



DELHI COLLEGE OF TECHNOLOGY &
MANAGEMENT. PALWAL

ACADEMIC CALENDAR

RECOD NO.
FQ/ACD/01 Revision No.01

Course File

B.Tech II Sem.

Section: ME+CIVIL, ECE+CSE

Mathematics-II

Dr. Surendra Kumar Sharma

Department of ASH

DCTM, Palwal



ACADEMIC CALENDAR OF B.TECH, M.TECH, BBA & MBA (EVEN SEMESTER) 15th Jan 2018 – 27th April 2018

Date	Total Days	Lecture Schedule	Remarks
15 th -19 th Jan 2018	05	Total No. of Days = 75 Holidays = 5 Total Working Days = 70	Registration on 15th Jan 2018
22 nd -26 th Jan 2018	05		ALL EVEN SEMESTER
29 th Jan-02 nd Feb 2018	05		(B.Tech, M.Tech, BBA & MBA)
05 th -09 th Feb 2018	05		Annual Function: 15th -16th February
12 th -16 th Feb 2018	05		Holidays:
19 th -23 rd Feb 2018	05		26 th January: Republic Day (Friday)
26 th Feb -02 nd Mar 2018	05		13 th February: Mahashivratri (Tuesday)
05 th -09 th Mar 2018	05		28 th February to 02 March : Holi Holidays (Wednesday to Friday)
12 th -16 th Mar 2018	05		
19 th -23 rd Mar 2018	05		
26 th -30 th Mar 2018	05		
02 nd -06 th Apr 2018	05		
09 th – 13 th Apr 2018	05		
16 th -20 th Apr 2018	05		
23 th -27 th Apr 2018	05		
30 th Apr-04 th May 2018	05	ST/REVISION/MERCY TEST/DOUBT CLASSES	

1. All students should be kept informed about weekly teaching schedule and class tests for each Subject.
2. All students must understand the eligibility criteria for university examination which is 75% of the Attendance. Students are advised to attend all classes i.e. 100% attendance.
3. From **12th February 2018** onwards Sessional Test of 90 minutes duration will be conducted on every Monday from 9:30 AM to 11:00 AM for both university.
4. PDP/GATE classes and other value added activities will be done as time table. There will be common slot in time table for each discipline and year for these activities.

Prof. (Dr) Vivek Kumar

Principal.



ACTIVITY CALENDAR OF DELHI COLLEGE OF TECHNOLOGY & MANAGEMENT PALWAL

Session: 2017-18 Even Semester

S.NO.	Weeks	Monday Dates	ST WITH SUBJECT NO.	SUB1	SUB2	SUB3	SUB4	SUB5	SUB6	
1	1	15 th January	15 th JANUARY REGISTRATION All Sem (B.TECH, BBA, MBA, M.Tech)							
2	2	22 th January	FIRST TWO SPECIAL LECTURES FOR SUB 1/2							
3	3	29 th January	FIRST TWO SPECIAL LECTURES FOR SUB 1/2							
4	4	05 th February	FIRST TWO SPECIAL LECTURES FOR SUB 1/2			VL	PD			CT1
5	5	12 th February	ST1	PA	VL				CT1	
6	6	19th February	ST2	PB	PA	VL	CT1			
7	7	26 th February	ST3	PC	PB	CT1	VL			
8	8	05 th March	ST4	PD	CT1			VL		
9	9	12 th March	ST5	CT1	PC				VL	
10	10	19 th March	ST6	VL	PD				CT2	
11	11	26 th March	ST1	PA	VL				CT2	
12	12	02nd April	ST2	PB	PA	VL	CT2			
13	13	09 th April	ST3	PC	PB	CT2	VL			
14	14	16 th April	ST4	PD	CT2			VL		
15	15	23 rd April	ST5	CT2	PC				VL	
16	16	30 th April	ST6	REVISION/MERCY TEST/DOUBT CLASSES						

- Duration of all Presentations of the students is two lectures to be monitored rigorously by HOD and senior faculty member of concerned department.
- Two NPTEL Video lectures for the students in each subject are must in this semester.
- Select one new subject from AICTE/SWAYAM for each semester to all students.

Legends	CT - Class Test	ST - Sessional Test	VL –VIDEO LECTURE	PA- PRESENTATION GROUP A PB- PRESENTATION GROUP B PC- PRESENTATION GROUP C PD- PRESENTATION GROUP D
ATT – Attendance	23/02/2018	23/03/2018	Final 27/04/2018	
Letter to Parents on 26th February and 26th March 2018				

MATHEMATICS-II (HAS-104C)

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Sessional: 25 Marks
Theory Exam: 75 Marks
Total Marks: 100 Marks
Duration of Exam: 3 Hrs.

Notes:

Examiner will set 7 questions in total, with two sections. Section A one question covering all sections which will be compulsory and of short answer type. Section B having six questions Students to be attempt 4 questions in for this section. Students to be attempt 5 questions in total. All carries equal mark (15 marks).

UNIT I Ordinary Differential Equation and its Applications: Exact differential equation of first order, Equations reducible to exact differential equation, differential equation of second and higher order, Complete solutions of linear differential equations(Complementary Function + Particular Integral), Method of variation of parameter to find Particular Integral, Cauchy's and Legendre's linear Equation, Simultaneous linear equations with constant co-efficient, Application of linear differential equations to Electric circuits(LC,LCR circuit), Newton's law of cooling, Heat flow, Orthogonal trajectory.

UNIT II Laplace Transforms and its Applications: Laplace-transforms of elementary functions, Elementary properties of Laplace-transforms, Existence conditions, Transforms of derivatives, Transforms of Integrals, Multiplications by tn , division by t , Evaluation of integrals by Laplace transforms, Second shifting Theorem, Inverse transforms, Convolution theorem, Applications to linear differential equations to solve boundary value problems with constants coefficients and simultaneous linear differential equations with constant coefficients.

UNIT III Partial Differential Equation and its Application: Formation of partial differential equations. Lagrange's linear partial -differential equations. First order non-linear partial differential equations, Charpit's method. Homogeneous Partial differential equation of second and higher order, Method of Separation of Variables and its applications to wave equation and one dimensional Heat equation.

UNIT IV Infinite Series: Convergence and divergence of Infinite series, Comparison Test, D Alembert's Ratio Test, Gauss Test, Integral Test, Raabe's Test, Logarithmic Test, Cauchy's Root Test, Alternating Series, Conditional Convergence & Absolute Convergence.

Text Books:

1. Advanced Engineering Mathematics; E. Kreyszing
2. Calculus and Analytic Geometry: G.B. Thomas, R.I. Finney
3. Differential and Integral Calculus: Piskunov
4. Higher Engineering Mathematics: B.V. Ramana
5. Higher Engineering Mathematics: B.S. Grewal
6. A Text Book of Engineering Mathematics by N P Bali

Reference Books

1. Advanced Engineering Mathematics: Jain and Iyenger
2. Advanced Engg Mathematics: Michael D. Greenberg.

Name of Faculty: **Dr. Surendra Kumar Sharma**

Department: ASH

Course Title: Engg. Mathematics-II

Course Number: HAS-104-C

Semester/Section: II/ ECE + CSE +CE,ME

Session: 2017-2018

Lecture Plan Details:

L (5) T (0) P (0)

Week No.	Lecture No.	Topics to be covered	References	Remarks
Section: A Ordinary Differential Equations and Applications				
1	1	General introduction of the syllabus and marking scheme	N.P. Bali	
	2-6	Introduction to differential equations and its solution (Separation of variables, Homogeneous, Linear differential equation)		
2	7	Exact differential equations		
	8-12	Solution of linear differential equations of second and higher order (CF & PI)		
3	13-14	Method of variation of parameters for finding PI		
	15-16	Cauchy's and Legendre's linear equations		
	17-18	Simultaneous linear equations with constant coefficients		
Section: B Laplace Transforms and its Applications				
4	19-20	Applications of differential equations		
	21-22	Laplace transforms of elementary functions and its properties		
	23-24	Multiplication and division by t		
5	25-27	Derivative and integration of Laplace transform		
	28-30	Inverse Laplace transform		
Video Lecturer (Differential Equation)				
6	31-32	Convolution theorem		
	33-34	Laplace transform of unit step and periodic function		
	35-36	Application to solve differential equations and revision		
Sessional Test-1				
Section: C Partial Differential Equations and Its Applications				

7	37-39	Formation of partial differential equations		
	40-42	Lagrange' linear partial differential equation		
8	43-45	First order non-linear partial differential equation,		
	46-48	Charpit's method		
Class Test-1				
Section: D (Infinite Series)				
9	49-51	Convergence and divergence of Infinite series,		
	52-54	Comparison Test.		
10	55-57	,D'Alembert's Ratio Test		
	58-60	Gauss Test		
11	61-63	Raabe's Test.		
	64-66	Logarithmic Test,		
Video Lecturer (Laplace Transform)				
12	67-68	Cauchy's Root Test.		
	69-72	Integral Test.		
Sessional Test-2				
13	73-74	Alternating Series,		
	75-78	Conditional Convergence & Absolute Convergence		
14	79-84	Revision of all syllabus		
Class Test-2				

Text Books:

1. A Text Book of Engineering Mathematics-II by NP Bali
2. Introduction to Engineering Mathematics by H.K. Dass and R. Verma

Reference Books/Websites:

1. Higher Engineering Mathematics : B.V. Ramana
2. Advanced Engineering Mathematics : Jain and Iyenger

Signature of Faculty Member

HOD/Principal/Academic Coordinator

Date:



**DELHI COLLEGE OF TECHNOLOGY &
MANAGEMENT PALWAL**

TUTORIAL PLAN

RECORD NO.: QF/ACD/010
Revision No.: 00

Dr. Surendra Kumar Sharma

Department: ASH

Course Title: Engg. Mathematics-II

Course Number: HAS-104-C

Semester/Section: II/ ECE + CSE & ME+CIVIL

Session: 2017-2018

Assignment Plan Details:

Assignm ent Number	Topics to be covered	Date of Assignment	Date of Submission	Nature of Assignment
1	Differential Equation			Numerical
2	Differential Equation			Numerical
3	Differential Equation			Numerical
4	Differential Equation			Numerical
5	Applications of differential equations			Numerical
6	Laplace transforms			Numerical
7	Inverse Laplace transforms			Numerical
8	Solution of partial differential equations			Numerical
9	Infinite Series			Numerical
10	Infinite Series			Numerical

Signature of Faculty Member

HOD/Principal/Academic coordinator