The Islamia University of Bahawalpur

Department of Library and Information Science

Course Outline Mathematics (General-IV)

Class BS-4Year

Semester 2nd

Session Fall 2019-2023  
Instructor: Dr. Mah-e-Bushra Asghar

Class Days &Timings: According to Time Table

**Course Outline**

**Course Objective:**

After completion of this course the student will be able to: Understand the use of the essential tools of basic mathematics; apply the concepts and the techniques in their respective disciplines; Model the effects non-isothermal problems through different domains.

**Teacher Methodology:**

The class will be conducted in lecture and discussion environment in the class room, Where the Instructor will lead discussions, and students will be encouraged to participate and ask questions at the end of each class session. Moreover, the class be also be conducted online.

**Books Prescribed:**

1. Swokowski. E. W., ‘*Fundamentals of Algebra and Trigonometry*’, Latest Edition.
2. Kaufmann. J. E., ‘*College Algebra and Trigonometry*’, PWS-Kent Company, Boston, Latest Edition.

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| **Session No.1** | Algebra : preliminaries: real and complex numbers |
| **Session No.2** | Introduction to sets, set operations, |
| **Session No.3** | Functions, types of functions |
| **Session No.4** | Matrices: introduction to matrices |
| **Session No.5** | Types of matrices, inverse of matrices, determinants, |
| **Session No.6** | System of linear equations, |
| **Session No.7** | Cramer’s rule. |
| **Session No.8** | Quadratic equations: solution of quadratic equations, |
| **Session No.9** | **Mid Term** |
| **Session No.10** | Nature of roots of quadratic equations, |
| **Session No.11** | Equations reducible to quadratic equations. |
| **Session No.12** | Permutation and combinations: Introduction to permutation and combinations |
| **Session No.13** | Binomial Theorem: Introduction to binomial theorem |
| **Session No.14** | Trigonometry: Fundamentals of trigonometry |
| **Session No.15** | Trigonometric identities |
| **Session No.16** | Graphs: Graph of straight line |
| **Session No.17** | Circle and trigonometric functions. |
| **Session No.18** | **Final Term** |

**Testing & Grading:**

1. Learning will be accomplished through lectures, class exercises, and student participation in classroom discussion and presentation.
2. Grading will tend to focus on your overall performance rather than one or two aspects. A mid- term examination and a comprehensive final examination will be given.
3. Another portion of the course grade will include the discussion, attendance and assignments.
4. The **Mid- Term** examination will be graded for **30 points** and **Final Term** examination will have a value of **50 Marks**.
5. Excessive absences (more than) will result in “F Grade”.
6. Test questions may be taken from textbook readings, Hypertext material, additional material discussed in class and /or other assigned readings.
7. Students may prepare notebook for taking notes and for references.

**Marks Distribution of 100%**

Sessional Marks = 20

(Assignments = 05, Presentation =05, Quiz= 5 Class Behavior =5)

Mid- term = 30

Final exam = 50

**Total Marks =100**

**Appointment with Instructor:**

Instructor will be available for meeting immediately after each class.