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Date: 01.06.2019

OFFICIAL MEMORANDUM

Sub   : Post graduate Programme (M.Tech-Research)
        Selection /Admission for the year 2019-20 Intimation for Interview

With reference to his/her application for admission to Postgraduate Programmes (M.Tech- Research) Mr. /Ms. ……………… ….. … .. ……………………….. …………………………….. is requested to appear for a written test &/or an interview before the Selection Committee at his/her own cost. **He/she should produce all the original records such as Date of Birth Certificate, Degree Certificate, Degree Marks Cards (all the 4 year), Valid GATE Score Card, Class 10th & 12th Marks Card, SC/ST Certificate/ OBC Certificate (if applicable), PwD (if applicable), Conduct Certificate and Testimonials**.

Course Applied For	:	**M.Tech. (Research)**
Place of interview	:	**Marine Structures Seminar Hall, Applied Mechanics Department, NITK, SURATHKAL**
Written Test Date & Time:		**June 19, 2019, at 10.00 A.M. to 11.30 A.M, Venue: AM007**
Interview Date & Time	:	**June 19, 2019 at 02.00 P.M. Onwards**

NOTE:

1. Candidates should come prepared to appear for a written aptitude test before the interview. Outline syllabus for the aptitude test (refer annexure below) is same as that of basic Degree in relevant field and the **scientific calculator** is allowed.

2. Candidate can leave the exam hall only after 11.30 am.

3. Candidates who have not submitted marks of final examination along with application form shall produce the same at the time of admission. However candidates who have written final year examinations & are yet to obtain final semester marks cards should submit the same on or before the deadline set by the institute.

4. The candidates who have qualified from the other universities (other than NITK) have to produce Migration Certificate in order to validate their admission.

5. Candidates are required to make necessary arrangements on their own for travel and accommodation.

6. Sponsored candidates should have been serving in the sponsoring organization for period of at least 2 years after qualifying degree and have to a produce a letter from their Employer stating that the candidate is deputed for higher studies in M.Tech (Research) course in the Institute on **full salary** during the study period. The Employer should indicate that the candidate will not be withdrawn mid-way before the completion of the course (sponsorship letter should be in format provided in the Application form).

7. Candidates are expected to give 10 minutes presentation through PPT. Maximum number of slides should be limited to 12.

8. Thirty objective type questions will be asked during the written test and each question will carry one mark. For each wrong answer, 0.25 marks will be deducted.

Sd/-
HEAD OF THE DEPARTMENT

Syllabus for the M.Tech (Research) Written Test
Engineering Mechanics: System of Forces, Free-Body Diagrams, Equilibrium Equations; Internal Forces in Structures; Plane Truss, Second Area Moment.
Solid Mechanics: Bending Moment and Shear Force in Statically Determinate Beams; Simple Stress and Strain Relationships; Simple Bending Theory, Flexural and Shear Stresses, Uniform Torsion, Buckling of Column.
Fluid Mechanics: Properties of Fluids, Fluid Statics; Continuity, Momentum, Energy and Corresponding Equations; Potential Flow, Applications of Momentum and Energy Equations; Laminar and Turbulent Flow; Flow in Pipes, Pipe Networks; Concept of Boundary Layer and its Growth.
Numerical Methods: Accuracy and Precision; Error Analysis. Numerical Solutions of Linear and Non-Linear Algebraic Equations; Least Square Approximation, Newton's and Lagrange Polynomials, Numerical Differentiation, Integration by Trapezoidal and Simpson's rule, Single and Multi-Step Methods for First Order Differential Equations.
Calculus: Functions of Single Variable; Limit, Continuity and Differentiability; Mean Value Theorems, Local Maxima and Minima.

Sd/-

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