



SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited with "A" Grade by NAAC

Jeppiaar Nagar, Rajiv Gandhi Salai, Chennai - 600 119.







Phone: 044 - 2450 3150 / 51 / 52 / 54 / 55 Fax: 044 - 2450 2344

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**SCHOOL OF MECHANICAL ENGINEERING
DEPARTMENT OF AERONAUTICAL ENGINEERING
BOARD OF STUDIES MEETING HELD ON 15.12.2018**

Members present:

External Members	Signature	Internal Members	Signature
Dr.Paramasivam, Professor, Madras Institute of Technology, Chennai		Dr.S.Prakash, Dean/Faculty of Mechanical	
Er. James Michael Amulu, Senior Product, Development Leader, SAP, Bangalore.		Dr.J.Alexander Head/Aeronautical, Engineering	
		Dr.A.Anderson, Associate Professor/ Aeronautical Engineering	
		Mr. S. Manigandan, Assistant Professor/ Aeronautical Engineering, Aeronautical Engineering	



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Minutes of the Board of Studies meeting

Board of Studies meeting for the Department of Aeronautical Engineering was held on 15th Dec 2018 in Aero CAD Lab with the following agenda:

1. Revision of Course "SAE1306 Heat Transfer Techniques for Aerospace Applications"
2. Revision of Course "SAE1307 Aerospace Propulsion"

Welcome Address

At the outset, the Chair Person welcomed the members of BoS and placed the agenda for the deliberations of the members. The following deliberations were made as per the items of the circulated agenda.

Agenda item # 1

Modifications proposed for 2019 batch Bachelors of Engineering– Aeronautical Engineering students in SAE1306 Heat Transfer Techniques for Aerospace Applications.

Head of the department informed that the department teams have been working on the modification of curriculum and in this direction the following changes were made on SAE1306 Heat Transfer Techniques for Aerospace Applications.

(a) **Removal of the following topics in Unit V:** Basic Concepts – Diffusion Mass Transfer – Fick's Law of Diffusion – Steady state Molecular Diffusion – Convective Mass Transfer – Momentum, Heat and Mass Transfer Analogy – Convective Mass Transfer Correlations.

(b) **Inclusion of the following topics in Unit V:** High-Speed flow heat transfer - Heat transfer problem in gas turbine combustion chamber-ablative heat transfer Aerodynamic heating – Rocket thrust chambers - Numerical treatment



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Resolutions: The External members considered the revision made and discussed regarding the revision. Dr. J. Alexandar pointed out that the removal of topics was necessary. These topics are covered in the course Computational Fluid Dynamics.

Agenda item # 2

Modifications proposed for 2019 batch Bachelors of Engineering– Aeronautical Engineering students in SAE1307 Aerospace Propulsion.

Head of the department informed that the department teams have been working on the modification of curriculum and in this direction the following changes were made on SAE1307 Aerospace Propulsion.

(a)**Removal of the following topics in Unit – V:** Introduction to turbine analysis, mean radius stage calculations, stage parameters, stage loading and flow coefficients degree of reaction, stage temperature ratio and pressure ratio, blade spacing, radial variation, velocity ratio. Axial flow turbine, stage flow path, Dimensional stage analysis.

(b)**Inclusion of the following topics in Unit – V:** Electric rocket propulsion – Ion propulsion techniques – Nuclear rocket – Types – Solar sail-Preliminary Concepts in nozzle less propulsion.

Resolutions: The External members considered the revision made and discussed regarding the revision. Dr. J. Alexandar pointed out that the removal of topics was necessary. These topics are covered in the course Aircraft Propulsion.

This initiative is appreciated by BoS members and after a discussion about the contents of the syllabus; the course revision was approved for inclusion in the Curriculum.

BoS members accepted the changes and approved the syllabus.

The revised syllabus of the course is enclosed in Annexure-1.



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Vote of Thanks

Dr.Alexander thanked the expert members for accepting the invitation for attending the BoS meeting. He thanked them for their valuable suggestions on the agenda items presented. He also thanked Dr.S.Prakash, Dean/Chair and Dr.A.Anderson, Associate Professor for their contribution towards the conduct of this BoS meeting.

Dean/CHAIR



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Agenda item # 1

Modifications proposed for SAE1306 Heat Transfer Techniques for Aerospace Applications.

S.No.	Existing Syllabus R2018	Corrected Syllabus
1	UNIT-V MASS TRANSFER 9 Hrs. Basic Concepts - Diffusion Mass Transfer - Fick's Law of Diffusion - Steady state Molecular Diffusion - Convective Mass Transfer - Momentum, Heat and Mass Transfer Analogy - Convective Mass Transfer Correlations.	UNIT-V HIGH SPEED FLOW HEAT TRANSFER 9 Hrs. High-Speed flow heat transfer - Heat transfer problem in gas turbine combustion chamber-ablative heat transfer Aerodynamic heating - Rocket thrust chambers - Numerical treatment.

2. Agenda item # 2 Modifications proposed for SAE1307 Aerospace Propulsion.

S.No.	Existing Syllabus R2018	Corrected Syllabus
1	UNIT - V TURBINES 9 HRS. Introduction to turbine analysis, mean radius stage calculations, stage parameters, stage loading and flow coefficients degree of reaction, stage temperature ratio and pressure ratio, blade spacing, radial variation, velocity ratio. Axial flow turbine, stage flow path, Dimensional stage analysis.	UNIT-V ADVANCED PROPULSION TECHNIQUES 9 Hrs. Electric rocket propulsion - Ion propulsion techniques - Nuclear rocket - Types - Solar sail-Preliminary Concepts in nozzle less propulsion.



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SCHOOL OF MECHANICAL ENGINEERING
DEPARTMENT OF AERONAUTICAL ENGINEERING
BOARD OF STUDIES MEETING HELD ON 17.06.2018

Members present:

External Members	Signature	Internal Members	Signature
Dr.Paramasivam, Professor, Madras Institute of Technology, Chennai		Dr.S.Prakash, Dean/Faculty of Mechanical	
Er. James Michael Amulu, Senior Product, Development Leader, SAP, Bangalore.		Dr.J.Alexander Head/Aeronautical, Engineering	
		Dr.A.Anderson, Associate Professor/ Aeronautical Engineering	
		Mr. S. Manigandan, Assistant Professor/ Aeronautical Engineering, Aeronautical Engineering	



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Minutes of the Board of Studies meeting

Board of Studies meeting for the Department of Aeronautical Engineering was held on 17th June 2018 in Aero CAD Lab with the following agenda:

1. Revision of Course "SAE1308 Aircraft Design"
2. Revision of Course "SAE4057 Propulsion Lab"

Welcome Address

At the outset, the Chair Person welcomed the members of BoS and placed the agenda for the deliberations of the members. The following deliberations were made as per the items of the circulated agenda.

Agenda item # 1

Modifications proposed for 2019 batch Bachelors of Engineering– Aeronautical Engineering students in SAE1308 Aircraft Design.

Head of the department informed that the department teams have been working on the modification of curriculum and in this direction the following changes were made on SAE1308 Aircraft Design.

(a)**Removal of the following topics in Unit V:**Categories and types of aircrafts – various configurations – Layouts and their relative merits – strength, stiffness, fail safe and fatigue requirements – Manoeuvring load factors – Gust and manoeuvrability envelopes – Balancing and maneuvering loads on tail planes.

(b)**Inclusion of the following topics in Unit V:** Supercritical Wings, relaxed static Stability, controlled configured vehicles, V/STOL aircraft and, rotary wing vehicles. Layout peculiarities of supersonic aircraft – optimization of wing loading to achieve desired performance – loads on undercarriages and design requirements.



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Resolutions: The External members considered the revision made and discussed regarding the revision. Dr. J. Alexandar pointed out that the removal of topics was necessary. These topics are covered in the course Aircraft Stability and Control.

Agenda item # 2

Modifications proposed for 2019 batch Bachelors of Engineering– Aeronautical Engineering students in SAE4057 Propulsion Lab.

Head of the department informed that the department teams have been working on the modification of curriculum and in this direction the following changes were made on SAE4057 Propulsion Lab.

(a) **Removal of the following topics in Experiment No. 5.** Modeling of Pulse jet Engine and Experiment No. 6. Computational methods in propulsion.

(b) **Inclusion of the following topics in Experiment No. 5.** Estimation of pressure distribution in Convergent nozzle passage and Experiment No. 6. Estimation of pressure distribution in Divergent nozzle passage.

Resolutions: The External members considered the revision made and discussed regarding the revision. Dr. J. Alexandar pointed out that the removal of topics was necessary. These topics are covered in the course Computation Lab.

This initiative is appreciated by BoS members and after a discussion about the contents of the syllabus; the course revision was approved for inclusion in the Curriculum.

BoS members accepted the changes and approved the syllabus.

The revised syllabus of the course is enclosed in Annexure-1.



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Vote of Thanks

Dr.Alexander thanked the expert members for accepting the invitation for attending the BoS meeting. She thanked them for their valuable suggestions on the agenda items presented. He also thanked Dr.S.Prakash, Dean/Chair and Dr.A.Anderson, Professor for their contribution towards the conduct of this BoS meeting.

A handwritten signature in black ink, appearing to read 'S. Prakash', is enclosed in a rectangular box.

Dean/CHAIR



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Agenda item # 1 Modifications proposed for SAE1308 Aircraft Design.

S.No.	Existing Syllabus R2018	Corrected Syllabus
1	UNIT-V ADVANCED DESIGN CONCEPTS 9 Hrs. Categories and types of aircrafts – various configurations – Layouts and their relative merits – strength, stiffness, fail safe and fatigue requirements – Manoeuvring load factors – Gust and manoeuvrability envelopes – Balancing and maneuvering loads on tail planes.	UNIT-V ADVANCED DESIGN CONCEPTS 9 Hrs. Supercritical Wings, relaxed static Stability, controlled configured vehicles, V/STOL aircraft and, rotary wing vehicles. Layout peculiarities of supersonic aircraft – optimization of wing loading to achieve desired performance – loads on undercarriages and design requirements.

Agenda item # 2 Modifications proposed for SAE4057 Propulsion Lab.

S.No.	Existing Syllabus R2018	Corrected Syllabus
1	Experiment No. 5. Modeling of Pulse jet Engine and Experiment No. 6. Computational methods in propulsion.	Experiment No. 5. Estimation of pressure distribution in Convergent nozzle passage and Experiment No. 6. Estimation of pressure distribution in Divergent nozzle passage.