

**P.G. 3rd Semester Examination 2015 (Session 2014-16)**

**Subject:- Mathematics**

**Paper – 9<sup>th</sup>**

**Assignment (Full Marks – 20)**

1. State & prove Fundamental theorem on difference Calculus.
2. Discuss the method of false position in detail.

**P.G. 3rd Semester Examination 2015 (Session 2014-16)**

**Subject:- Mathematics**

**Paper – 10<sup>th</sup>**

**Assignment (Full Marks – 20)**

1. Define normed linear space & Banach space with suitable example of each.
2. State & prove Hahn-Banach theorem.

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**Paper – 11<sup>th</sup>**

**Assignment (Full Marks – 20)**

1. Find the Condition for the equations  $f(x, y, z, p, q) = 0$  &  $g(x, y, z, p, q) = 0$  to be compatible.
2. Discuss Charpit's method for solution of non-linear P.D.E. of first order.

**P.G. 3rd Semester Examination 2015 (Session 2014-16)**

**Subject:- Mathematics**

**Paper – 12<sup>th</sup>**

**Assignment (Full Marks – 20)**

1. Obtain the Lagrangian equation of motion for a double pendulum vibrating plane.
2. Discuss the principle of Least action