

**Dept. Water Resources & Ocean Engineering**  
**(Formerly Dept. of Applied Mechanics & Hydraulics)**  
**NITK, Surathkal, Mangalore, Pin: 575 025**

**Applicants called for M.Tech. (Research) - Written Test and Interview**

Sl.No	Reference No	Name of the Applicants
1	MTR2021WR0001	RAJAT PANDA
2	MTR2021MS0001	DABLI GARGI ASHUTOSH MEENAL
3	MTR2021MS0002	AMIT VARAKHEDKAR
4	MTR2021MS0003	PIYUSH OLIVKAR
5	MTR2021WR0003	GULSHAN YADAV
6	MTR2021WR0004	ASHIKA PAI
7	MTR2021WR0005	MAHIMA N
8	MTR2021WR0006	ELISUBA KURUVILLA
9	MTR2021RS0001	ELISUBA KURUVILLA
10	MTR2021WR0007	ABHISHEK GUPTA
11	MTR2021WR0008	DEEPANKAR GAUTAM
12	MTR2021MS0005	DEEPANKAR GAUTAM
13	MTS2021WR0011	MUNISH KUMAR
14	MTS2021RS0004	MUNISH KUMAR
15	MTR2021RS0005	GANDUGADE PRAMOD BALASAHEB

  
28/07/2021  
DRPC Chairperson/ Head of the Department

PROFESSOR & HEAD  
Dept. of Water Resources & Ocean Engineering  
(Formerly Dept. of Applied Mechanics & Hydraulics)  
NITK Surathkal, P.O. Srinivasnagar, Mangaluru-575025

# Dept. Water Resources & Ocean Engineering

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## General Instructions for the candidates who are appearing for the M.Tech. (R/S) Written Aptitude Test & Interview:

1. Syllabus for the written aptitude test is provided in **Annexure**.
2. Mode of the written aptitude test is online. Details of examination will be announced in our Institute's Website (<https://www.nitk.ac.in/>). For any further updates, the candidates are requested to visit our Institute's Website regularly.
3. There will be 30 multiple choice questions (MCQ) for the M.Tech. (R/S) Written Aptitude Test. For every question, four options will be given. The candidates are expected to select correct option.
4. Each correct answer carries one mark. Total marks for the test is 30.
5. There is negative marking for wrong answer. For each wrong answer, 0.25 marks will be deducted.
6. Time duration is 60 minutes.
7. The candidates are allowed to use scientific calculators for solving numerical problems.
8. After the written test, shortlisted candidates will be allowed to attend the M.Tech. (R/S) interview.
9. **Written Test Date and Time:** August 4<sup>th</sup> 2021, 8.00 AM onwards. **No extra time will be given** and your login page will be closed after the test duration.
10. **Interview Date and Time:** August 4<sup>th</sup> 2021, 10.00 AM Onwards through online mode using MS Team /Google Meet Link.



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## Annexure

### Syllabus for the M.Tech. (R/S) Written Aptitude 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.

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