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 3 / 22 /

Instructions For Students / FacultyMid Term I (Total 60 Marks, 2 HRS. Syllabus From Beginning Of Session)
• Part A: Total number of questions to be given are five, each carrying 3 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 15 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)**, each carrying 6 marks. Total 24 marks.
• Part C: Total number of questions to be given are four, out of which student has to answer any three. They are numerical answer type / fully elaborative type (**Not More Than 70 Words For Question)***, each carrying 7 marks. Total 21 marks.
Mid Term II & III (Total 90 Marks, 2.5 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 seven, out of which student has to answer any five. They are long answer type (**Not More Than 50 Words For Question)**, each carrying 6 marks. Total 30 marks.
• Part C: Total number of questions to be given are five, out of which student has to answer any four. They are numerical answer type / fully elaborative type (**Not More Than 70 Words For Question)***, each carrying 10 marks. Total 40 marks.

*** LIST OF ELABORATIVE THEORY QUESTION SUBJECTS**: 3 MH4 - 07 Manufacturing Process, 4 AN4 - 06 Aircraft Materials and Processes (Cr 3), 5 AN4 - 05 Aircraft System (Cr 3), 6 AN4 - 05 Avionics-I (Cr 3), 6 MH4 - 03 Applied Hydraulics & Pneumatics (Cr 3), 6 MH5 - 11 Principles of Management (Cr 3), 6 MH5 - 13 Aircraft Electronics System (Cr 3), 7 AN5 - 12 Maintenance of Airframe and System (Cr 3), 7 AN5 - 13 Helicopter Theory (Cr 3), 7 AG6 - 60.1 Human Engineering and Safety (Cr 3), 7 ST - 01 Avionics II (Special Theory Subject) (Cr 3), 7 MH5 - 11 Design of Mechatronics Systems (Cr 3), 7 MH5 - 12 Robotics and Machine Vision System (Cr 3), 7 MH6 - 13 Medical Electronics (Cr 3), 7 AN6 - 60.1 Aircraft Avionic System (Cr 3), 8 AN5 - 12 Maintenance of Power Plant and System (Cr 3), 8 AN5 - 13 Unmanned Aerial Vehicles & Systems (UAV) (Cr 3), 8 MH5 - 13 Product Development & Launching (Cr 3), 8 EC6 - 60.2 Robotics and control (Cr 3)

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

Question Paper & Student Details

Mid Term	Mid Term 2	**Date of Submission**	18/08/2020
Name of Faculty	Mr. Sukumar	**Date of Examination**	26/08/2020
Course	B.Tech (Aeronautical Engineering)	**Semester**	SEMESTER : 5
Batch	Combined Batches 15, 16, 17, SF 1	**Subject**	5 AN4 - 05 Aircraft System (Cr 3)

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	COURSE OUTCOME Upon completion of the course, Students will be able to CO1: Interpret the construction and working principle of conventional aircraft control systems. CO2: Illustrate the performance characteristics of various aircraft engine control systems. CO3: Explain the functions of various types of aircraft communication and navigation systems. CO4: Compare the features of various hydraulic & pneumatic systems of an aircraft. CO5: Demonstrate the operation of aircraft landing gear system. CO6: Analyze the performance of various types of Fuel Systems used on an aircraft. CO7: Identify the various auxiliary systems and its operation in an aircraft. CO8: Describe the general maintenance practices carried out on an aircraft.

Email I'd	sukumar@soaneemrana.org	**Phone No.**	790-425-6314
Student Name		**Student Reg No.**	

Part A			
Question : 1	What are the functions of Cables in control system.		
4	Control system.	Aircraft Systems by ION MOIR	1
Question : 2	Define Mechanical reversion.		

6	Engine Control System	Aircraft Systems by ION MOIR	2
Question : 3	List the application of ILS.		
9	Navigation system	Aircraft Systems by ION MOIR	3
Question : 4	Define Pascal’s law.		
11	Hydraulic system	Aircraft Systems by ION MOIR	4
Question : 5	Define the purpose of PTU.		
12	Hydraulic system	Aircraft Systems by ION MOIR	4
Question : 6	Define Bleed Air.		
14	Pneumatic system	Aircraft Systems by ION MOIR	4
Question : 7	Define variable restrictor in Pneumatic system.		
15	Pneumatic system	Aircraft Systems by ION MOIR	4
Question : 8	Define the application of an aircraft landing gear.		
17	Landing gear.	Aircraft Systems by ION MOIR	5
Question : 9	Define Flash Point and Fire Point.		
21	Fuel system.	Aircraft Systems by ION MOIR	6
Question : 10	Define NRVs.		
22	Fuel system.	Aircraft Systems by ION MOIR	6
Part B			
Question : 1	Discuss in detail about Flight control linkage system system working.		
4	Control system.	Aircraft Systems by ION MOIR	1
Question : 2	Summarize the about the A380 Flight Control Actuation system.		
6	Engine Control system.	Aircraft Systems by ION MOIR	2
Question : 3	Examine about the ILS-Types of Runway Approach.		
9	Navigation system	Aircraft Systems by ION MOIR	3
Question : 4	Examine about the different types of Hydraulic Pumps.		
12	Hydraulic system	Aircraft Systems by ION MOIR	4
Question : 5	Demonstrate in detail about the Small Aircraft Retraction Systems.		
17	Landing Gear	Aircraft Systems by ION MOIR	5
Question : 6	Demonstrate in detail about the nose wheel steering of a larger aircraft.		
18	Landing Gear	Aircraft Systems by ION MOIR	5
Question : 7	Elaborate in detail about the Identification & Knowledge of fuel/grade/octane of Aviation fuels.		
21	Fuel system.	Aircraft Systems by ION MOIR	6
Part C			
Question : 1	Demonstrate about the Interrelationship of Flight Control, Guidance and Flight Management.		

6	Engine Control system.	Aircraft Systems by ION MOIR	2
Question : 2	Demonstrate the construction and working of Mechanical flight control surfaces.		
4	Control Surfaces	Aircraft Systems by ION MOIR	1
Question : 3	Demonstrate in detail about the Center Hydraulic Isolation System.		
13	Hydraulic system	Aircraft Systems by ION MOIR	4
Question : 4	Demonstrate in detail about the Basic Pneumatic System Components and its working.		
14	Pneumatic System	Aircraft Systems by ION MOIR	4
Question : 5	Demonstrate in detail about the Engine feed system.		
25	Fuel system.	Aircraft Systems by ION MOIR	6
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.			

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