INTERNAL ATKT SYLLABUS FOR THE ACADEMIC YEAR

Sept ███-2019

FYB.Sc

Maths Paper – 1

FYBSc (OLD SYLLABUS) Internal ATKT portion Sem-I

Dot product, cross product of two vectors, unit vector in the direction of a given vector, direction ratio and direction cosine of a line, finding equation of plane, volume of parallelepiped, absolute value function and its properties, monotonic sequences, bounded sequences, Real number and its properties, Hausdorff's property for real number, Problems on $\varepsilon - n_0$ definition, Definition of limit in terms of $\varepsilon - \delta$, finding value of δ for given ε.

FYBSc (OLD SYLLABUS) Internal ATKT portion Sem-II

Definition of derivative, Finding derivative using definition of derivative, Left hand derivative, Right hand derivative, Finding derivative using rules of derivative, Differentiability implies continuity but converse is not true, Higher order derivatives, Problem based on Leibnitz rule, Lagrange's Mean value theorem (Statement only), Rolle's mean value theorem (Statement only), Problems based on Lagrange's Mean value theorem and Rolle's mean value theorem, Derivative of inverse function, Chain rule (Statement only), Concave upward and concave downward, Increasing and decreasing function, example of functions which are differentiable n times but not n+1 times.

FYBSc (Current SYLLABUS) Internal ATKT portion Sem-I

Homogeneous differential equation, order and degree of differential equation, Linear and Bernoulli differential equation, Solving differential equation by writing it in variable, separable form, exact, non-exact differential equation, Integrating factor, Solving a non-exact differential equation by multiplying with suitable integrating factor, Solving a homogeneous differential equation by making suitable substitution, Finding differential equation of a family of curves, Real numbers and its properties, ε-neighbourhood of a real number, AM-GM inequality (Statement only), Cauchy-Schwarz inequality (Statement only), Law of trichotomy, Problems based on AM-GM inequality and Cauchu Schwarz inequality

FYBSc (Current SYLLABUS) Internal ATKT portion Sem-II

Definition of derivative, Finding derivative using definition of derivative, Left hand derivative, Right hand derivative, Finding derivative using rules of derivative, Differentiability implies continuity but converse is not true, Higher order derivatives, Problem based on Leibnitz rule, Lagrange's Mean value theorem (Statement only), Rolle's mean value theorem (Statement only), Problems based on Lagrange's Mean value theorem and Rolle's mean value theorem, Derivative of inverse function, Chain rule (Statement only), Increasing and decreasing function, example of functions which are differentiable n times but not n+1 times.