I SEMESTER M.TECH. (AVIONICS)

END SEMESTER EXAMINATIONS, FEB/MAR 2021

SUBJECT: FLIGHT INSTRUMENTATION AND DATA ACQUISITION

[AAE 5153]

REVISED CREDIT SYSTEM
(XX/XX/2021)

Time: 3 Hours MAX. MARKS: 50

Instructions to Candidates:

- Answer **ALL** the questions.
- Missing data may be suitable assumed.

1A.	What do you mean by multi-function display?	**(02)**
1B.	Give a brief overview on aircraft electrical systems	**(03)**
1C.	Explain HUD electronics in detail.	**(05)**
2A.	Give the cable characteristics of ARNIC 429.	**(02)**
2B.	Explain the working of servo type RPM meter.	**(03)**
2C.	Explain the working of volumetric fuel quality indicator.	**(05)**
3A.	Explain the working of Electromagnetic Torque Meter	**(05)**
3B.	With the help of a neat and labelled diagram, describe the VHF communication system for a large aircraft.	**(05)**
4A.	With the help of a neat and labelled diagram, describe the distance-measuring equipment (DME).	**(05)**
4B.	With the help of a neat and labelled diagrams, describe the localizer and glide slope transmitter used in instrument landing system (ILS).	**(05)**
5A.	With the help of a neat and labelled diagram, explain the Sigma-Delta ADCs and provide a comparison with other ADCs.	**(05)**
5B.	With the help of a neat and labelled diagrams, describe SHM system and levels in SHMs. What are the different approaches to deploy a SHM system based on optical sensors?	**(05)**