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B.Tech

Roll No.

Total Page

209506

Dec., 2018
B.Tech. V Semester
**AIRCRAFT ENGINE OPERATION AND
MAINTENANCE**
(ME-315C)

Time : 3 Hours]

[Max. Marks : 75

Instructions :

- (i) *It is compulsory to answer all the questions (1.5 marks each) of Part-A in short.*
- (ii) *Answer any four questions from Part-B in detail.*
- (iii) *Different sub-parts of a question are to be attempted adjacent to each other.*

PART-A

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|---|--|-----|-----|
| 1 | (a) What is Fuselage? | 1.5 | CO1 |
| | (b) What are main components of Empennage? | 1.5 | CO1 |
| | (c) What is second law of thermodynamics? | 1.5 | CO1 |
| | (d) Write main components of Engine of aircraft. | | |
| | | 1.5 | CO1 |
| | (e) What is engine indicating system? | 1.5 | CO2 |
| | (f) What is carburettor icing? | 1.5 | CO2 |

- (g) Write main components of lubrication system of aircraft. 1.5 CO3
- (h) What is "Full authority digital electronic engine control" system? 1.5 CO4
- (i) What is Viscous Drag? 1.5 CO3
- (j) What is role of ATC ? 1.5 CO2

PART-B

2. (a) Write main components of an aircraft and explain each in detail. 8 CO1
- (b) What is airfoil? Write the shapes of airfoil and explain the forces Acting in Flight. 7 CO1
3. (a) What is flight stability? Explain its dynamics with neat sketch. 8 CO1
- (b) Explain Brayton Air standard cycles with application in aviation engineering. 7 CO1
4. (a) Explain the Gas turbine used in aircraft. What is after burning gas turbine cycle? 8 CO2
- (b) Classify the combustion chamber. Explain the types of nozzle with neat sketch. 7 CO2
5. (a) Explain the fuel system of an aircraft engine. What is thrust reverser? 8 CO3
- (b) Describe the environmental control system and engine indicating system of an aircraft engine. 7 CO3



6. (a) What are the Standard practices used in aero engine maintenance? 8 CO4
- (b) Write the basic checks to be performed on an aircraft before it takeoff. 7 CO4
7. Write short notes on the following :
- (a) Characteristics of turbo-prop propulsion. 5 CO2
- (b) Environmental control system and engine indicating system. 5 CO3
- (c) Special features of military aircraft. 5 CO1
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