Printed pages: 02 **Sub Code: NAE 601**

Paper Id: **148608** **Roll No:** | | | | | | | | | | |

B TECH

(SEM-VI) THEORY EXAMINATION 2017-18

AIRCRAFT INSTRUMENTS

Time: 3 Hours ***Total Marks: 100***

Note: **1.** Attempt all Sections. If require any missing data; then choose suitably.
2. Any special paper specific instruction.

SECTION- A

1. Attempt all Parts. All parts carry equal marks. (2x10 = 20)

a. Write the basic component of fiber optic cable.

b. What are the basic parts of ECAS?

c. Write the function of instruction resister.

d. Name the instruments used in basic T type layout in cockpit.

e. Define random access memory.

f. Briefly write about glass cockpit in aircraft.

g. Name the segments and frequencies used in GPS.

h. Write the use of inverter in digital system.

i. Name ARINC used in aircraft digital system.

j. Briefly write effect of HERF in aircraft.

SECTION- B

2. Attempt any five questions from this section. (10x5 = 50)

a. Name the different types of D/A converter also explain the working of binary weighted D/A converter with diagram.

b. Determine the total number of possible input combination of a 4-input OR gate also draw the logic symbol and develop a truth table.

c. With neat diagram, explain function of EADI.

d. Define the decoder; explain working principle of 2 to 4 bit decoder with neat diagram.

e. How is the EMI affecting digital data in aircraft, write the process to minimize it.
f. Write the name of display systems used in aircraft also explain function of CRT.
g. Explain the internal architecture of basic 8-bit microprocessor with diagram.
h. Write the advantage and disadvantage of fiber optic cable over electrical wire.

SECTION- C

Note- Attempt any two questions from this section. (15x2 = 30)

3. Explain the function of fly by wire system in advance aircraft and its advantage.
4. Write the principle of operation of GPS with its segments.
5. Write the name of basic logic gates, draw the logic symbol, truth table and explain the used of logic gates in aircraft.