



Question Paper For Internal Assessment Examination (Theory) - Credit 3 / 91 / SET 1

NAME OF STUDY CENTER: SCHOOL OF AERONAUTICS, NEEMRANA

Instructions for Students / Faculty

Mid Term I (Total 60 Marks, 2 HRS. Syllabus from Unit-1)

- Part A: Total number of questions to be given are six (3 from CO1 and 3 from CO2), 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 12 marks.
- Part B: Total number of questions to be given are six (3 from CO1 and 3 from CO2), out of which student has to answer four (2 from CO1 and 2 from CO2). They are long answer type (**Not More Than 50 Words for Question**), each carrying 4 marks. Total 16 marks.
- Part C: Total number of questions to be given are six (3 from CO1 and 3 from CO2), out of which student has to answer four (2 from CO1 and 2 from CO2). They are numerical answer type / fully elaborative type (**Not More Than 70 Words For Question**)*, each carrying 8 marks. Total 32 marks.

Mid Term II (Total 90 Marks, 2.5 HRS., Syllabus from Unit-2)

- Part A: Total number of questions to be given are ten (5 from CO3 and 5 from CO4), 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 30 marks
- Part B: Total number of questions to be given are six (3 from CO3 and 3 from CO4), out of which student has to answer four (2 from CO3 and 2 from CO4). 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 six (3 from CO3 and 3 from CO4), out of which student has to answer any four (2 from CO3 and 2 from CO4). They are numerical answer type / fully elaborative type (**Not More Than 70 Words For Question**)*, each carrying 9 marks. Total 36 marks.

Mid Term III (Total 90 Marks, 2.5 HRS., Syllabus from Unit-3)

- Part A: Total number of questions to be given are ten (5 from CO5 and 5 from CO6), 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 30 marks
- Part B: Total number of questions to be given are six (3 from CO5 and 3 from CO6), out of which student has to answer four (2 from CO5 and 2 from CO6). 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 six (3 from CO5 and 3 from CO6), out of which student has to answer four (2 from CO5 and 2 from CO6). They are numerical answer type / fully elaborative type (**Not More Than 70 Words For Question**)*, each carrying 9 marks. Total 36 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



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(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)

Instructions For Faculties

There should be total 6 Course Outcomes (COs) for each subject.

- Mid Term Question Papers are to be submitted as per Course Outcomes (COs) which should be divided equally in Part A, Part B and Part C according to Mid Term Examination and Credit Point.
- In Mid Term-1, the questions are to be given from CO1 and CO2. In Mid Term-2, the questions are to be given from CO3 and CO4. Similarly, in Mid Term-3, the questions are to be given from CO5 and CO6.
- **FACULTY MEMBERS, PLEASE ENSURE EXCEPT ABOVE LISTED SUBJECTS, NO THEORITICAL ELABORATIVE QUESTION SHOULD BE GIVEN IN PART 'C' OF QUESTION PAPER**

INSTRUCTION FOR STUDENTS

- **STUDENT IS ALLOWED TO ENTER LATE NOT MORE THAN 15 MIN AFTER STARTING OF EXAM,**

QUESTION PAPER & STUDENTS DETAILS

Type of Exam	Mid Term 1	Date of Submission	20/03/2021
Name of Faculty	Ms. Bhawna Sharma	Date of Examination	22/03/2021
Course	B.Tech (Mechatronics Engineering)	Semester	SEMESTER : 6
Batch	Fourth (4)	Subject	6 MH4 - 02 Micro Controller & Embedded System (Cr 3)-

COURSE OUTCOMES FOR REFERENCE TO FRAME QUESTION PAPERS

(Faculties are required to mention Course Outcome Number against each part of the question paper)

Course Outcome	<ol style="list-style-type: none"> 1. School of Aeronautics established in 1992, since then we 2. are into providing world class Aviation Education, in various disciplines. 3. School of Aeronautics (Neemrana) established in 2006, after successfully running 4. School of Aeronautics (Delhi) for 14 years. Its has been awarded as among 5. Top 10 Aeronautical Engineering Colleges in India by CMAI, supported by AICTE. 6. Its approved by All India Council for Technical Education for B.Tech Aeronautical Engineering and 7. Director General of Civil Aviation for AME (Aircraft Maintenance Engineering). 8. We are also affiliated to Rajasthan Technical University, Kota and Bikaner Technical University. 		
Email I'd	bhawnasharma@soaneemrana.org	Phone No.	955-765-8148



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Student Name

Student Reg No.

PART A

All the questions are compulsory to attend.

1. CHOOSE COURSE OUTCOME (CO) NUMBER ACCORDING TO THE TYPE OF MIDTERM, AS PER INSTRUCTIONS ABOVE.

Question : 1

Define operand and instruction?

1

Introduction: Objective, scope and outcome of the course

R. S. Gaonkar,
Microprocessor Architecture:
Programming and
Applications with the
8085/8080A, Penram
International Publishing,
1996.

Question : 2

What are peripherals in microprocessor?

3

Architecture of 8-bit (8085) and 16-bit microprocessors, Bus configurations, CPU module

R. S. Gaonkar,
Microprocessor Architecture:
Programming and
Applications with the
8085/8080A, Penram
International Publishing,
1996.

Question : 3

Why is the data bus bidirectional?

2

Architecture of 8-bit (8085) and 16-bit microprocessors, Bus configurations, CPU module.

R. S. Gaonkar,
Microprocessor Architecture:
Programming and
Applications with the
8085/8080A, Penram
International Publishing,
1996.

Question : 4

Question : 5

2. CHOOSE COURSE OUTCOME (CO) NUMBER ACCORDING TO THE TYPE OF MIDTERM, AS PER INSTRUCTIONS ABOVE.

CO 2

Question : 6

What are counters? What function does program counter perform?



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6	operations and Registers	R. S. Gaonkar, Microprocessor Architecture: Programming and Applications with the 8085/8080A, Penram International Publishing, 1996.	
Question : 7	What are the differences between direct and indirect addressing mode?		
8	addressing mode and instructions of 8086	A.P Godse, Microprocessor and application	
Question : 8	What are the two modes 8086 microprocessor are designed to operate for and what is the basic difference between them.		
9	Minimum and maximum mode	A.P Godse, Microprocessor and application	
Question : 9			
Question : 10			

PART B

FOR MIDTERM 1 - Part B: Total number of questions to be given are six (3 from CO1 and 3 from CO2), out of which student must answer four (2 from CO1 and 2 from CO2).

FOR MIDTERM 2 - Part B: Total number of questions to be given are six (3 from CO3 and 3 from CO4), out of which student must answer four (2 from CO3 and 2 from CO4).

FOR MIDTERM 3 - Part B: Total number of questions to be given are six (3 from CO5 and 3 from CO6), out of which student has to answer four (2 from CO5 and 2 from CO6).

3. CHOOSE COURSE OUTCOME (CO) NUMBER ACCORDING TO THE TYPE OF MIDTERM, AS PER INSTRUCTIONS ABOVE.

CO 1

Question : 1	Give the pin description of 8085 microprocessor.		
3	Bus configurations, CPU module	R. S. Gaonkar, Microprocessor Architecture: Programming and Applications with the 8085/8080A, Penram International Publishing, 1996.	
Question : 2	What are special purpose registers? Classify and explain the role of various special purpose registers.		
4	nstruction set of typical 8-bit and 16-bit microprocessor	A.P Godse, Microprocessor and application	
Question : 3	Explain the function of stacks and subroutines in 8085 microprocessor.		



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5	Introduction to Assembly language and machine language programming	R. S. Gaonkar, Microprocessor Architecture: Programming and Applications with the 8085/8080A, International Penram Publishing, 1996.	
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4. CHOOSE COURSE OUTCOME (CO) NUMBER ACCORDING TO THE TYPE OF MIDTERM, AS PER INSTRUCTIONS ABOVE.

CO 2

Question : 4

Give salient features of 8086 microprocessor. How is 8086 microprocessor different from 8085 microprocessor.

7

The 8086 Microprocessor Family

A.P Godse, Microprocessor and application

Question : 5

What are the use of flag registers. Explain all the flag register used in 8086 microprocessor.

9

Internal data operations and Registers

A.P Godse, Microprocessor and application

Question : 6

Explain the role of pointers and index registers in 8086 microprocessor. How physical address is generated in 8086.

8

Internal data operations and Registers

A.P Godse, Microprocessor and application

Question : 7 (Old Pattern)**PART C****FOR MIDTERM 1 - Part C:** Total number of questions to be given are six (3 from CO1 and 3 from CO2), out of which student must answer four (2 from CO1 and 2 from CO2).**FOR MIDTERM 2 - Part C:** Total number of questions to be given are six (3 from CO3 and 3 from CO4), out of which student must answer four (2 from CO3 and 2 from CO4).**FOR MIDTERM 3 - Part C:** Total number of questions to be given are six (3 from CO5 and 3 from CO6), out of which student has to answer four (2 from CO5 and 2 from CO6).**5. CHOOSE COURSE OUTCOME (CO) NUMBER ACCORDING TO THE TYPE OF MIDTERM, AS PER INSTRUCTIONS ABOVE.**

CO 1

Question : 1

Explain the architecture of 8085 microprocessor with the help of a neat block diagram?

2

Architecture of 8-bit (8085)

A.P Godse, Microprocessor and application

Question : 2What is assembly language? Write an ALP to do the following:
1. Load the number 30H in register B and 39 H in register C.
2.Subtract 39H from 30H.
3. Display the answer at PORT 1.



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5	Introduction to Assembly language and machine language programming	R. S. Gaonkar, Microprocessor Architecture: Programming and Applications with the 8085/8080A, Penram International Publishing, 1996.	
Question : 3	What is interfacing? Which pins are used for 8085 interfacing? How does 8085 microprocessor interface with I/O devices		
5	Memory Interfacing, programmable peripheral interface chips	A.P Godse, Microprocessor and applic	
6. CHOOSE COURSE OUTCOME (CO) NUMBER ACCORDING TO THE TYPE OF MIDTERM, AS PER INSTRUCTIONS ABOVE.			CO 2
Question : 4	Add the following binary data in (a) and (b) and give the contents of the flag register after execution of addition. (a) 0110 0101 1101 0001 (b) 0010 0011 0101 1001		
8	Internal data operations and Registers	A.P Godse, Microprocessor and application	
Question : 5	Explain the architecture of 8086 microprocessor with the help of a neat block diagram?		
7	8086 ARCHITECTURE Hardware specifications	A.P Godse, Microprocessor and applic	
Question : 6	Give pin description of 8086 microprocessor for both minimum and maximum mode of operation.		
8	Pins and signals	A.P Godse, Microprocessor and applic	
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.			
Corporate Office: H 974, Palam Extension, Part: 1, Sector: 7, Dwarka, New Delhi			