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– 2017**

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| **Code :** | **14AE3009** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ADVANCED AVIONICS** | **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. | Describe a GPS system and the system of NAVSTAR GPS. | CO1 | 6 |
| b. | Mention the different segments of GPS and explain. | CO1 | 4 |
| c. | Defend how the clocks in the different segments are synchronized. Explain triangulation/trilateration process with a sketch. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Discuss your understandings on ADF and NDB. | CO1 | 4 |
| b. | Explain a type of hyperbolic navigation. | CO1 | 4 |
| c. | Describe slope indication visual approach and path indication precision approach systems. | CO1 | 12 |
|  |  |  |  |  |
| 3. | a. | Describe in detail the UAV history, its types, propulsion and control systems. | CO2 | 10 |
| b. | List out any two existing UAVs and explain. | CO2 | 10 |
| (OR) | | | | |
| 4. | a. | Explain TCAS, its components and operation. | CO2 | 10 |
| b. | Differentiate between the various versions of TCAS. | CO2 | 10 |
|  |  |  |  |  |
| 5. |  | Describe electronic warfare interferences, support measures and counter measures methods. | CO2 | 20 |
| (OR) | | | | |
| 6. |  | An aircraft cruising at 150mph on autopilot mode is given a reference pitch angle of 20 degrees. The autopilot system has a transfer function as follows. Find whether the system is stable by root locus method. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | List out the different kinds of autopilot and explain their working. | CO2 | 20 |
| (OR) | | | | |
| 8. |  | Explain the following in detail.   1. Radio Altimeter 2. Transponder | CO3  CO3 | 10  10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Describe the various systems that guide the missiles to intercept with their targets. | CO3 | 20 |

ALL THE BEST