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 – Nov/Dec – 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **14AE2028** | **Duration :** | **3hrs** |
| **Sub. Name :** | **EXPERIMENTAL STRESS ANALYSIS** | **Max. marks :** | **100** |

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

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| **Q. No.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | Briefly explain the working principle Pneumatic Strain Gauges and  Acoustical Strain Gauges. | CO1 | 20 |
| (OR) | | | |
| 2. | Briefly explain the working principle Mechanical-Optical Gauges and Photoelastic Strain Gauges . | CO1 | 20 |
| 3. | Briefly Explain the working principle of Bonded Filament Type and Ailtech Weldable Gauges. | CO1 | 20 |
| (OR) | | | |
| 4. | Derive the expression for output voltage of balanced and un-balanced Wheatstone bridge circuit. | CO2 | 20 |
| 5. | List out essential properties of the strain gage materials and expain the strain gauge mounting methods. | CO2 | 20 |
| (OR) | | | |
| 6. | Derive the expression for change in voltage ∆E of the potentiometer circuit. | CO2 | 20 |
| 7. | Explain the effects of stressed model in circular polariscope in dark-field set up. | CO2 | 20 |
| (OR) | | | |
| 8. | Sketch a plain polariscope and explain the effects of a stressed model and the fringes obtained in it. | CO2 | 20 |
| **Compulsory:** | |  |  |
| 9. | Explain fringe sharpening and fringe multiplication techniques used in photo elasticity. | CO2 | 20 |

ALL THE BEST