2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice. Important Note: 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.

WINTE OF TECHNOL

Eighth Semester B.E. Degree Examination, Aug./Sept. 2020 Aircraft Systems and Instrumentation

Time: 3 hrs.

1

a.

Max. Marks: 100

Note: Answer FIVE full questions, selecting at least TWO questions from each part.

$\underline{PART-A}$	
Describe about the push pull rod and cable pulley system with neat diagram	1.

(10 Marks)

- b. Explain the following with a neat diagram:
 - (i) Electro-Hydrostatic actuator.
 - (ii) Electro-mechanical actuator.

(10 Marks)

2 a. Write a short note on hydraulic fluid.

(05 Marks) (05 Marks)

b. List the advantage and disadvantages of hydraulic system.c. Explain typical pneumatic system and its components.

- (10 Marks)
- 3 a. What is the purpose of an aircraft fuel system? With neat sketch explain generalized fuel system of large transport aircraft. (10 Marks)
 - b. List the lubricating oil system components and explain.

- (10 Marks)
- 4 a. What are the salient requirements necessary for the successful functioning of an environmental control system? (10 Marks)
 - b. Briefly explain the air cycle cooling system.

(10 Marks)

PART - B

- 5 a. Explain the common forms of data display applied to aircraft instruments. (10 Marks)
 - b. Explain navigation instrument.

- (10 Marks)
- Discuss the operation and working principle of flight instruments like ASI, VSI, Mach motor and Altimeter with block diagram. (20 Marks)
- 7 a. Define Gyroscope. List out the properties of gyroscope.

(10 Marks)

b. Define Gyro horizon. Explain Vacuum-Driven Gyro Horizon.

- (10 Marks)
- 8 a. What is tachometer? With neat sketch explain a mechanical tachometer.
- (10 Marks)
- b. With a neat sketch, describe the radiation pyrometer. List its advantages.
- (10 Marks)

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