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Total No. of Pages : 02

Total No. of Questions : 09

B.Sc (Honours) (Aircraft Maintenance) (2018 Batch) (Sem.-1)

AERODYNAMICS

Subject Code : BSCARM-101-18

Paper ID : [75632]

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.
2. SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.
3. SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.

SECTION-A**Q1 Distinguish between the following :****(10 × 2)**

- a) Troposphere and stratosphere.
- b) Camber and Camber line.
- c) Laminar flow and Turbulent flow.
- d) Upwash and Downwash.
- e) Wash-in and Wash-out.
- f) Lift and Weight.
- g) Mach number and Critical Mach number.
- h) Collective pitch and Cyclic pitch.
- i) Leading edge slat and leading edge flap.
- j) Subsonic flight and supersonic flight.

SECTION-B

- Q2 Define and explain the significance of International Standard Atmosphere. (5)
- Q3 Explain flight envelope and structural limitations with the help of labelled diagram. (5)
- Q4 Explain the function of primary control surfaces with the help of neat diagram. (5)
- Q5 Explain the factors affecting airflow in engine intakes of high speed aircraft. (5)
- Q6 Explain the difference between rigid and articulated rotor with the help of sketches. (5)

SECTION-C

- Q7 What do you understand by pitot static system? Explain the working principles of Altimeter and Airspeed Indicator with the help of neat diagrams. (2,8)
- Q8 Write notes on the following : (4,3,3)
- a) Trim tabs
 - b) Area Rule
 - c) Aerodynamic Balance
- Q9 Distinguish between fixed wing and rotary wing aircraft. Explain the collective and cycle control of a rotary wing aircraft. Explain the purpose of tail rotor. (3,5,2)