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Question Paper Code: 1014225

B.E. / B.Tech. DEGREE EXAMINATIONS, NOV / DEC 2024

Fourth Semester

Aeronautical Engineering

U20AE402 – AIRCRAFT SYSTEMS AND INSTRUMENTS

(Regulation 2020)

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions

PART – A

(10 x 2 = 20 Marks)

1. Compare hydraulic and pneumatic system in aircraft.
2. Classify the landing gear systems.
3. List the features of Electronic Engine control system?
4. Name some constructional features of push pull rod system.
5. Tell the basic components present in the aircraft fuel system?
6. Label the functions of lubricating systems.
7. Show the basic cycle of air cycle system.
8. Recall the disadvantages of formation of ice on aircraft?
9. Define flight instruments. List some of them.
10. What are the functions of tachometers?

PART – B

(5 x 16 = 80 Marks)

11. (a) Examine the components of a typical hydraulic system. (16)

(OR)

- (b) Inspect about
(i) Shock absorbers (8)
(ii) Retractive mechanism (8)

12. (a) Model the working principles of power assisted and power actuated systems. (16)

OR)

- (b) Utilize Digital Fly by wire system with neat diagram. (16)

13. (a) Construct how fuel system function for a piston engine. (16)

(OR)

- (b) Organize the ignition and starting systems in reciprocating and jet engines. (16)

14. (a) Determine the boot strap air cycle system with neat sketch. (16)

(OR)

- (b) Explain the working of the different fire detection and smoke detection techniques used in aircraft. (16)

15. (a) Survey the construction and working of an Airspeed Indicator. (16)

(OR)

- (b) Discover the pressure measuring instruments? Explain any one. (16)

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