Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – April/May– 2017**

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| **Code :** | **14AE2003** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MATERIALS IN AEROSPACE APPLICATION** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| Q. No. | Sub Div. | Questions | Course  Outcome | Marks |
| 1. | a. | Elobrote with neat sketch the different types Crystal structures. | CO1 | 10 |
| b. | Explain in detail Geometry of crystal Structure. | 10 |
| (OR) | | | | |
| 2. | a. | Discuss the different Levels of Material Structure. | CO1 | 8 |
| b. | Explain in detail the Mechanical properties of Materials. | 12 |
| 3. |  | Explain the Following  a. Point Defects.  b. Edge Dislocation.  c. Surface Dislocation.  d. Vlome Defects. | CO1 | 20 |
| (OR) | | | | |
| 4. | a. | Elobrote the Geometry of Atomic Structure. | CO1 | 12 |
| b. | Explain the Elastic Behavior of Material. | 8 |
| 5. | a. | Estimate the Young’s modulus of material, which has bonding characteristics of n=1 , m=9, A= 7.68x10-29J m. The equilibrium distance between bonding atoms is 2.5 Å. | CO1 | 4 |
| b. | Explain the Working Principle, Procedure of any two impact test methods. | 16 |
| (OR) | | | | |
| 6. |  | Explain the Following  a. Liquid Penetration Method.  b. Ultrsnonic Method. | CO1 | 20 |
| 7. | a. | What are the different types of Aluminium Alloy? | CO2 | 4 |
| b. | Discuss the mechanical properties and Applications of Aluminium Alloy. | 16 |
| (OR) | | | | |
| 8. |  | Explain in detail the Application, Classification and properties of Magnesium Alloy. | CO2 | 20 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss the Advantages and Disadvanges of Composite Material. | CO2 | 10 |
| b. | How do you classify the Composite Material? Explain. | 10 |

ALL THE BEST