

Faculty of Engineering & Technology

M.Tech. (Research) Biomedical Engineering

Outline Syllabus for M.Tech. (Research) Biomedical Engineering Admission Test

English Grammar and Vocabulary, Quantitative Reasoning and Analytical Ability.

C Programming: Data Types, Constants and Variables, Control Flow, Statements, Operators, Arrays and Strings, Functions, Pointers, Structures, File operation.

Statistical Methods, Measures of location (or central tendency) and dispersion, Probability Theory, Random Variables, Standards discrete probability distributions, Standard continuous probability distribution.

Rank, Eigen-values and Eigen vectors of a matrix, Differentiation, Integration, Partial differentiation, Differential Equation and its application, Fourier Series, Fourier Transform, Laplace Transform.

Cell, Muscular & Nervous System, Cardiac & Respiratory System, Digestive & Excretory System, Eye, Ear & Endocrine Glands, Skeletal System & Joints.

Diode, BJT, MOSFET and Operational Amplifiers : Characteristics and Applications, Network theorems.

Combinational & Sequential logic circuits, Counters and Registers.

Transformers construction, Equivalent circuit, Calculation of losses and efficiency, 3-phase alternators, 3-phase induction motors and 1-phase induction motors.

Sensors, Bridges & Transducers and their applications.

Fundamental concepts and principles of Mechanics, General plane motion, Motion and system of rigid bodies, Principle of work and energy, Conservation of energy for rigid body and system of rigid bodies.