SECOND SEMESTER 2015-2016

In addition to Part I (General Handout for all courses appended to the time table) this portion gives other specific details of the course.

Course Number : **BITS F114**

Course Title : **General Mathematics II**

Instructor-In charge **:** RAJIV KUMAR

1. **Scope and Objective of the Course:** The course is for Pharmacy students keeping in mind the importance of Calculus and differential equations in every branch of Science and Engineering. Functions of several variables appear more frequently in Science than functions of a single variable. Their derivatives are more interesting because of the different ways in which the variables can interact, while differential equations of both homogeneous and non-homogeneous also plays a vital role in Engineering and Sciences. This course includes Polar Co-ordinates, Functions of several variables, Multiple Integrals, Vector Valued functions, Complex functions and Ordinary differential equations.
2. **Text Books:**
   For I Finney Calculus & Pearson education

   For II and III: Erwin Kreyszig- Advanced Engineering Mathematics, 8th Edition Wiley-India.

3. **Reference Books:**
   Stewart- Calculus, 5 e, Cengage learning, 2003.

4. **Course Plan for General Mathematics II:**

Lect. No.	Objective	description	Article
	I		
1-3	Polar co-ordinates	Introduction to PC- Relation between Cartesian and polar, Polar curves (without sketching)	10.5-10.6
4-11	Function of several variables	Function, Limit, Continuity, Partial derivatives, Chain rule, Directional derivatives, Extreme values and Saddle point,	14.1-14.5 14.7-14.8

		Lagrange Multipliers	
12-15	Multiple Integrals	Double integral, Double integral in polar form	15.1, 15.3
16-17	Vector valued functions	Vector valued functions and Space curve	13.1
	II		
18-23	Complex functions and their analyticity	Complex number, root and functions, Derivative and CR equations and Analyticity	13.1-13.4
	III		
24-28	First and Second order differential equations	Introduction (Degrees and Order), Linear first order ODE, Linear differential equations, Separable and Exact ODE	1.1-1.4
29-35		Second order linear homogenous ODE, Cauchy-Euler ODE, NON-homogenous ODE, Variation of Parameters	2.1-2.3, 2.5, 2.7, 2.10
36-40		Laplace transformations, Solutions of ODE using Laplace transformations	6.1-6.7

5. **Evaluation Scheme:**

COMPONENT	Time	% percentage	DATE &TIME	VENUE	Nature
Test	90 minute	35	14/3 11:00 - 12:30 PM		Closed
QUIZ	regular	20			Closed/open
Comprehensive	3 hours	45	3/5 AN		closed book/open book

6. **Announcements:** All announcements in relation to the above course will be put up on the Maths Dept. Notice board.

7. **Make up policy:** Make up for the mid-semester/comprehensive examination will be given to genuine cases.
8. **Chamber consultation hours:** To be announced in the class.

Instructor In-Charge

BITS FII4

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