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SIDDHARTH INSTITUTE OF ENGINEERING & TECHNOLOGY:: PUTTUR
(AUTONOMOUS)

B.Tech I Year II Semester Supplementary Examinations July-2021

MATERIALS ENGINEERING

(Mechanical Engineering)

Time: 3 hours

Max. Marks: 60

(Answer all Five Units **5 x 12 = 60** Marks)

UNIT-I

- 1 What are the Mechanical and Technological Properties of Engineering Materials? **12M**

OR

- 2 a Give a brief note on intermediate alloy phases. **6M**
b Explain the Electron compound? **6M**

UNIT-II

- 3 What are the eutectoid and eutectic reactions in Cu-Ni & Al-Cu binary phase diagram? **12M**

OR

- 4 a Explain the phase transformation in solid state. **6M**
b Draw an equilibrium diagram for an isomorphism system **6M**

UNIT-III

- 5 Explain the structure and properties of Aluminum and its alloys. **12M**

OR

- 6 a Explain briefly on Carbon Steel. **6M**
b Write a notes on Low alloy Steel. **6M**

UNIT-IV

- 7 a Explain the toughness .How it is measured and explain their types? **6M**
b Explain the Hardness. How it is measured and explains their types? **6M**

OR

- 8 What are heat treatment processes? Explain briefly. **12M**

UNIT-V

- 9 a Enumerate the difference between the particle and Reinforced composites. **6M**
b What is ceramic material? Explain crystalline ceramics. **6M**

OR

- 10 What is composite material? How is it classified? Give short notes. **12M**

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