

School of Aeronautics (Neemrana)

I-04, RIICO Industrial Area, Neemrana, Dist. Alwar, Rajasthan

Approved by Director General of Civil Aviation, Govt. of India, All India Council for Technical Education
Ministry of HRD, Govt of India & Affiliated to Rajasthan Technical University, Kota & BTU, Bikaner Rajasthan

Question Paper For Internal Assessment Examination (Theory) - Credit 2 / 43

Instructions For Students / Faculty Mid Term I (Total 40 Marks, 1.5 HRS. Syllabus From Beginning Of Session)

- Part A: Total number of questions to be given are four, each carrying 2 marks and are compulsory to attend. There is no choice. They are short answer type questions (**Not More Than 25 Words For Both Question & Answer**), no objective type or fill in the blanks. Total 8 marks.
- Part B: Total number of questions to be given are five, out of which student has to answer any three. They are long answer type (**Not More Than 50 Words For Question Only**), each carrying 6 marks. Total 18 marks.
- Part C: Total number of questions to be given are three, out of which student has to answer any two. They are numerical answer type / fully elaborative type* (**Not More Than 70 Words For Question Only**), each carrying 7 marks. Total 14 marks.

Mid Term II & III (Total 60 Marks, 2 HRS. Syllabus From Beginning Of Session)

- Part A: Total number of questions to be given are ten, each carrying 2 marks and are compulsory to attend. There is no choice. They are short answer type questions (**Not More Than 25 Words For Both Question & Answer**), no objective type or fill in the blanks. Total 20 marks.
- Part B: Total number of questions to be given are six, out of which student has to answer any four. They are long answer type (**Not More Than 50 Words For Question Only**), each carrying 5 marks. Total 20 marks.
- Part C: Total number of questions to be given are three, out of which student has to answer any two. They are numerical answer type / fully elaborative type (**Not More Than 70 Words For Question Only**)*, each carrying 10 marks. Total 20 marks.

* **LIST OF ELABORATIVE THEORY QUESTION SUBJECTS:** 1 FY1 - 04 Communication Skills (Cr 2), 1 FY1 - 05 Human Values (Cr 2), 2 FY1 - 04 Communication Skills (Cr 2), 2 FY1 - 05 Human Values (Cr 2), 3 AN1 - 02 Technical Communication (Cr 2), 4 MH1 - 02 Technical Communications (Cr 2), 4 MH1 - 03 Economics and Financial Accounting (Cr 2), 5 AN5 - 12 Aircraft Maintenance Practices (Cr 2), 6 AN3 - 01 Mechanics of Composite Materials (Cr 2), 6 AN5 - 12 Aircraft Rules and Regulation (Cr 2), 6 MH3 - 01 Automobile Engineering (Cr 2).

FACULTY MEMBERS, PLEASE ENSURE EXCEPT ABOVE LISTED SUBJECTS, NO THEORETICAL ELABORATIVE QUESTION SHOULD BE GIVEN IN PART 'C' OF QUESTION PAPER.

STUDENT IS ALLOWED TO ENTER LATE NOT MORE THAN 15 MIN AFTER STARTING OF EXAM, AND MAY LEAVE THE EXAM HALL ON EXPIRY OF ATLEAST OF 1 Hr FROM THE STARTING TIME OF EXAMINATION.

Question Paper & Student Details

Type of Exam	Mid Term 2	Date of Submission	23/11/2020
Name of Faculty	Ms. Tarun Thukral	Date of Examination	30/11/2020
Course	B.Tech (Aeronautical Engineering)	Semester	SEMESTER : 1
Batch	Twentieth (20)	Subject	1 FY3 - 08 Basic Electrical Engineering (Cr 2)

COURSE OUTCOMES FOR REFERENCE TO FRAME QUESTION PAPER

(Faculties are required to mention relevant Course Outcome number against the respective question in QP)

Course Outcome	CO 1. Explain the ground power unit, battery and its connections of an aircraft. CO 2. Exemplify the operation of electrical drives used in aircraft. CO 3. Explain the wiring connection and wiring layout of an aircraft. CO 4. Interpret the lighting systems used in aircraft. CO 5. Attribute the different types of earthing and electrical safety		
Email I'd	tarunthukral@soaneemrana.org	Phone No.	750-096-6580
Student Name		Student Reg No.	

Part A

Question : 1	What are Electrical Machines?		
Lesson Plan No. - 14	Topic - Electrical Machines	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 2

Question : 2	What do you mean by RMF?		
Lesson Plan No. - 14	Topic - Electrical Machines	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 2
Question : 3	What do you mean by Slip?		
Lesson Plan No. - 16	Topic - Electrical Machines	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 5
Question : 4	Write the difference between synchronous and asynchronous Electrical Machines?		
Lesson Plan No. - 14	Topic - Electrical Machines	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 2
Question : 5	Define regulation of transformer.		
Lesson Plan No. - 13	Topic - Transformers	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 1
Question : 6	Define peak value of AC quantity.		
Lesson Plan No. - 6	Topic - AC Circuits	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 3
Question : 7	Write the characteristics of Ideal Transformer in brief.		
Lesson Plan No. - 10	Topic - Transformers	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 1
Question : 8	State KVL & KCL.		
Lesson Plan No. - 2	Topic - DC Circuits	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 4
Question : 9	State superposition theorem.		
Lesson Plan No. - 4	Topic - DC Circuits	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 4
Question : 10	Define resonance in AC circuits.		
Lesson Plan No. - 8	Topic - AC Circuits	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 1
Part B			
Question : 1	Explain losses in transformer.		
Lesson Plan No. - 12	Topic - Transformer	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 1
Question : 2	Explain three phase induction motor in detail.		
Lesson Plan No. - 14	Topic - Electrical Machines	Source - RTU Previous Year Question paper	CO No. - 2

Question : 3	Explain the working of synchronous generators.		
Lesson Plan No. - 20	Topic - Electrical Machines	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 2
Question : 4	Explain in detail the resonance condition in series RLC circuits and derive the relation for resonant frequency.		
Lesson Plan No. - 8	Topic - AC Circuits	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 3
Question : 5	State Maximum power transfer theorem and derive the formula for maximum power transferred.		
Lesson Plan No. - 5	Topic - DC Circuits	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 4
Question : 6	Explain in detail about the the working and torque-speed characteristics of separately excited dc motor.		
Lesson Plan No. - 19	Topic - Electrical Machines	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 4
Part C			
Question : 1	Derive EMF equation & transformer ratio of transformer.		
Lesson Plan No. - 10	Topic - Transformers	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 1
Question : 2	A circuit consists of following in parallel: i. A Resistor of 500 ohms ii. An inductor of 2H iii. A capacitor of 10 μ F. A source voltage of 200V, 50Hz is applied. Determine the current drawn from the supply, complex number, active power, reactive power and power factor of the circuit.		
Lesson Plan No. - 7	Topic - RLC combinations	Source - RTU Question paper	CO No. - 3
Question : 3	Derive the formula for average power of series RLC circuit.		
Lesson Plan No. - 7	Topic - AC Circuits	Source - A TEXTBOOK OF ELECTRICAL TECHNOLOGY VOLUME I 2005 Edition By B. L. Thereja and A.K. Thereja	CO No. - 1
Upload Scanned Document In Case of Numerical or Diagram For Any of The Above Questions. (Mention question number with relevant fig / numerical / equations. Max 150 KB)			
I have scrutinized the question paper. There is no spelling mistake or any type of irrelevant question.		Yes	