

PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
Diploma Engineering, Mid semester Examination

Semester: 5th
Subject Code: (03613303)
Subject Name: (Aircraft Structure)

Date: (08/08/2022)
Time: (1hr: 30min)
Total Marks: 40

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version is considered to be Authentic.

- Q.1 Answer any six out of Ten. (2 Marks Each) (12)**
1. Define Bending stress and Shear stress.
 2. Draw the figure of Wing Airframe.
 3. Define Elasticity and Plasticity.
 4. Define Toughness and Stiffness.
 5. Draw the figure of Monocoque fuselage.
 6. Enlist metallic and nonmetallic materials.
 7. Define Empennage and enlist its component.
 8. Write down Airframe structure for fixed wing aircraft.
 9. Write down Airframe structure for Rotary wing aircraft.
 10. Draw the figure of Semi Monocoque fuselage
- Q.2 A) Give classification of Wing Construction. (03)**
- OR
- A) Explain Metallic and Non-Metallic Materials of Aircraft. (03)
B) Explain the major stresses acting on the aircraft. (03)
- OR
- B) Write Short note on Pressurization of Fuselage. (03)
C) Explain the Advantages of Semi Monocoque structure over Monocoque structure. (04)
- OR
- C) Write a short note on Landing gears. (04)
D) Write a short note on Semi-Monocoque Fuselage. (04)
- Q.3 A) Explain Ductility, brittleness and hardness of the material. (03)**
B) Short note on composite materials. (03)
C) Explain the components of Wing Structure with neat Sketch. (04)
D) Explain Flight Control Surfaces along with its location and functions. (04)