

B.Tech III Year II Semester (R09) Supplementary Examinations May/June 2017

**AEROSPACE PROPULSION - II**

(Aeronautical Engineering)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 What is meant by internal and external cooling? Explain the requirements for blade cooling.
- 2 Explain the construction and operation of a ramjet and derive an expression for the ideal efficiency.
- 3 What are advantages and disadvantages of liquid propellants compared to solid propellants?
- 4 What are the parameters to be considered in selecting combustion chamber volume and shape?
- 5 What is the condition for maximum thrust in a chemical rocket? Derive an expression for the same.
- 6 Draw the schematic diagram of a solid propellant rocket and explain its working. What are the applications of this type of rocket?
- 7 Draw the schematic diagram of liquid propellant with a turbo-pump feed system.
- 8 Explain the operation of ion-rocket engine with a neat schematic diagram.

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