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 :** | **14ME2039** | **Duration :** | **3hrs** |
| **Sub. Name :** | **COMPOSITE MATERIALS** | **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. | Compare the characteristics of carbon fibers with aramid fibers. | CO1 | 10 |
| b. | Listany five applications of composite materials. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Compare ceramic and polymer matrices. | CO1 | 10 |
| b. | Describe any five characteristics of composite materials. | CO1 | 10 |
| 3. | a. | Compare autoclave and hand layup manufacturing methods. | CO2 | 10 |
|  | b. | Compare manual inspection method and X-ray inspection method. | CO2 | 10 |
| (OR) | | | | |
| 4. | a. | Describe the importance of composite materials used in automobiles. | CO2 | 10 |
|  | b. | Recite the importance of characterization of composite materials. | CO2 | 10 |
| 5. | a. | Describe the application of any one software for fixture element analysis of composites. | CO2 | 10 |
|  | b. | Describe the impact properties of composites. | CO2 | 10 |
| (OR) | | | | |
| 6. | a. | Recite the importance of smart materials. | CO2 | 10 |
|  | b. | Illustrate the behaviour of shape memory alloys with examples. | CO2 | 10 |
| 7. | a. | List the adverse effects of composite materials to the nature. | CO3 | 10 |
|  | b. | Outline stability analysis for composite materials. | CO3 | 10 |
| (OR) | | | | |
| 8. | a. | Recite vibration analysis of composite materials. | CO3 | 10 |
|  | b. | Illustrate failure mode prediction of composite materials. | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Outlinethe scope of composite materials in our daily life. | CO1 | 10 |
|  | b. | Present your opinion about the importance of damage tolerance in composite material parts. | CO1 | 10 |

ALL THE BEST