



**APPLICATION FOR PRELIMINARY TEST (SUPER 30 - 2016)**  
 Organised by: **Ramanujan School of Mathematics, Patna**  
 www.super30.org

Name (in CAPITAL) : \_\_\_\_\_

Date of Birth : DD / MM / YYYY  Female  Male

Category : GEN  OBC  SC  ST  PH

Father's Name : \_\_\_\_\_

Father's Occupation : \_\_\_\_\_

(a) If salaried, Employed with : GOVT. SECTOR  PRIVATE SECTOR

(b) Designation : \_\_\_\_\_

(c) Name of Office/Company : \_\_\_\_\_

Current Address : \_\_\_\_\_  
 \_\_\_\_\_ Dist. \_\_\_\_\_ State \_\_\_\_\_ Pin Code \_\_\_\_\_

Mobile No. \_\_\_\_\_ E-mail : \_\_\_\_\_

**IMPORTANT**

Stick recent  
Passport size  
photograph

**EDUCATIONAL INFORMATION**

Name of School you have attended last : \_\_\_\_\_

Marks Obtained in : Board Exam. \_\_\_\_\_ (In Percentage) Inter Exam. \_\_\_\_\_ (In Percentage)

**Name and Address of Teachers and Coaching Centers where you have attended for the preparation of IIT (JEE) in the Subjects :-**

Mathematics : \_\_\_\_\_

Physics : \_\_\_\_\_

Chemistry : \_\_\_\_\_

Write the name of subjects Physics, Chemistry and Mathematics in ascending order according to your interest.

\_\_\_\_\_

Have you enrolled (or have to be enrolled in future) anywhere in the similar program ? If yes, write the name of the program and institute.

\_\_\_\_\_

Have you enrolled (or have to be enrolled in future) in any test series ? If yes, write the name.

\_\_\_\_\_

If you will get selected in SUPER 30, would you like to take the facility of free lodging and food ?

\_\_\_\_\_

Do you need bank's loan for your B.Tech program ?

\_\_\_\_\_

After completing your B. Tech, what would you like to do higher studies or job ?

\_\_\_\_\_

\_\_\_\_\_ (Applicant Signature)



**ADMIT CARD**  
**PRELIMINARY TEST (SUPER 30 - 2016)**  
**Ramanujan School of Mathematics, Patna**  
 Facebook Page : Ramanujan School of Mathematics, Patna.  
 Ph. : 9135060806, 9135060804, 9135060805  
 www.super30.org

**IMPORTANT**

Stick recent  
Passport size  
photograph

Name : \_\_\_\_\_

Roll No. : \_\_\_\_\_

Test Date : \_\_\_\_\_ Time : \_\_\_\_\_

Centre : \_\_\_\_\_



# SYLLABUS

## MATHEMATICS

- BASIC MATHEMATICS** : Real numbers, modulus of a real number, greatest integer of a real number and other basic facts of elementary mathematics.
- ALGEBRA** : Complex numbers, Quadratic equations, Arithmetic, Geometric and harmonic progressions, Permutations and combinations, Binomial theorem, Matrices and determinant.
- PROBABILITY** : Simple probability.
- TRIGONOMETRY** : Identities, Properties of triangle and trigonometric equations and their solutions.
- ANALYTICAL GEOMETRY**: **Two dimensions** : Cartesian coordinates, Locus Problems, Straight Line, Circle, Parabola, Ellipse and Hyperbola.  
**Differential Calculus** : Function, limit, Continuity, Derivative of a function, Geometrical interpretation of the derivative, Tangents and normals, Increasing and decreasing functions, Maximum and minimum values of a function, Rolle's Theorem and Lagrange's Mean Value Theorem.

## PHYSICS

Rest and Motion, The Forces, Newton's Laws of Motion, Friction, Circular Motion, Work and Energy, Centre of Mass, Linear Momentum, Rotational Mechanics, Gravitation, Simple Harmonic Motion, Fluid Mechanics, Some Mechanical Properties of Matter, Wave Motion and Waves on a String, Heat and Temperature, Calorimetry, Laws of Thermodynamics, Specific Heat Capacities of Gases, Heat Transfer.

## CHEMISTRY

Structure of atom, Periodic Table, Chemical bonding, States of matter : Gases and Liquid, Thermodynamics, Chemical equilibrium, Chemistry of *s*-block elements, Chemistry of *p*-block elements, Basic Organic Chemistry, Chemistry of hydrocarbons.

**Eligibility** : Those candidates who are eligible to appear in IIT-JEE (2016)

## IMPORTANT

*Super 30 is an educational programme for IIT JEE, registered under the government's registration act. We don't charge any fee except Rs. 50/- as its application fee and provide absolutely free coaching, lodging and food. We are not responsible if any one runs a programme with the similar name Super 30 and charges any fee or demands donation.*

**Pattern of Questions** : **Objective**

**Duration of examination** : **1 hour**

**You must bring the Admit Card, Pen and HB Pencil to the Examination Centre.**