

**R16**

**Code No: 138EV**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD**

**B. Tech IV Year II Semester Examinations, September - 2020**

**SUPER ALLOYS**

**(Metallurgy and Materials Engineering)**

**Time: 2 Hours**

**Max. Marks: 75**

**Answer any Five Questions  
All Questions Carry Equal Marks**

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1. Write the physical and mechanical properties of super alloys and how it differs from other metals like steels. [15]
2. Write the properties and applications of any one commercially available Ni-base super alloy. [15]
3. Define the term fracture. How the super alloys tends to fracture in service conditions? Explain it with example. [15]
4. What is meant by high temperature corrosion? What are the factors affects the high temperature corrosion resistance in super alloys? [15]
5. What is the use of degassing while melting of super alloys? Explain any one degassing technique used in melting of super alloys. [15]
6. What are the advantages and limitations of vaccum induction melting of super alloys?[15]
7. Explain the steps involved in P/M processing of super alloys. [15]
8. Explain in detail the factor which improves the properties of turbine blade. [15]

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