ADAMAS UNIVERSITY PURSUE EXCELLENCE	**ADAMAS UNIVERSITY** **END-SEMESTER EXAMINATION : JANUARY 2021** (Academic Session: 2020 – 21)		
Name of the Program:	B Tech	**Semester:**	III
Paper Title :	Materials Engineering	**Paper Code:**	EME42109
Maximum Marks :	40	**Time duration:**	3 Hours
Total No of questions:	12	**Total No of Pages:**	1
(Any other information for the student may be mentioned here)	Group A is compulsory, any three questions from Group B and any two from Group C		

Answer all the Groups

Group A

Answer all the questions of the following $5 \times 1 = 5$

1. **a)** What is an Isotope?
b) What is a solid solution?
c) Define Composite Material.
d) What is eutectic point?
e) What is steel?

GROUP –B

Answer *any three* of the following $3 \times 5 = 15$

2. Explain edge dislocation and screw dislocation.

3. Write a short note on Mechanical and Electrical behavior of Ceramics.

4. Write a short note on Smart Materials and Shape Memory Alloys.

5. State and Explain Hume Ruthery Rule.

GROUP –C

Answer *any two* of the following $2 \times 10 = 20$

6. Define Phase Diagram. Explain Gibbs Phase Rule and Lever Rule. (2+8)

7. Difference between martempering and austempering. What is the objective of tempering process. (5+5)

8. Explain why recrystallization annealing is preferred over full annealing. Write the objectives of normalising process. (4+6)
