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 / 28 / SET 1

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**	19/08/2020
Name of Faculty	Mr. Manbir Singh	**Date of Examination**	25/08/2020
Course	B.Tech (Mechatronics Engineering)	**Semester**	SEMESTER : 3
Batch	Fifth (5)	**Subject**	3 MH4 - 07 Manufacturing Process (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	3MH4 - 07 Manufacturing Process (credit-3) COURSE OBJECTIVE 1. To study the basic manufacturing processes like casting, welding and metal forming and tools used. 2. To decide which manufacturing technology can be implemented for a specific product. 3. To learn some rapid prototyping techniques. 4. To provide the students with overall knowledge on the manufacturing of plastic materials, their properties, applications, processing, product design, mold design, testing & quality control, and recycling through theory. COURSE OUTCOME 1. In foundry technology the student will have a broad knowledge of sand casting. 2. In welding technology students will have a generalized knowledge on various welding technology used in manufacturing. 3. In metal forming processes the students will have the knowledge on classification of different metal forming processes and analysis on metal forging, metal rolling, metal drawing, metal extrusion, sheet metal bending and sheet metal deep drawing processes. In each process they will also learn about the machines used, the processes to be followed, defects in them and their remedies. 4. They will understand the various powder forming techniques and understand causes of defects in Powder metallurgy processed materials and method to minimize defects. 5. Classify different rapid prototyping techniques 6. The plastic technology will help the students to take up responsibilities in production, testing, design and marketing in the plastics industries and contribute for the growth of industry.

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Student Name		**Student Reg No.**	

Part A			
Question : 1	Why is manufacturing important to the economy ?		
1	manufacturing important	Manufacturing Technology by P.N.Rao	1
Question : 2	How do you manage manpower in production?		
2	manpower in production	Manufacturing Technology by P.N.Rao	1
Question : 3	What are the types of manufacturing systems?		
3	types of manufacturing	Manufacturing Technology by P.N.Rao	1
Question : 4	What is pattern and explain its example?		
4	pattern	Manufacturing Technology by P.N.Rao	1
Question : 5	Define and explain the Cope and Drag Pattern		
5	Cope and Drag Pattern	Manufacturing Technology by P.N.Rao	1
Question : 6	What is core making process?		
6	core making process	Manufacturing Technology by P.N.Rao	1
Question : 7	What are the types of cores?		
6	core making process	Manufacturing Technology by P.N.Rao	1
Question : 8	How do you build a gating system?		
8	gating system	Manufacturing Technology by P.N.Rao	1
Question : 9	How many types of casting are there?		
9	casting	Manufacturing Technology by P.N.Rao	1
Question : 10	What are the types of Moulding?		
10	types of Moulding	Manufacturing Technology by P.N.Rao	3
Part B			
Question : 1	What are the different types of die casting?		
11	die casting	Manufacturing Technology by P.N.Rao	3
Question : 2	What materials are used in investment casting?		
12	investment casting	Manufacturing Technology by P.N.Rao	3
Question : 3	What is the metal forming process? explain in detail		
27	metal forming process	Manufacturing Technology by P.N.Rao	4
Question : 4	Which of the defect is eliminated by hot working process?		
28	hot working process	Manufacturing Technology by P.N.Rao	4
Question : 5	Which characteristics of material is used in forging process?		
26	forging process	Manufacturing Technology by P.N.Rao	4
Question : 6	What is cold working of metals? explain in detail?		
25	cold working	Manufacturing Technology by P.N.Rao	4

Question : 7	How do you control casting defects?		
13	casting defects	Manufacturing Technology by P.N.Rao	4
Part C			
Question : 1	Discuss the details of tilting and cupola furnace		
14	cupola furnace	Manufacturing Technology by P.N.Rao	1
Question : 2	Define and explain the principle of gas welding and resistance welding		
16	gas welding	Manufacturing Technology by P.N.Rao	2
Question : 3	What is consumable and non consumable electrode? explain in detail		
18	electrode	Manufacturing Technology by P.N.Rao	2
Question : 4	What is classification of welding? Explain any three types.		
17	welding	Manufacturing Technology by P.N.Rao	2
Question : 5	What is the difference between TIG welding and MIG welding?		
21	TIG welding and MIG	Manufacturing Technology by P.N.Rao	2
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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