

# CBCS SCHEME

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## Fifth Semester B.E. Degree Examination, Jan./Feb. 2023 Aircraft Electrical Systems and Instrumentation

Time: 3 hrs.

Max. Marks: 80

Note: Answer FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. Explain digital fly by wire control systems. (12 Marks)  
b. Differentiate between conventional and fully powered flight control. (04 Marks)

OR

- 2 a. What are power actuated systems? Explain modern control systems. (10 Marks)  
b. Describe auto pilot system active control technology. (06 Marks)

### Module-2

- 3 a. Explain working principle of typical hydraulic systems and this components. (12 Marks)  
b. Briefly describe Brake system. (04 Marks)

OR

- 4 a. Explain working principle of pneumatic system with advantages. (12 Marks)  
b. What are landing gears explain the classification of landing gear system? (04 Marks)

### Module-3

- 5 Explain fuel systems for jet engines and components of multi engines. (16 Marks)

OR

- 6 What are lubricating systems explain starting and ignition systems? (16 Marks)

### Module-4

- 7 a. What are APU's? Explain Basic Air Cycle Systems. (12 Marks)  
b. Write short notes on Fire Protection System. (04 Marks)

OR

- 8 a. What is vapour cycle system and explain evaporative vapour cycle system with diagram. (12 Marks)  
b. Write short notes on Anti-icing and deicing systems. (14 Marks)

### Module-5

- 9 Explain Navigation system instruments with diag.  
i) Gyroscope  
ii) Accelerometers (16 Marks)

OR

- 10 Explain various types of engine instruments in detail. (16 Marks)

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