

**राष्ट्रीय प्रौद्योगिकी संस्थान, उत्तराखण्ड**  
**NATIONAL INSTITUTE OF TECHNOLOGY, UTTARAKHAND**

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Ref.No.:NITUK/TEQIP-III/Procurement/2020/17/(XLI)/3417

Date:28.12.2020

**ORDER TO BE PLACED UNDER PROPRIETARY CERTIFICATE**

(Package Name: NITUK/2020/CE/01/ABAQUS, Package Code: TEQIP-III/2020/nitu/91)

National Institute of Technology, Uttarakhand is going to place order for following software under proprietary article basis. Objection(s) if any, in this regard are called upon at [teqipthird@nituk.ac.in](mailto:teqipthird@nituk.ac.in) from party/organization latest by the 28<sup>th</sup> January, 2021 before 03:30 PM.

In case of no objection received from any firm/agency on or before the above mentioned date and time, then order will be placed as under:

S. No.	Item	Party (Proprietary)	Sole Authorized Distributor in India authorized to quote/sale/supply the item on behalf of OEM to the Institute doing the procurement or the jurisdiction of area covered	Qty.	Specifications
1.	ABAQUS (05 perpetual licenses with 01 year maintenance and updates	Dassault Systemes India Private Limited, The Leela Galleria, Commercial Block, 7th Floor, No.23, Old Airport Road, Bangalore-560008	M/s EDS Technologies Pvt. Ltd. The Estate, 2nd Floor, 121 Dickenson Road, Bangalore 560042, India Email: kumar.del@edstechnologies.com Contact No.: 91-9717330222	01	enclosed

Sd/  
Coordinator, (TEQIP-III)

Encl:

1. Copy of Specifications

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**Specifications**

S. No.	Item Name	Specifications
1.	ABAQUS (05 Perpetual licenses with 01 year maintenance and updates)	<p>1. ANALYSIS TYPES  Nonlinear dynamic stress/ displacement • Acoustics • Adiabatic stress  • Coupled Eulerian Lagrangian • Coupled field - Thermo-mechanical - Shock and acoustic- structural</p> <ul style="list-style-type: none"> <li>• Fatigue loading, FRP steel concrete analysis</li> </ul> <p>2. ANALYSIS AND MODELING TECHNIQUES  Automated mass scaling • Non-structural mass • Adaptive remeshing  • Steady-state detection • Sub modelling • Parameterization and parametric studies • Co -simulation • Meshed beam cross-sections • Annealing • Automatic</p> <p style="padding-left: 40px;">perturbation of geometry • Local degrees of freedom • Reinforcements  • Embedded elements • Display bodies • User subroutines • Coupled EulerianLagrangian automated mesh refinement</p> <p>3. PARALLEL EXECUTION •  • Available on both shared memory and distributed memory parallel (cluster) systems • User Controllable Domain Decomposition</p> <p>4.Elastic Mechanical Properties    Linear elasticity • Orthotropic and anisotropic linear elasticity • Hype elasticity (including permanent set) • Anisotropic hyper elasticity • Elastomeric foam • Low-density foam</p> <p>5. Inelastic Mechanical Properties    Metal plasticity - Isotropic and anisotropic yield - Isotropic and kinematic hardening - Rate-dependent yield - Porous metal plasticity - Annealing or melting - Johnson-Cook plasticity - Cast Iron • Progressive damage and failure - Ductile - Shear - Forming limit diagram (FLD) - Forming limit stress diagram (FLSD) - Müschenborn-Sonne forming limit diagram (MSFLD) - Marciniak-Kuczynski (M-K) criteria - <i>Hashin unidirectional composite</i> • Extended Drucker-Prager plasticity • Modified Drucker-Prager/ Cap plasticity • Cam-Clay plasticity • Mohr-Coulomb plasticity • Crushable foam plasticity • Concrete</p> <p>6. Continuum    • Stress analysis - 2-D (plane stress and plane strain) - 3-D - Axisymmetric - Infinite • Acoustic - 2-D - 3-D - Axisymmetric - Infinite  • Coupled temperature displacement - 2-D (plane stress and plane</p>

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		<p>strain) - 3-D – Axisymmetric</p> <p>7. Structural</p> <ul style="list-style-type: none"><li>• Stress analysis - Membrane (3-D) - Truss (2-D and 3-D) - Beams (2-D and 3-D) - Shells (3-D, 3-D continuum, and axisymmetric) - Coupled temperature- displacement shells (3-D, 3-D continuum)</li></ul> <p>8. Contact Modelling</p> <ul style="list-style-type: none"><li>• General (“automatic”) contact • Surface-based contact pairs • Contact interactions - 2-D and 3-D - Deformable-deformable contact - Deformable-rigid contact - Rigid-rigid contact - Self-contact - Eroding contact - Edge-to-edge contact • Mechanical contact properties - Hard contact - Soft contact - Contact damping - Static and kinetic Coulomb friction - User-defined friction models - Breakable bonds - Cohesive behavior</li></ul> <p>9.SUPPORTED PLATFORMS</p> <ul style="list-style-type: none"><li>• Windows/x86-32 • Windows/x86-64 • Linux/x86-64</li></ul>
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