Lesson Plan

Name of Faculty : **Ms. Sonam, Assistant Professor of CSE**
Discipline : **Computer Science and Engineering**
Semester : **1st (ODD)**
Subject : **Programming for Problem Solving (ESC-103)**
Lesson Plan Duration : **15 weeks (from July/August-2018 to Nov/Dec-2018)**
Work Load (Lecture/Practical) per week (in hours): Lectures-04 hours

Week	Theory		Topic Covered Date and Remarks		
	Lecture- Day	Topic (Including Assignment/Test)	Date	HOD	Director- Principal
1st	1	Introduction to Programming			
	2	Introduction to component of Computer System			
	3	Idea of Algorithm			
	4	Representation of Algorithm			
2nd	5	Algorithm to programs			
	6	Arithmetic expression			
	7	Arithmetic precedence			
	8	Conditional branching			
3rd	9	Conditional loops			
	10	Writing and evaluations of conditional branching			
	11	Iteration and loops			
	12	Introduction of Arrays			
4th	13	1-D array			
	14	2 – D array			
	15	Character array			
	16	String			
5th	17	Basic searching			
	18	Sorting algorithm			
	19	Bubble , insertion , selection sort			
	20	Finding roots of equation			
6th	21	Notion of order of complexity			
	22	Functions			
	23	Parameter passing in function			
	24	Call by value			
7th		**1st Minor Test**			
8th	25	Call by reference			
	26	Recursion			
	27	Finding factorial			
	28	Fibonacci series			
9th	29	Ackerman function			
	30	Quick sort			
	31	Merge sort			
	32	Assignment 1			
10th	33	Structures			
	34	Defining structure			
	35	Array of structure			
	36	Problem and solution			
11th	37	Idea of pointers			
	38	Defining pointer			
	39	Use of pointer in structure			
	40	Notion of linked list			
12th	41	Problem and solution			
	42	Assignment 2			
	43	File handling			
	44	Program with help of pointer			
13th	45	Program on searching			
	46	Program on sorting			
	47	Program on array			
	48	Program on structure			
14th		**2nd Minor Test**			
15th	49	Problem on unit 1			
	50	Problem on unit 2			
	51	Problem on unit 3			
	52	Problem Solution			

Lesson Plan

Name of Faculty : **Ms. Arushi, Assistant Professor of CSE**
Discipline : **Computer Science and Engineering**
Semester : **1st (ODD)**
Subject : **Programming for Problem Solving (ESC-103)**
Lesson Plan Duration : **15 weeks (from July/August-2018 to Nov/Dec-2018)**
Work Load (Lecture/Practical) per week (in hours): Lectures-04 hours

Week	Theory		Topic Covered Date and Remarks		
	Lecture- Day	Topic (Including Assignment/Test)	Date	HOD	Director- Principal
1st	1	Introduction to Programming			
	2	Introduction to component of Computer System			
	3	Idea of Algorithm			
	4	Representation of Algorithm			
2nd	5	Algorithm to programs			
	6	Arithmetic expression			
	7	Arithmetic precedence			
	8	Conditional branching			
3rd	9	Conditional loops			
	10	Writing and evaluations of conditional branching			
	11	Iteration and loops			
	12	Introduction of Arrays			
4th	13	1-D array			
	14	2 – D array			
	15	Character array			
	16	String			
5th	17	Basic searching			
	18	Sorting algorithm			
	19	Bubble , insertion , selection sort			
	20	Finding roots of equation			
6th	21	Notion of order of complexity			
	22	Functions			
	23	Parameter passing in function			
	24	Call by value			
7th		**1st Minor Test**			
8th	25	Call by reference			
	26	Recursion			
	27	Finding factorial			
	28	Fibonacci series			
9th	29	Ackerman function			
	30	Quick sort			
	31	Merge sort			
	32	Assignment 1			
10th	33	Structures			
	34	Defining structure			
	35	Array of structure			
	36	Problem and solution			
11th	37	Idea of pointers			
	38	Defining pointer			
	39	Use of pointer in structure			
	40	Notion of linked list			
12th	41	Problem and solution			
	42	Assignment 2			
	43	File handling			
	44	Program with help of pointer			
13th	45	Program on searching			
	46	Program on sorting			
	47	Program on array			
	48	Program on structure			
14th		**2nd Minor Test**			
15th	49	Problem on unit 1			
	50	Problem on unit 2			
	51	Problem on unit 3			
	52	Problem Solution			

Lesson Plan

Name of Faculty : Ms Varsha Rani, Assistant Professor of CSE
Discipline : Computer Science and Engineering
Semester : 1st
Subject : Prog. For Problem Solving lab(ESC 103)
Lesson Plan Duration : 15 weeks (from January/ February-2018 to April/ May-2018)
Work Load (Lecture/Practical) per week (in hours): Lectures-04hours, Practical-02 hours

Week	Theory/ Practical (Group-I/ II)		Topic Covered Date and Remarks		
	Practical Day	Topics/ Programs	Date	HOD	Director-Principal
1st	1	To formulate simple algorithm for arithmetic and logical problems			
2nd	2	To translate the algorithm into programs			
3rd	3	To test and execute the program and correct syntax and logical errors			
4th	4	To implement conditional branching,iteration and recursion.			
5th	5	To decompose a problem into functions and synthesize a complete program using divide and conquer approach			
6th	6	To use array,pointers and structures to formulate algorithms and programs			
7th		Minor test 1st			
8th	7	To apply programming to solve simple numerical methods problems,namely not finding of function.			
9th	8	To be able to create,read and write to and from simple text files.			
10th	9	To be able to declare pointers of different types and use them in defining self refrential structures.			
11th	10	Function,call by value			
12th	11	Function call by refrence			
13th	12	Variable types and type conversions.			
14th		Minor test 2nd			
15th	13	2D arrays and strings.			

Lesson Plan

Name of Faculty : Ms Arushi, Assistant Professor of CSE
Discipline : Civil + FT
Semester : 1st
Subject : Prog. For Problem Solving lab(ESC 103)
Lesson Plan Duration : 15 weeks (from January/ February-2018 to April/ May-2018)
Work Load (Lecture/Practical) per week (in hours): Lectures-04hours, Practical-02 hours

Week	Theory/ Practical (Group-I/ II)		Topic Covered Date and Remarks		
	Practical Day	Topics/ Programs	Date	HOD	Director-Principal
1st	1	To formulate simple algorithm for arithmetic and logical problems			
2nd	2	To translate the algorithm into programs			
3rd	3	To test and execute the program and correct syntax and logical errors			
4th	4	To implement conditional branching,iteration and recursion.			
5th	5	To decompose a problem into functions and synthesize a complete program using divide and conquer approach			
6th	6	To use array,pointers and structures to formulate algorithms and programs			
7th		Minor test 1st			
8th	7	To apply programming to solve simple numerical methods problems,namely not finding of function.			
9th	8	To be able to create,read and write to and from simple text files.			
10th	9	To be able to declare pointers of different types and use them in defining self refrential structures.			
11th	10	Function,call by value			
12th	11	Function call by refrence			
13th	12	Variable types and type conversions.			
14th		Minor test 2nd			
15th	13	2D arrays and strings.			

Lesson Plan

Name of Faculty : **Ms. Sonam, Assistant Professor of CSE**
Discipline : **Computer Science and Engineering**
Semester : **1st (ODD)**
Subject : **Programming for Problem Solving (ESC-103)**
Lesson Plan Duration : **15 weeks (from July/August-2018 to Nov/Dec-2018)**
Work Load (Lecture/Practical) per week (in hours): Lectures-04 hours

Week	Theory		Topic Covered Date and Remarks		
	Lecture- Day	Topic (Including Assignment/Test)	Date	HOD	Director- Principal
1st	1	Introduction to Programming			
	2	Introduction to component of Computer System			
	3	Idea of Algorithm			
	4	Representation of Algorithm			
2nd	5	Algorithm to programs			
	6	Arithmetic expression			
	7	Arithmetic precedence			
	8	Conditional branching			
3rd	9	Conditional loops			
	10	Writing and evaluations of conditional branching			
	11	Iteration and loops			
	12	Introduction of Arrays			
4th	13	1-D array			
	14	2 – D array			
	15	Character array			
	16	String			
5th	17	Basic searching			
	18	Sorting algorithm			
	19	Bubble , insertion , selection sort			
	20	Finding roots of equation			
6th	21	Notion of order of complexity			
	22	Functions			
	23	Parameter passing in function			
	24	Call by value			
7th		**1st Minor Test**			
8th	25	Call by reference			
	26	Recursion			
	27	Finding factorial			
	28	Fibonacci series			
9th	29	Ackerman function			
	30	Quick sort			
	31	Merge sort			
	32	Assignment 1			
10th	33	Structures			
	34	Defining structure			
	35	Array of structure			
	36	Problem and solution			
11th	37	Idea of pointers			
	38	Defining pointer			
	39	Use of pointer in structure			
	40	Notion of linked list			
12th	41	Problem and solution			
	42	Assignment 2			
	43	File handling			
	44	Program with help of pointer			
13th	45	Program on searching			
	46	Program on sorting			
	47	Program on array			
	48	Program on structure			
14th		**2nd Minor Test**			
15th	49	Problem on unit 1			
	50	Problem on unit 2			
	51	Problem on unit 3			
	52	Problem Solution			

Lesson Plan

Name of Faculty : **Ms. Arushi, Assistant Professor of CSE**
Discipline : **Computer Science and Engineering**
Semester : **1st (ODD)**
Subject : **Programming for Problem Solving (ESC-103)**
Lesson Plan Duration : **15 weeks (from July/August-2018 to Nov/Dec-2018)**
Work Load (Lecture/Practical) per week (in hours): Lectures-04 hours

Week	Theory		Topic Covered Date and Remarks		
	Lecture- Day	Topic (Including Assignment/Test)	Date	HOD	Director- Principal
1st	1	Introduction to Programming			
	2	Introduction to component of Computer System			
	3	Idea of Algorithm			
	4	Representation of Algorithm			
2nd	5	Algorithm to programs			
	6	Arithmetic expression			
	7	Arithmetic precedence			
	8	Conditional branching			
3rd	9	Conditional loops			
	10	Writing and evaluations of conditional branching			
	11	Iteration and loops			
	12	Introduction of Arrays			
4th	13	1-D array			
	14	2 – D array			
	15	Character array			
	16	String			
5th	17	Basic searching			
	18	Sorting algorithm			
	19	Bubble , insertion , selection sort			
	20	Finding roots of equation			
6th	21	Notion of order of complexity			
	22	Functions			
	23	Parameter passing in function			
	24	Call by value			
7th		**1st Minor Test**			
8th	25	Call by reference			
	26	Recursion			
	27	Finding factorial			
	28	Fibonacci series			
9th	29	Ackerman function			
	30	Quick sort			
	31	Merge sort			
	32	Assignment 1			
10th	33	Structures			
	34	Defining structure			
	35	Array of structure			
	36	Problem and solution			
11th	37	Idea of pointers			
	38	Defining pointer			
	39	Use of pointer in structure			
	40	Notion of linked list			
12th	41	Problem and solution			
	42	Assignment 2			
	43	File handling			
	44	Program with help of pointer			
13th	45	Program on searching			
	46	Program on sorting			
	47	Program on array			
	48	Program on structure			
14th		**2nd Minor Test**			
15th	49	Problem on unit 1			
	50	Problem on unit 2			
	51	Problem on unit 3			
	52	Problem Solution			

Lesson Plan

Name of Faculty : Ms Varsha Rani, Assistant Professor of CSE
Discipline : Computer Science and Engineering
Semester : 1st
Subject : Prog. For Problem Solving lab(ESC 103)
Lesson Plan Duration : 15 weeks (from January/ February-2018 to April/ May-2018)
Work Load (Lecture/Practical) per week (in hours): Lectures-04hours, Practical-02 hours

Week	Theory/ Practical (Group-I/ II)		Topic Covered Date and Remarks		
	Practical Day	Topics/ Programs	Date	HOD	Director-Principal
1st	1	To formulate simple algorithm for arithmetic and logical problems			
2nd	2	To translate the algorithm into programs			
3rd	3	To test and execute the program and correct syntax and logical errors			
4th	4	To implement conditional branching,iteration and recursion.			
5th	5	To decompose a problem into functions and synthesize a complete program using divide and conquer approach			
6th	6	To use array,pointers and structures to formulate algorithms and programs			
7th		Minor test 1st			
8th	7	To apply programming to solve simple numerical methods problems,namely not finding of function.			
9th	8	To be able to create,read and write to and from simple text files.			
10th	9	To be able to declare pointers of different types and use them in defining self refrential structures.			
11th	10	Function,call by value			
12th	11	Function call by refrence			
13th	12	Variable types and type conversions.			
14th		Minor test 2nd			
15th	13	2D arrays and strings.			

Lesson Plan

Name of Faculty : Ms Arushi, Assistant Professor of CSE
Discipline : Civil + FT
Semester : 1st
Subject : Prog. For Problem Solving lab(ESC 103)
Lesson Plan Duration : 15 weeks (from January/ February-2018 to April/ May-2018)
Work Load (Lecture/Practical) per week (in hours): Lectures-04hours, Practical-02 hours

Week	Theory/ Practical (Group-I/ II)		Topic Covered Date and Remarks		
	Practical Day	Topics/ Programs	Date	HOD	Director-Principal
1st	1	To formulate simple algorithm for arithmetic and logical problems			
2nd	2	To translate the algorithm into programs			
3rd	3	To test and execute the program and correct syntax and logical errors			
4th	4	To implement conditional branching,iteration and recursion.			
5th	5	To decompose a problem into functions and synthesize a complete program using divide and conquer approach			
6th	6	To use array,pointers and structures to formulate algorithms and programs			
7th		Minor test 1st			
8th	7	To apply programming to solve simple numerical methods problems,namely not finding of function.			
9th	8	To be able to create,read and write to and from simple text files.			
10th	9	To be able to declare pointers of different types and use them in defining self refrential structures.			
11th	10	Function,call by value			
12th	11	Function call by refrence			
13th	12	Variable types and type conversions.			
14th		Minor test 2nd			
15th	13	2D arrays and strings.			

Lesson Plan

Name of Faculty : Gaurav Singh Sisodia
Discipline : Mathematics
Semester : I
Subject : Maths-I (MAT-101-L)
Lesson Plan Duration: 15 weeks (from August, 2018 to November, 2018)
Work Load (Lecture/Practical) per week (in hours): **Lectures 05 hours**.

Week	Theory	
	Lecture Day	**Topic (Including Assignment/Test)**
1st	1	Taylor's series
	2	Maclaurin's series
	3	Asymptotes Def., asymptotes parallel to coordinate axes
	4	Oblique asymptotes
	5	Asymptotes by Inspection method, Intersection of curve and its asymptotes
2nd	6	Asymptotes of Polar curves
	7	Problems and solutions
	8	Curvature, Radius and curvature for Intrinsic and Cartesian curves
	9	Radius of curvature of Pedal and polar equations
	10	Radius of curvature at origin, Newton's Method, Method of expansion
3rd	11	Centre of curvature, evolutes and involutes
	12	Problems and solutions
	13	Functions of two or more variables, Partial derivatives and differentiability
	14	Total differential and derivatives of composite functions and implicit functions
	15	Problems and solutions
4th	16	Higher order partial derivatives, Homogeneous functions, Euler's Theorem
	17	Taylor's series for functions of two variables
	18	Jacobians
	19	Problems and solutions
	20	Maxima and minima of functions of two variables
5th	21	Lagrange's method of undetermined multipliers
	22	Differentiation under the integral sign
	23	Problems and solutions
	24	Applications of single integration to find volume of solids
	25	Applications of single integration to find surface area of solids or revolution
6th	26	Problems and Solutions
	27	Double integral
	28	Change of order of double integration
	29	Double integral in polar coordinates
	30	Problems and Solutions
7th		----------**Ist Minor Test**----------
8th	31	Applications of double integral to find area enclosed by plane curves
	32	Applications of double integral to find volumes enclosed by plane surfaces
	33	Triple integral
	34	Change of variables
	35	Problems and solutions
9th	36	Beta function
	37	Properties of Beta function
	38	Gamma function
	39	Properties of Gamma function
	40	Relation between Beta and Gamma function
10th	41	Problems and Solutions
	42	Differentiation of vectors
	43	Scalar and vector point functions
	44	Gradient of a scalar field
	45	Physical interpretation of gradient
11th	46	Directional derivatives
	47	Problems and Solutions
	48	Divergence of a vector field
	49	Physical interpretation of divergence
	50	Curl of a vector field
12th	51	Physical interpretation of curl
	52	Properties of divergence and curl
	53	Problems and solutions
	54	Integration of vectors
	55	Line integral
13th	56	Problems and Solutions
	57	Surface integral
	58	Volume integral
	59	Problems and Solutions
	60	Green's theorem
14th		----------**2nd Minor Test**----------
15th	61	Applications of Green's theorem
	62	Stoke's theorem,
	63	Applications of Stoke's theorem
	64	Gauss divergence theorem
	65	Applications of Gauss theorem

Lesson Plan

Name of Faculty : Dr. Wazir Singh, Assistant Professor
Discipline : B.Tech.
Branch : CE, CSE+FT.-1st Sem
Subject : Chemistry (CHY-101-L)
Lesson Plan Duration: 15 weeks (from August, 2018 to November, 2018)
Work Load (Lecture/Practical) per week (in hours): **Lectures 08 hours**

Week	Theory		Lesson Plan covered	
	Lecture Day	Topic (Including Assignment/Test)	CE	CSE+FT
1st	1	**UNIT-I Thermodynamics** : Concept of Entropy		
	2	Concept of Entropy, Problems and Solutions		
	3	Free Energy and Work Functions, Free Energy Change		
	4	Chemical Potential, Gibb's Helmholtz Equation, related numerical problems		
2nd	5	Clausius-Clapeyron Equation related numerical problems		
	6	**Phase Equilibrium :** Phase, Component and degree of freedom		
	7	Gibb's Phase Rule, One Component System : H_2O System		
	8	Problems and Solutions		
3rd	9	Two Components Pb-Ag System		
	10	Two Components Zn-Mg System		
	11	**UNIT-II** Water and its Treatment : Hardness of water, units of Hardness		
	12	Problems and Solutions		
4th	13	Hardness determination (EDTA method) related numerical problems		
	14	Alkalinity of Water and its Determination, related numerical problems		
	15	Methods of prevention of scale and sludge formation		
	16	Problems and Solutions		
5th	17	Treatment of water for domestic use, Potable or drinking water, Quality parameters of drinking water		
	18	Sedimentation, Coagulation		
	19	Filtration and disinfection		
	20	Problems and Solutions Assignment-I		
6th	21	Water softening , Ion-Exchange process		
	22	Problems and Solutions		
	23	Desalination of brackish water by Reverse Osmosis		
	24	Problems and Solutions		
7th		**1st Minor test**		
	25	**UNIT-III Corrosion :**		

8th		Dry corrosion		
	26	Wet Corrosion		
	27	Electrochemical theory of Corrosion		
	28	Problems and Solutions		
9th	29	Types of wet corrosion : Galvanic Corrosion, Differential aeration Corrosion		
	30	Factors affecting Corrosion		
	31	Corrosion preventive measure : Cathodic protection, Protective coatings		
	32	Problems and Solutions		
10th	33	**Batteries :** Introduction about batteries, Characteristics of batteries		
	34	Primary and secondary battery systems		
	35	Lead storage & Lithium batterys		
	36	Problems and Solutions		
11th	37	**Lubricants :** Introduction about lubricants		
	38	Classification of lubricants		
	39	Properties of lubricants		
	40	Problems and Solutions		
12th	41	**UNIT-IV Polymers :** Monomers and polymers, polymerization		
	42	Classification of polymers		
	43	Types of polymerization		
	44	Problems and Solutions Assignment-II		
13th	45	Effect of structure on the properties of polymers		
	46	Preparation, properties and application of thermoplastic PVC, thermoset PF and elastomer SBR		
	47	**Analytical Methods:** Principle and application of Thermo Gravimetric Analysis (TGA) and Differential Thermal Analysis (DTA)		
	48	Problems and Solutions		
14th	**2nd Minor test**			
15th	49	**Spectral analysis :** Electromagnetic radiation, Lambert-Beer's Law		
	50	Principle and applications of UV-VIS spectroscopy		
	51	Principle and applications of IR spectroscopy		
	52	Problems and Solutions		

Lesson Plan

Name of Faculty : Dr. Wazir Singh, Assistant Professor
Discipline : B.Tech.
Branch : CE, CSE+FT.-1st Sem
Subject : Chemistry Lab (CHY-101-P)
Lesson Plan Duration: 15 weeks (from August, 2018 to November, 2018)
Work Load (Lecture/Practical) per week (in hours): **Practical -08 hours**

Week	Lesson plan Practical		Lesson plan covered
	Practical Day	Topic	Date and Branch
1st	1	To prepare standard oxalic acid solution from crystalline oxalic acid. Determination of dissolved oxygen (DO) in the given water sample	
	1	To prepare standard oxalic acid solution from crystalline oxalic acid. Determination of dissolved oxygen (DO) in the given water sample	
	1	To prepare standard oxalic acid solution from crystalline oxalic acid. Determination of dissolved oxygen (DO) in the given water sample	
	1	To prepare standard oxalic acid solution from crystalline oxalic acid. Determination of dissolved oxygen (DO) in the given water sample	
2nd	2	Determination of viscosity of lubricant by Red Wood viscometer (No. 1 and No. 2)	
	2	Determination of viscosity of lubricant by Red Wood viscometer (No. 1 and No. 2)	
	2	Determination of viscosity of lubricant by Red Wood viscometer (No. 1 and No. 2)	
	2	Determination of viscosity of lubricant by Red Wood viscometer (No. 1 and No. 2)	
3rd	3	To determine flash point and fire point of an oil by Pensky – Marten's flash point apparatus.	
	3	To determine flash point and fire point of an oil by Pensky – Marten's flash point apparatus.	
	3	To determine flash point and fire point of an oil by Pensky – Marten's flash point apparatus.	
	3	To determine flash point and fire point of an oil by Pensky – Marten's flash point apparatus.	
4th	4	To prepare Phenol-formaldehyde and Urea formaldehyde resin.	
	4	To prepare Phenol-formaldehyde and Urea formaldehyde resin.	
	4	To prepare Phenol-formaldehyde and Urea formaldehyde resin.	
	4	To prepare Phenol-formaldehyde and Urea formaldehyde resin.	

5th	5	Determination of strength of HCI solution by titrating it against NaOH solution conductometrically.	
	5	Determination of strength of HCI solution by titrating it against NaOH solution conductometrically.	
	5	Determination of strength of HCI solution by titrating it against NaOH solution conductometrically.	
	5	Determination of strength of HCI solution by titrating it against NaOH solution conductometrically.	
6th	6	**Viva-Voce-1**	
	6	**Viva-Voce-1**	
	6	**Viva-Voce-1**	
	6	**Viva-Voce-1**	
7th	1st Minor test		
8th	7	Determination of strength of strong acid by titrating it against weak base conductometrically.	
	7	Determination of strength of strong acid by titrating it against weak base conductometrically.	
	7	Determination of strength of strong acid by titrating it against weak base conductometrically.	
	7	Determination of strength of strong acid by titrating it against weak base conductometrically.	
9th	8	Determination of concentration of $KMnO_4$ solution spectrophotometrically.	
	8	Determination of concentration of $KMnO_4$ solution spectrophotometrically	
	8	Determination of concentration of $KMnO_4$ solution spectrophotometrically	
	8	Determination of concentration of $KMnO_4$ solution spectrophotometrically	
10th	9	To determine the surface tension of given liquid by means of stalagmometer by drop number method.	
	9	To determine the surface tension of given liquid by means of stalagmometer by drop number method.	
	9	To determine the surface tension of given liquid by means of stalagmometer by drop number method.	
	9	To determine the surface tension of given liquid by means of stalagmometer by drop number method.	
11th	10	Determination of Ca^{++} and Mg^{++} hardness of water using EDTA solution.	
	10	Determination of Ca^{++} and Mg^{++} hardness of water using EDTA solution.	
	10	Determination of Ca^{++} and Mg^{++} hardness of water using EDTA solution.	

	10	Determination of Ca^{++} and Mg^{++} hardness of water using EDTA solution.	
12th	11	Determination of alkalinity of water sample.	
	11	Determination of alkalinity of water sample.	
	11	Determination of alkalinity of water sample.	
	11	Determination of alkalinity of water sample.	
13th	12	**Viva-Voce-2**	
	12	**Viva-Voce-2**	
	12	**Viva-Voce-2**	
	12	**Viva-Voce-2**	
14th	2nd Minor test		
15th	13	Final Submission of Record	
	13	Final Submission of Record	
	13	Final Submission of Record	
	13	Final Submission of Record	

Lesson Plan

Name of Faculty : Gaurav Singh Sisodia
Discipline : Mathematics
Semester : I
Subject : Maths-I (MAT-101-L)
Lesson Plan Duration: 15 weeks (from August, 2018 to November, 2018)
Work Load (Lecture/Practical) per week (in hours): **Lectures 05 hours**.

Week	Theory	
	Lecture Day	**Topic (Including Assignment/Test)**
1st	1	Taylor's series
	2	Maclaurin's series
	3	Asymptotes Def., asymptotes parallel to coordinate axes
	4	Oblique asymptotes
	5	Asymptotes by Inspection method, Intersection of curve and its asymptotes
2nd	6	Asymptotes of Polar curves
	7	Problems and solutions
	8	Curvature, Radius and curvature for Intrinsic and Cartesian curves
	9	Radius of curvature of Pedal and polar equations
	10	Radius of curvature at origin, Newton's Method, Method of expansion
3rd	11	Centre of curvature, evolutes and involutes
	12	Problems and solutions
	13	Functions of two or more variables, Partial derivatives and differentiability
	14	Total differential and derivatives of composite functions and implicit functions
	15	Problems and solutions
4th	16	Higher order partial derivatives, Homogeneous functions, Euler's Theorem
	17	Taylor's series for functions of two variables
	18	Jacobians
	19	Problems and solutions
	20	Maxima and minima of functions of two variables
5th	21	Lagrange's method of undetermined multipliers
	22	Differentiation under the integral sign
	23	Problems and solutions
	24	Applications of single integration to find volume of solids
	25	Applications of single integration to find surface area of solids or revolution
6th	26	Problems and Solutions
	27	Double integral
	28	Change of order of double integration
	29	Double integral in polar coordinates
	30	Problems and Solutions
7th		----------**Ist Minor Test**----------
8th	31	Applications of double integral to find area enclosed by plane curves
	32	Applications of double integral to find volumes enclosed by plane surfaces
	33	Triple integral
	34	Change of variables
	35	Problems and solutions
9th	36	Beta function
	37	Properties of Beta function
	38	Gamma function
	39	Properties of Gamma function
	40	Relation between Beta and Gamma function
10th	41	Problems and Solutions
	42	Differentiation of vectors
	43	Scalar and vector point functions
	44	Gradient of a scalar field
	45	Physical interpretation of gradient
11th	46	Directional derivatives
	47	Problems and Solutions
	48	Divergence of a vector field
	49	Physical interpretation of divergence
	50	Curl of a vector field
12th	51	Physical interpretation of curl
	52	Properties of divergence and curl
	53	Problems and solutions
	54	Integration of vectors
	55	Line integral
13th	56	Problems and Solutions
	57	Surface integral
	58	Volume integral
	59	Problems and Solutions
	60	Green's theorem
14th		----------**2nd Minor Test**----------
15th	61	Applications of Green's theorem
	62	Stoke's theorem,
	63	Applications of Stoke's theorem
	64	Gauss divergence theorem
	65	Applications of Gauss theorem