# Sanjay Ghodawat University, Kolhapur

2020-21

Established as State Private University under Govt. of Maharashtra. Act No XL, 2017

EXM/P/09/00

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| **Year and Program: SY B.Tech** | **School of Technology** | **Department: AERO** |
| **Course Code: AET203** | **Course Title: Elements of Aeronautical Engineering** | **Semester : III** |
| **Day : Wednesday**<br>**Date: 03.02.2021** | **End Semester Examination** | **Time:2 Hrs.**<br>**Max Marks:50** |

**Instructions**: 1) All Questions are compulsory.
2) Assume data wherever necessary

| | | Marks | Bloom's Level | CO |
|---|---|---|---|---|
| **Q.1** | **Answer the following (any Two)**– | | | |
| a) | Discuss about the significance of Bell X1, Tupolev TU144 and Concorde. Compare three aircrafts and highlight the best in performance among the three. | 8 | 2 | CO1 |
| b) | How lift is generated in an airfoil. Explain all the basic principles involved in it. | 8 | 2 | CO2 |
| c) | Briefly explain about the major parts of airplane with neat sketch. | 8 | 2 | CO2 |
| **Q.2** | **Answer the following (any two)** – | | | |
| a) | What is Concorde aircraft? Did Concorde have afterburners and how much fuel does Concorde burn? | 8 | 2 | CO3 |
| b) | Differentiate between monocoque and semi-monocoque structure of aircraft fuselage construction and explain about both in detail. | 8 | 2 | CO4 |
| c) | With a neat schematic sketch, explain the parts of aircraft wing construction. | 8 | 2 | CO4 |
| **Q.3** | **Answer the following (any two)** – | | | |
| a) | Explain the advantages of composite material over other materials used in aircraft. | 9 | 4 | CO4 |
| b) | Briefly describe the functions of an secondary control surfaces of an aircraft | 9 | 4 | CO5 |
| c) | What is creep? Write about high temperature creep and corrosion resistant materials. | 9 | 4 | CO5 |

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