FIRST SEMESTER 2016-2017
COURSE HANDOUT (Part II)

Date: 02.08.2016

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

Course Number : BITS F113
Course Title : General Mathematics I
Instructor-In charge : C B GUPTA

Scope and objective of the course: Course deals with intermediate mathematics needed for Pharmacy students. Course covers Set theory, Functions, Coordinate geometry, Basic algebra , Theory of equations, Permutations and combinations, Binomial theorem, Trigonometry, One dimensional calculus: Limit and continuity, Differentiation, Integration, Applications of derivatives and Definite integration.

2.Text Books:

T1. Mathematics :Text Book for Class XI, National Council of Educational Research and Training.
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T2. Mathematics: Text Book for Class XII, Part I, National Council of Educational Research and Training .
T3. Mathematics: Text Book for Class XII, Part II, National Council of Educational Research and Training .

3 Reference Books :

R1. George B.Thomas, Jr., Maurice D. Weir and Joel R. Hass:Thomas' Calculus ,12th edition, Pearson Education, New Delhi

R2. James Stewart : Calculus: Early Transcendentals, 5th edition, Thomson .

4.Lecture Plan:

Lect	Topic	Article
1&2	Sets, Operations on Sets, Finite and infinite set, Power set, Cartesian product, Relations and functions.	Chapter 1&2 of T1.

3-6	Trigonometric Functions and their Identities, Simple Trigonometric Equations, Trigonometric Functions of Sums and Differences of Two Angles, Inverse Trigonometric Functions.	Chapter 3 of T1& Chapter 2 of T2.
7	Complex Numbers and Quadratic Equations.	Chapter 5 of T1: Sec. 5.1-5.4 & 5.6.
8-9	Permutations and Combinations.	Chapter7 of T1.
10	Binomial Theorem for Positive Integer Power.	Chapter 8 of T1.
11,12	Arithmetic Progression, Geometric Progression, Arithmetic Mean , Geometric Mean, Infinite Series, Infinite Geometric Series , Exponential and Logarithmic Series.	Chapter 9 & appendix 1 of T1
13-15	Condition for Parallelism and Perpendicularity of Two Lines , Angle Between Lines, Equations of a Line in Various Forms , Distance of a Point from a Line.	Chapter 10 of T1.
16-19	Conic Sections, Eccentricity, Latus Rectum, Locus, Circle, Parabola, Hyperbola, Ellipse, Pair of Lines.	Chapter 11of T1.
20-22	Three Dimensional Geometry (Distance, Equations of Line and Plane in Space, Distance of a Point From Plane, Equation of Sphere).	Chapter 12 of T1 & Chapter 11 of T3.
23-33	Limits , Continuity , Differentiability , Higher Order Derivatives , Chain Rule, Logarithmic Differentiation, Mean Value Theorem, Rolle's Theorem, Applications of Derivatives to Rates, Slope of Tangents, Maxima and Minima, Indeterminate Forms.	Chapter 13 of T1, Chapter 5& 6 of T2.
34-40	Concept of Anti Derivatives and Indefinite Integrals, Methods of Substitution, Parts, Partial Fractions, Trigonometric Reduction Formulas, Fundamental Theorem of Calculus, Definite Integrals, Area Under Curve.	Chapter 7 & 8 of T3.

5 Evaluation Scheme:

EC No.	Evaluation Component	Duration	Weightage (%)	Date & Time	Remarks
1	Mid-Semester	90 minutes	35	<TEST_1>	CB
2	QUIZ	-------	20	unannounced	CB
3	Comprehensive Examination	180 minutes	45	<TEST_C>	Partially CB Partially OB

6. Announcements: All notices concerned to the course will be put up on the notice board of Department of Mathematics/ Nalanda web site..

7. Make up policy:

Make up for the mid-semester/comprehensive examination will be given to genuine cases **ONLY**. No make up for unannounced quiz.

8. Chamber consultation hours: To be announced in the class.

Instructor In-Charge
BITS F113