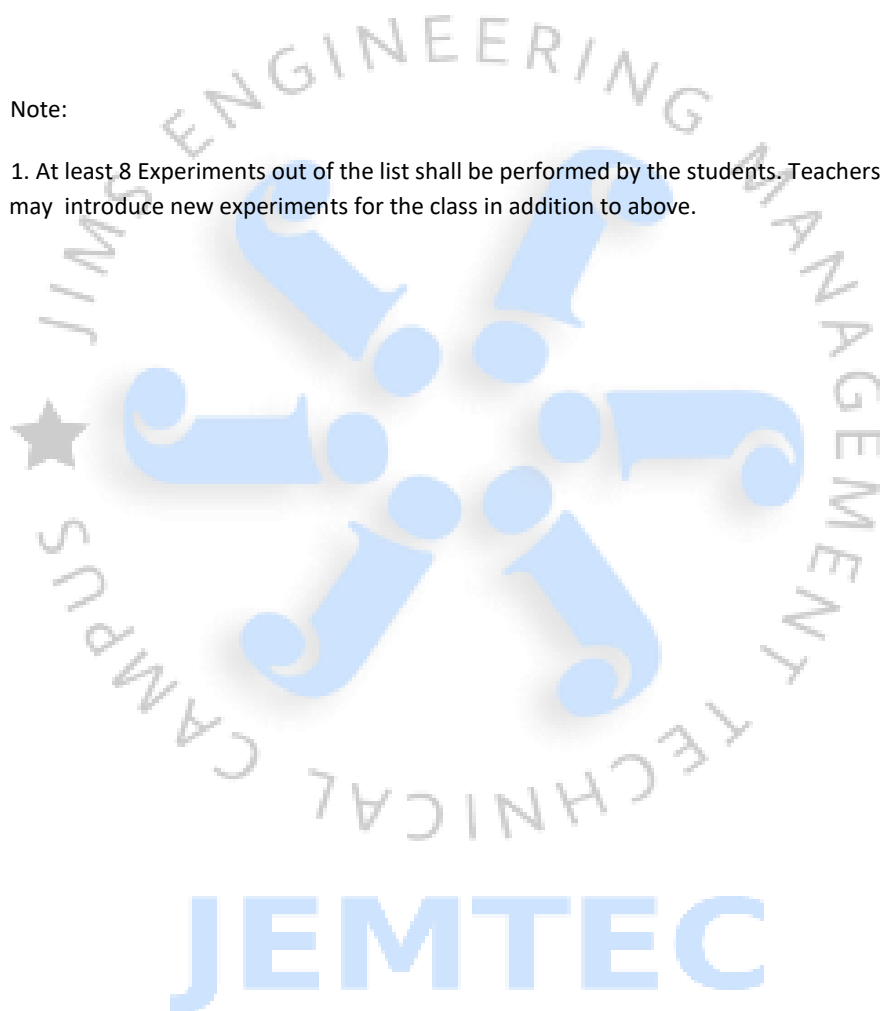
1. Determination of alkalinity of water sample.
2. Determination of hardness of water sample by EDTA method.
3. Determine the percentage composition of sodium hydroxide in the given mixture of sodium hydroxide and sodium chloride.
4. Determine the amount of oxalic acid and Sulphuric acid in one litre of solution, given standard sodium hydroxide and Potassium Permanganate.
5. Determine the amount of copper in the copper ore solution, provided hypo-solution (Iodometric Titration).
6. Determine the amount of chloride ions present in water using silver nitrate (Mohr's Precipitation Method).
7. Determine the strength of MgSO₄ solution by Complexometric titration.
8. Determine the surface tension of a liquid using drop number method.
9. Determine the viscosity of a given liquid (density to be determined).
10. Determine the cell constant of conductivity cell and titration of strong acid/strong base conductometrically.
11. To determine (a) λ max of the solution of KMnO₄. (b) Verify Beer's law and find out the concentration of unknown solution by spectrophotometer.
12. Determination of the concentration of iron in water sample by using spectrophotometer. 13. Determination of the concentration of Iron (III) by complexometric titration. 14. Proximate analysis of coal.
15. Determination of eutectic point and congruent melting point for a two component system by method of cooling curve.

References:

1. *Vogel's Text Book of Quantitative Chemical Analysis* by G.H. Jefferey, J. Bassett, J. Mendham, and R.C. Denney, Logmaan Scientific & Technical, 1989
2. *Essentials of Experimental Engineering Chemistry* by S. Chawla, Dhanpat Rai & Co., 2008.
3. *Experiments in Applied Chemistry* by S. Ratan, S.K. KAtaria & Sons, 2003.
4. *Practical Chemistry* by O.P.Pandey, D. N. Bajpai and S. Giri, S.Chand & Co., 2005.
5. *Engineering Chemistry with Laboratory Experiments* by M. S. Kaurav, PHI Learning Pvt. Ltd., 2011.
6. *Laboratory Manual on Engineering Chemistry* by S. K. Bhasin, and Sudha Rani, Dhanpat Rai &Co., 2006.

Note:

1. At least 8 Experiments out of the list shall be performed by the students. Teachers may introduce new experiments for the class in addition to above.



PaperCode: ES-159 / ES-160	Paper: Electrical Science Lab.	L	P	C
		-	2	1
Marking Scheme: 1. Teachers Continuous Evaluation: 40 marks 2. Term end Theory Examinations: 60 marks				
Instructions: 1. The course objectives and course outcomes are identical to that of “Electrical Science” as this is the practical component of the corresponding theory paper. 2. The practical list shall be notified by the teacher in the first week of the class commencement under intimation to the office of the office of the Head of Department / Institution in which the paper is being offered from the list of practicals below. Atleast 8 experiments must be performed by the students				

1. To Design the circuit for a given load and selection of its various Components and instruments from the safety point of view

OR

To study different types of symbols and standard currently being used in electrical engineering.

2. Study and applications of CRO for measurement of voltage, frequency and phase of signals.

3. Connection of lamp by (1) Single Switch Method. (2) Two-way Switch Method. OR

Performance comparison of fluorescent Tube & CFL Lamp.

3. To Verify Thevenin's & Norton's Theorem OR To Verify Superposition & Reciprocity Theorem. OR

To Verify Maximum Power Transfer Theorem.

4. To Measure Power & Power Factor in a Single-Phase A.C Circuit using Three Ammeters or three Voltmeters.

5. To Measure Power & Power Factor in a Balanced Three Phase Circuit using Two Single Phase Wattmeters.

6. To study of Resonance in a series R-L-C or Parallel R-L-C Circuits.

7. To perform open circuit and short circuit test on 1-phase transformer.

8. Starting, Reversing and speed control of DC shunt Motor

9. Starting, Reversing and speed control of 3-phase Induction Motor

10. To Study different types of Storage Batteries & its charging system.

11. To Study different types of earthing methods including earth leakage circuit breaker (GFCI)

Note:

1. At least 8 Experiments out of the list shall be performed by the students. Teachers may introduce new experiments for the class in addition to above.

PaperCode: BS-161 /BS-162	Paper: Environmental Studies Lab.	L	P	C
		-	2	1
Marking Scheme: 1. Teachers Continuous Evaluation: 40 marks 2. Term end Theory Examinations: 60 marks				
Instructions: 1. The course objectives and course outcomes are identical to that of “Environmental Studies” as this is the practical component of the corresponding theory paper. 2. The practical list shall be notified by the teacher in the first week of the class commencement under intimation to the office of the office of the Head of Department / Institution in which the paper is being offered from the list of practicals below. Atleast 8 experiments must be performed by the students				

1. Determination of pH, conductivity and turbidity in drinking water sample.
2. Determination of pH and conductivity of soil/sludge samples.
3. Determination of moisture content of soil sample.
4. Determination of Total Dissolved Solids (TDS) of water sample.
5. Determination of dissolved oxygen (DO) in the water sample.
6. Determination of Biological oxygen demand (BOD) in the water sample.
7. Determination of Chemical oxygen demand (COD) in the water sample.
8. Determination of Residual Chlorine in the water sample.
9. Determination of ammonia in the water sample.
10. Determination of carbon dioxide in the water sample.
11. Determination of nitrate ions or sulphate ions in water using spectrophotometer.
12. Determination of the molecular weight of polystyrene sample using viscometer method.
13. Base catalyzed aldol condensation by Green Methodology.
14. Acetylation of primary amines using eco-friendly method.
15. To determine the concentration of particulate matter in the ambient air using High Volume Sampler.

Note:

1. For better understanding of various aspects of environment visits to local areas, depending upon easy access and importance may be planned to any nearby river, forest, grassland, hills and students should write a report based on their observations.

2. At least 8 Experiments out of the list shall be performed by the students. Teachers may introduce new experiments for the class in addition to above

References:

1. *Vogel's Text Book of Quantitative Chemical Analysis* by G.H. Jefferey, J. Bassett, J. Mendham, and R.C. Denney, Logmaan Scientific & Technical, 1989.
2. dst.gov.in/green-chem.pdf (monograph of green chemistry laboratory experiments).
3. *Essentials of Experimental Engineering Chemistry* by S. Chawla, Dhanpat Rai & Co., 2008.
4. *Experiments in Applied Chemistry* by S. Ratan, S.K. KAtaria & Sons, 2003.
5. *Principles of Environment Science: Enquiry and Applications* by W. Cunningham and M. A. Cunningha, Tata McGraw Hill, 2003.
6. *Perspectives in Environment Studies* by A. Kaushik and C. P. Kaushik, New Age Int. (P) Pub., 2013.



PaperCode: BS-152	Paper: Applied Physics - II Lab.	L	P	C
		-	2	1
Marking Scheme: 1. Teachers Continuous Evaluation: 40 marks 2. Term end Theory Examinations: 60 marks				
Instructions: 1. The course objectives and course outcomes are identical to that of (Applied Physics - I) as this is the practical component of the corresponding theory paper. 2. The practical list shall be notified by the teacher in the first week of the class commencement under intimation to the office of the Head of Department / Institution in which the paper is being offered from the list of practicals below. Atleast 8 experiments must be performed by the students				

1. To determine the e/m ratio of an electron by J.J. Thomson method.
2. To measure the frequency of a sine-wave voltage obtained from signal generator and to obtain lissajous pattern on the CRO screen by feeding two sine wave signals from two signal generators.
3. To determine the frequency of A.C. mains by using Sonometer.
4. To determine the frequency of electrically maintained tuning fork by Melde's method.
5. Computer simulation (simple application of Monte Carlo): Brownian motion, charging & discharging of a capacitor.
6. To study the charging and discharging of a capacitor and to find out the time constant. 7. To study the Hall effect.
8. To verify Stefan's law.
9. To determine the energy band gap of a semiconductor by four probe method/or by measuring the variation of reverse saturation current with temperature.
10. To study the I-V characteristics of Zener diode.
11. To find the thermal conductivity of a poor conductor by Lee's disk method. 12. To study the thermo emf using thermocouple and resistance using Pt. Resistance thermometer.

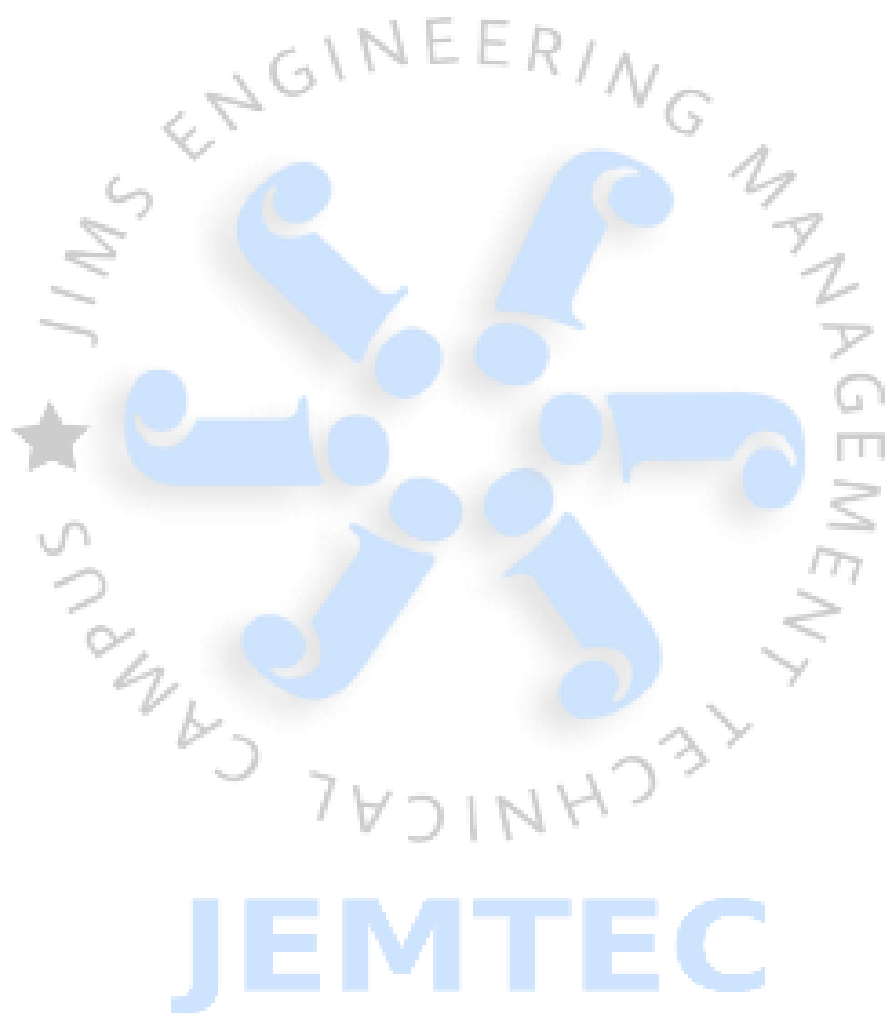
Note: Teacher's may use the prescribed books to choose the practicals in addition to above.

Total 8 practicals minimum shall be performed by the students, they may be asked to do more.

Atleast 4 experiments must be from the above list.

Textbook:

1. *B.Sc. Practical Physics* by C. L. Arora, S.Chand & Co., 2020.
2. *Practical physics* by R. K. Shukla and A. Srivastava, New Age Int. (P) Ltd., 2006.



JIMS ENGINEERING MANAGEMENT TECHNICAL CAMPUS
GREATER NOIDA

Name of the Laboratory: Applied Physics Lab I & II (BS-151 and BS-152)

S.No.	Major Equipment Available	No.
1	Hall Effect Experiment Setup (Electromagnets, Hall Probe, Gauss Meter, Gauss Probe, Power Supply, etc.)	2
2	Stefan's Law by Electrical Method Experiment Setup	3
3	Energy Band Gap Experiment Setup (Oven, Thermometer, etc.)	2
4	Half Shade Polarimeter (Polarimeter tube, sodium lamp, etc.)	2
5	Wavelength of Sodium Light by Spectrometer and Grating Experiment Setup	1
6	Newton Ring Experiment Setup	2
7	He-Ne Laser Setup	1
8	Planck's Constant Experiment Setup	2
9	Numerical Aperture of Optical Fibre Experiment Setup	2
10	Refractive Index of material of Glass Prism Experiment Setup	2
11	Inverse Square Law Experimental Setup	2
12	ECE of Copper Experimental Setup (Tangent Galvanometer, Voltmeter, Copper Sulphate)	1
13	Carey Foster Bridge Plancks	3
14	e/m of and Electron by JJ Thomson Method Experimental Setup	1
15	Sonometer Experiment Setup	2
16	Charging and discharging of a Capacitor Experimental Setup	2
17	Thermal Conductivity by Lee Disk Experimental Setup	1
18	Frequency of an electrically maintained tuning fork by Melde's Method Experimental Setup	2
19	Zener characteristic Experimental Setup	3
20	Fresnel's Biprism Experimental Setup	1

JIMS ENGINEERING MANAGEMENT TECHNICAL CAMPUS,

GREATER NOIDA,

APPLIED SCIENCE DEPARTMENT (LIST OF MAJOR EQUIPMENTS AVAILABLE)

EQUIPMENTS/APPARATUS PRESENT IN APPLIED CHEMISTRY/EVS LAB

S.NO.	Instrument name	Total quantity present	Remarks
01	Weighing balance	02	Only *One is Functional
02	Conductivity meter	01	Functional
03	Oven	01	Need to be *Repaired
04	Water bath	02	Functional
05	Distillation unit	01	Functional
06	pH Meter	02	Only *one is Functional
07	Colorimeter	02	Only *one is Functional
08	Magnetic stirrer	02	Only *one is Functional
09	Vacuum pump	02	Functional
10	Turbidity meter	01	Functional

ARCHANA AGARWAL

ASSISTANT PROFESSOR

JIMS ENGINEERING MANAGEMENT TECHNICAL CAMPUS, GREATER NOIDA

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
LIST OF MAJOR EQUIPMENT AVAILABLE

Lab Name - **Electrical Science Lab (ETEE153) / Electronic Devices Lab (ES-159)**

Sl No.	Name of Equipment
1	Kirchhoff's law setup
2	Super position Theorem
3	Thevenin's & Norton's Theorem
4	Max Power Transfer Theorem
5	Power in three phase circuit by two watt meter
6	Voltage Ratio, Polarity & Efficiency by load test of single phase transformer
7	Power & Power factor in a single phase A.C series inductive circuit set up
8	Efficiency of D.C Shunt motor by load test
9	Running & Speed reversed of a three Phase induction motor
10	P.N Diode Characteristic
11	Half and Full wave power supply setup
12	Operational Amplifier as adder and Subtractor
13	Single phase D.C rectifier supply 20 Amp
14	C.R.O 30 MHz Dual Trace
15	Digital Multimeter
16	Digital Tachometer
17	Tool Box (Pye, 21 st July 2018 Solder stand)
18	Noze Plier
19	Wire Cutter
20	Function Generator (3MHz SM 5070)
21	Regulated Power Supply (5 V/5 A Model - 1005)
22	Regulated Power Supply (30 V/3 A Model - PSP 3003)
23	Logic Gate: Kit
24	Boolean Function kit
25	Milli ammeter MC-0-100 MA, 0-500 MA
26	Micro ammeter (0.50 μ a, 0 - 100 μ a) (0-250 μ a)
27	Digital Ammeter / Voltmeter (DM)
28	Decade Inductor Box S/6 Dial 11.11H
29	Decade Inductor Capacitor Box 4 Dial

JIMS ENGINEERING MANAGEMENT TECHNICAL CAMPUS,

GREATER NOIDA,

Lab Name : Environmental Studies Lab (BS-161)

Environmental Engineering

S. No.	Equipments/Apparatus
1	UV-VIS Spectrophotometer
2	Digital Psychrometer/ Hygrometer
3	Thermo Electrically Cooled Gaseous Sampling Attachment
4	COMBO (PM10/PM 2.5) Particulate sampler
5	Semi Micro Digital Weighing Balance
6	Sound Level Meter

JIMS Engineering Management Technical Campus, Greater Noida

Name of Lab:- Workshop Practice Lab ES-164

Sl. No.	Name of Equipment
1	Saw
2	Jackplane
3	Chisel carpentry
4	File double cut
5	Boring tool
7	Holding tool
8	Mallet
9	Screw driver
10	Measuring inch tape
11	stone
12	Carpentry square 90 degree
13	Mortise gauge
14	SLEDGE HAMMER
15	HAND HAMMER
16	TONGS RING
17	CHIPPING HAMMER
18	HAND HACKSAW
19	COLD FLAT CHISEL
20	EYE SHIELD
21	PIPE WRENCH
22	CABLE WITH CONNECTION
23	BENCH VICE 3"
24	STEP DOWN TRANSFORMER
25	BALL PIN HAMMER
26	HOT CHISEL
27	PUNCH
28	FINGER SET
29	HAND DIE
30	OUTSIDE CALLIPER
31	ANVIL
32	SWAGE BLOCK
33	GRINDER MACHINE
34	SHOVEL
35	BENCH VICE
36	HAMMER (CROSS PIN)
37	VERNIER CALLIPER
38	DIAL CALLIPER
39	MICROMETER
40	THREAD MICROMETER
41	DIGITAL MICROMETER
42	INSIDE MICRO METER
43	DEPTH GAUGE CALLIPER
44	VERNIER PROTRACTOR

Cont...

Workshop Practice Lab Cont...

45	COMBINATION SET
46	DIAL TEST INDICATOR
47	LATHE
48	MICRO METER OUTSIDE
49	MICROMETER INSIDE
50	VERNIER HEIGHT GAUGE
51	SLIP GAUGE BOX
52	SINE BAR
53	MAGNETIC STAND
54	FILLER GAUGE
55	RADIUS GAUGE
56	V-BLOCK
57	ANGLE PLATE
58	SURFACE PLATE
59	BENCH VICE 4"
60	TRY SQUARE
61	DOUBLE CUT FLAT
62	DOT PUNCH (FINGER SET)
63	ROUND FILE
64	FLAT FILES
65	TRIANGULAR FILES
6	CENTRE PUNCH
67	WOODEN ROUGH FILE
68	NYLONE MALLET
69	SQUARE FILE
70	CARPENTRY VICE

3rd Semester Labs B.Tech(CSE, AIML, AIDS)

Group	Paper Code	Paper	L	P	Credits
PC	ECC-253	Digital Logic and Computer Design Lab		2	1

B.Tech (CSE, AIML, AIDS) 2nd Year

Paper Code(s): ECC-253	L	P	C
Paper: Digital Logic and Computer Design Lab	-	2	1

Marking Scheme:

1. Teachers Continuous Evaluation: 40 marks
2. Term end Theory Examinations: 60 marks

Instructions:

1. The course objectives and course outcomes are identical to that of (Digital Logic and Computer Design) as this is the practical component of the corresponding theory paper.
2. The practical list shall be notified by the teacher in the first week of the class commencement under intimation to the office of the Head of Department / Institution in which the paper is being offered from the list of practicals below. Atleast 10 experiments must be performed by the students, they may be asked to do more. Atleast 5 experiments must be from the given list.

1. Design and implementation of adders and subtractors using logic gates.
2. Design and implementation of 4-bit binary adder/subtractor.
3. Design and implementation of multiplexer and demultiplexer.

4. Design and implementation of encoder and decoder.
5. Construction and verification of 4-bit ripple counter and Mod-10/Mod-12 ripple counter.
6. Design and implementation of 3-bit synchronous up/down counter.
7. Design and computer architecture: Design a processor with minimum number of instructions, so that it can do the basic arithmetic and logic operations.
8. Write an assembly language code in GNUsim8085 to implement data transfer instruction.
9. Write an assembly language code in GNUsim8085 to store numbers in reverse order in memory location.
10. Write an assembly language code in GNUsim8085 to implement arithmetic instruction.
11. Write an assembly language code in GNUsim8085 to add two 8 bit numbers.
12. Write an assembly language code in GNUsim8085 to find the factorial of a number.
13. Write an assembly language code in GNUsim8085 to implement logical instructions.
14. Write an assembly language code in GNUsim8085 to implement stack and branch instructions.

JIMS ENGINEERING MANAGEMENT TECHNICAL CAMPUS, GREATER NOIDA
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
LIST OF MAJOR EQUIPMENT AVAILABLE

Digital Logic Design Lab (AIML - 255)

Lab Name - Digital Logic and Computer Design Lab (ECC 253)

Sl. No.	Name of Equipment
1	Logic Gate Trainer Kit
2	Adder and Subtractor study kit
3	Flip-Flop Trainer Kit
4	Synchronous Counter Trainer Kit
5	Ripple Counter Trainer Kit
6	Decade Counter Trainer Kit
7	BCD to Excess-3 Converter Kit
8	Digital IC Trainer Kit
9	Patch Cords with Clips at both ends
10	555 Timer Circuit study Kit (Mono stable, Bi-Stable and Astable Modes of Operation)
11	Analog to Digital Converter Trainer Kit
12	Digital to Analog Converter Trainer Kit
13	Multiplexer and De-multiplexer Study Kit
14	Encoder and Decoder Study Kit
15	4-bit ALU kit
16	Master-slave JK Flip-Flop kit
17	Binary counter kit

Computer Based Programming Using GNUSIM8085

4th Semester Labs B.Tech(CSE, AIML, AIDS)

Group	Paper Code	Paper	L	P	Credits
PC	EEC-254	Circuits and Systems Lab		2	1
Paper Code(s): EEC-253 / EEC-254			L	P	C
Paper: Circuits and Systems Lab			-	2	1

Marking Scheme:

1. Teachers Continuous Evaluation: 40 marks
2. Term end Theory Examinations: 60 marks

Instructions:

1. The course objectives and course outcomes are identical to that of (Circuits and Systems) as this is the practical component of the corresponding theory paper.
2. The practical list shall be notified by the teacher in the first week of the class commencement under intimation to the office of the Head of Department / Institution in which the paper is being offered from the list of practicals below. Atleast 10 experiments must be performed by the students, they may be asked to do more. Atleast 5 experiments must be from the given list.

1. Introduction to MATLAB and its basic commands.
2. Plot unit step, unit impulse, unit ramp, exponential, parabolic functions and sinusoidal signals
3. Plot the linear convolution of two sequences
4. Study the transient response of series RLC circuit for different types of waveforms on CRO and verify using MATLAB
5. Study the time response of a simulated linear system and verify the unit step and square wave response of first order and second order, type 0,1 system

6. To determine Z and Y parameters of the given two port network.
7. To determine ABCD parameters of the given two port network.
8. To verify various theorems in AC Circuits.
9. To determine Hybrid parameters of the given two port network.
10. To design Cascade Connection and determine ABCD parameters of the given two port network.
11. To design Series-Series Connection and determine Z parameters of the given two port network.
12. To design Parallel-Parallel Connection and determine Y parameters of the given two port network.
13. To design Series-Parallel Connection and determine h parameters of the given two port network.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
LIST OF MAJOR EQUIPMENT AVAILABLE

Lab Name - **Paper: Circuits and Systems Lab**
Paper Code(s): EEC-253 / EEC-254

Sl No.	Name of Equipment
1	Transient Response of Series RLC Circuit for different types of Input Waveforms
2	Setup for series-parallel connection
3	Z and Y Parameter Estimation Kit
4	ABCD Parameter Estimation Kit
5	Hybrid Parameter Estimation Kit
6	Reciprocity Theorem Verification Kit
7	Design cascade connection
8	Setup for series-series connection
9	Setup for Parallel-parallel connection
10	Frequency response of different filter circuit

Computer Based Experiments using SCILAB

1.	Introduction to MATLAB and its basic commands.
2.	Plot unit step, unit impulse, unit ramp, exponential, parabolic functions and sinusoidal signals
3.	Plot the linear convolution of two sequences
4.	Study the transient response of series RLC circuit for different types of waveforms on CRO and verify using MATLAB

BACHELOR OF TECHNOLOGY (CSE- 6th Sem)

Microprocessor and Microcontrollers

JIMS ENGINEERING MANAGEMENT TECHNICAL CAMPUS, GREATER NOIDA

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

LABORATORY STOCK VERIFICATION REPORT

Lab Name - Microprocessors and Microcontrollers (ETEC 355)

Sl. No.	Name of Equipment
1	8086 Microprocessor trainer kit with LED display
2	8086 Microprocessor trainer kit with LCD display
3	8051 Microcontroller trainer kit with LED display
4	8051 Microcontroller trainer kit with LCD display
5	89C51 Microcontroller trainer kit
6	PIC Microcontroller trainer kit
7	ATMEGA8 Microcontroller trainer kit
8	8255 PPI study card
9	8253 timer/counter study card
10	8279 keyboard and display study card
11	7 segment display with cable
12	Keyboard card with cable
13	Relay Opto card with cable
14	LED matrix card with cable
15	8251 USART study card
16	8259 Interrupt controller study card
17	8257 DMA study card
18	8155 I/O timer study card
19	Stepper motor controller interfacing module with stepper motor and power supply
20	Traffic light controller interfacing module
21	Temperature controller interfacing module
22	DAC Module
23	ADC Module
24	30MHz Dual trace CRO
25	PS2 Keyboard

BACHELOR OF TECHNOLOGY
(ELECTRONICS AND COMMUNICATION ENGINEERING)
SEVENTH SEMESTER EXAMINATION

Code No.	Paper ID	Paper	L	T/P	Credits
ETEC-451		Optical and Wireless Communication Lab	0	2	1
ETEC-453		Embedded System Lab	0	2	1
ETEC-455		Lab Based on Elective I and/or II	0	2	1

BACHELOR OF TECHNOLOGY
(ELECTRONICS AND COMMUNICATION ENGINEERING)
EIGHTH SEMESTER EXAMINATION

Code No.	Paper ID	Paper	L	T/P	Credits
ETEC-452		Satellite and Antenna Lab	0	2	1
ETEC-454		Practical Based on Elective or Compulsory Subject	0	2	1

**JIMS ENGINEERING MANAGEMENT TECHNICAL CAMPUS, GREATER
NOIDA**

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

LIST OF MAJOR EQUIPMENT AVAILABLE

Lab Name - Optical and Wireless Communication Lab (ETEC-451)

Sl. No.	Name of Equipment
1	Advance fiber optics trainer with MIC
2	Optical power meter
3	Fiber optical cable

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

LIST OF MAJOR EQUIPMENT AVAILABLE

Lab Name – Satellite and Antenna Lab (ETEC-452)

Sl. No.	Name of Equipment
1	Antenna Trainer with 5 numbers of Antenna
2	Satellite Communication Trainer (with camera, mic & LED TV)
3	DSO (Dual Trace)

**JIMS ENGINEERING MANAGEMENT TECHNICAL CAMPUS, GREATER
NOIDA**

LIST OF MAJOR EQUIPMENT AVAILABLE

Lab Name - Embedded System Lab (ETEC-453)

Sl. No.	Name of Equipment
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1	8051/31 Microcontroller kit with compiler, Assembler, Keyboard
2	Microchip PIC 16F84 based embedded board
3	Embedded arm kit

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

LIST OF MAJOR EQUIPMENT AVAILABLE

Lab Name – Lab Based on Elective I and/or II Lab (ETEC-455)

Sl. No.	Name of Equipment
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1	Antenna Trainer with 5 numbers of Antenna
2	Satellite Communication Trainer (with camera, mic & LED TV)
3	DSO (Dual Trace)

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

LIST OF MAJOR EQUIPMENT AVAILABLE

Lab Name – Mobile Computing Lab (ETEC-454)

Sl. No.	Name of Equipment
1	CDMA trainer
2	GSM mobile handset trainer with keyboard
3	DSO (Dual Trace)

**JIMS ENGINEERING MANAGEMENT TECHNICAL CAMPUS, GREATER
NOIDA**

DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Lab Name - Microprocessors and Microcontrollers (ETEC 355)

Sl. No.	Name of Equipment
1	8086 Microprocessor trainer kit with LED display
2	8086 Microprocessor trainer kit with LCD display
3	8051 Microcontroller trainer kit with LED display
4	8051 Microcontroller trainer kit with LCD display
5	89C51 Microcontroller trainer kit
6	PIC Microcontroller trainer kit
7	ATMEGA8 Microcontroller trainer kit
8	8255 PPI study card

9	8253 timer/counter study card
10	8279 keyboard and display study card
11	7 segment display with cable
12	Keyboard card with cable
13	Relay Opto card with cable
14	LED matrix card with cable
15	8251 USART study card
16	8259 Interrupt controller study card
17	8257 DMA study card
18	8155 I/O timer study card
19	Stepper motor controller interfacing module with stepper motor and power supply
20	Traffic light controller interfacing module
21	Temperature controller interfacing module
22	DAC Module
23	ADC Module
24	30MHz Dual trace CRO

25

PS2 Keyboard

**JIMS ENGINEERING MANAGEMENT TECHNICAL CAMPUS, GREATER
NOIDA**

LIST OF MAJOR EQUIPMENT AVAILABLE

Lab Name - Wireless Communication Lab (ETEC 463)

Sl. No.	Name of Equipment
1	CDMA trainer

2

GSM mobile handset trainer with keyboard

7TH Semester

ETCE-453		Economics of Infrastructure Projects: Case Studies
ETCE-459		Lab Based on Core Subject (Transportation Engineering-II)

8TH Semester

ETCE-452		Estimation of Projects using applicable software
ETCE-454		Lab based on Elective I or II (Environment Engg)

**JIMS ENGINEERING MANAGEMENT TECHNICAL CAMPUS, GREATER
NOIDA**

LIST OF MAJOR EQUIPMENT AVAILABLE

Lab Name – Environmental Engineering Lab (ETCE-454)

Sl. No.	Name of Equipment
1	UV-VIS Spectrophotometer
2	Digital Psychrometer/ Hygrometer
3	Thermo Electrically Cooled Gaseous Sampling Attachment
4	COMBO (PM10/PM 2.5) Particulate Sampler
5	Semi Micro Digital Weighing Balance
6	Sound Level Meter

DEPARTMENT CIVIL ENGINEERING

LIST OF MAJOR EQUIPMENT AVAILABLE

Lab Name – Transportation Engineering Lab (ETCE-459)

Sl. No.	Name of Equipment
1	Los Angeles Abrasion Test Apparatus
2	Ductility Test Apparatus
3	Coarse Sieve Analysis Test Apparatus
4	Flash and Fire Test Apparatus
5	Bitumen Softening Test Apparatus
6	Marshal Stability Test Apparatus

BACHELOR OF TECHNOLOGY
(MECHANICAL ENGINEERING)
SEVENTH SEMESTER EXAMINATION

ETME451	036451	Automobile Engineering Lab
ETME453	036453	Computer Integrated Manufacturing Lab
ETME455	036455	Lab Based on Elective- I or II
ETME-457	036457	Minor Project

(MECHANICAL ENGINEERING)
EIGHTH SEMESTER EXAMINATION

ETME-452	036452	Engineering System Modelling and Simulation Lab
ETME-454	036454	Statistical Quality Control and Reliability Lab
ETME-456	036456	Lab Based on Elective III or IV
ETME-458	036458	Major Project

NAME OF LAB: - 1. AUTOMOBILE ENGINEERING LAB

SL. NO.	NAME OF EQUIPMENT
1.	MODEL OF SINGLE PLATE CLUTCH
2.	MODEL OF MULTI PLATE CLUTCH
3.	MODEL OF CENTRIFUGAL CLUTCH
4.	MODEL OF DIFFERENTIAL GEAR ASSEMBLY
5.	MODEL OF STEERING SYSTEM OF AN AUTOMOBILE
6.	MODEL OF POWER STEERING SYSTEM OF CAR
7.	MODEL OF FRONT SUSPENSION SYSTEM OF AN AUTOMOBILE
8.	MODEL OF REAR SUSPENSION SYSTEM OF AN AUTOMOBILE
9.	MODEL OF REAR WHEEL DRIVE LINE
10.	MODEL OF FRONT WHEEL DRIVE LINE
11.	MODEL OF DIFFERENTIAL AND REAR AXLE ASSEMBLY

NAME OF LAB: - 2. MECHATRONICS LAB

SL. NO.	NAME OF EQUIPMENT
1.	ELECTRO PNEUMATIC TRAINER
2.	PLC TRAINER
3.	MICRO CONTROLLER TRAINER

NAME OF LAB: - 3. COMPUTER INTEGRATED MANUFACTURING LAB

SL. NO.	NAME OF EQUIPMENT
1.	CNC LATHE SYSTEM
2.	ROBOTIC ARM TRAINER
3.	ROBOTIC ARM DEVELOPMENT TOOL

NAME OF LAB: -3. ROBOTICS LAB

SL. NO.	NAME OF EQUIPMENT
1.	ROBOTIC ARM DEVELOPMENT TOOL
2.	WIRELESS ROBOTIC BUGGY

NAME OF LAB: - 4. STATISTICAL QUALITY CONTROL LAB

SL. NO.	NAME OF EQUIPMENT
1.	SCHEWART CHIP BOXES FOR MEASURING STATISTICAL PARAMETERS AND TO DRAW CONTROL CHARTS FOR MEAN, RANGE(R), σ , p, np, c and u
2.	SAMPLING BOWL WITH SIMILAR SIZED BALLS TO DESIGN AOQL IN DIFFERENT SAMPLING PLANS WITH PROCESS AVERAGE AS 0.3 % TO 3% IN A STEP OF 0.3%
3.	RECTANGULAR SHAPE SHEET METAL PIECES TO DETERMINE THE PROCESS CAPABILITY OF MANUAL SHEET METAL CUTTING PROCESS BY CUTTING 80 RECTANGULAR PIECES.

NAME OF LAB: - 5. ENGINEERING SYSTEM MODELING AND SIMULATION LAB

SL. NO.	NAME OF EQUIPMENT
1.	30 DEDICATED SYSTEMS INSTALLED WITH LATEST VERSION OF AUTOCAD AND FUSION SOFTWARE