



Question Paper For Internal Assessment Examination (Theory) - Credit 3 / 67 / 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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NAME OF STUDY CENTER: SCHOOL OF AERONAUTICS, NEEMRANA(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	15/02/2021
Name of Faculty	DR. MOHAMMAD FAHIM AKHTAR	Date of Examination	18/02/2021
Course	B.Tech (Mechatronics Engineering)	Semester	SEMESTER : 8
Batch	Combined Batches 12, 13, 14	Subject	8 MH5 - 12 Artificial Intelligence (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	Course Outcomes (COs) After completion of this course, the students should able to • CO 1: Demonstrate fundamental understanding of the history of artificial intelligence (AI) and its foundations. • CO 2: Solve basic AI based problems.		
Email I'd	fahim@soaneemrana.org	Phone No.	852-108-9715
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.

CO 1



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Question : 1	Define in your own words "Logical Reasoning" with an example.		
1	Introduction to AI - I	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 1 to 30	
Question : 2	Write four different approach of AI.		
1	Introduction to AI 1	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 1 to 30	
Question : 3	Is AI a science, or is it engineering? Or neither or both? Explain.		
3	Introduction to AI 2	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 1 to 30	
Question : 4			
Question : 5			
2. CHOOSE COURSE OUTCOME (CO) NUMBER ACCORDING TO THE TYPE OF MIDTERM, AS PER INSTRUCTIONS ABOVE.			CO 2
Question : 6	Explain any four application of AI with an example.		
3	Introduction to AI - 1	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 11 to 31	
Question : 7	Describe "AI Becomes an industry." Justify your answer.		
4	Introduction to AI 2	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 24	
Question : 8	Summarize the concept of "Turing Test Approach" in your own words.		



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2	Introduction to AI 1	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 1 to 30	
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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

Explain "System that think like humans" with an example.

4

Introduction to AI - II

Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 1 to 30

Question : 2

Rewrite why would evolution tend to result in systems that act rationally? What goals are such systems designed to achieve?

5

Introduction to AI 2

Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 1 to 31

Question : 3

Reproduce "System act rationally" with an example.

4

Introduction to AI 2

Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 21

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

CO 2

Question : 4

Recall how do you reason with uncertain information.



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5	Introduction to AI - I	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 1 to	
Question : 5	Explain the development history of AI.		
5	Introduction to AI	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 35	
Question : 6	State knowledge based systems : "The key to power" ?		
6	Introduction to AI 2	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 41	
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	Write PEAS description of the following agent: a. Playing soccer. b. Shopping for used AI books on the Internet. c. Robot d. ATM		
7	Intelligent Agent-I	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 61	
Question : 2	Explain the each function of "Simple Reflex Agents" with a neat diagram.		



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8	Types of Intelligent Agent	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 82	
Question : 3	<p>States that "While driving, which is the best policy?"</p> <p>a. Always put your directional blinker on before turning, b. Never use your blinker, c. Look in your mirrors and use your blinker only if you observe a car that can observe you? What kind of reasoning did you need to do to arrive at this policy (logical, goal-based, or utility-based)?</p>		
8	Type of Intelligent Agent	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 1 to	
6. CHOOSE COURSE OUTCOME (CO) NUMBER ACCORDING TO THE TYPE OF MIDTERM, AS PER INSTRUCTIONS ABOVE.			CO 2
Question : 4	Design and implement several agents with internal state. Measure their performance. Howclose do they come to the ideal agent for this environment?		
8	Intelligent Agent - 1	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 67	
Question : 5	Describe a rational agent function for the case in which each movement costs one point. Does the corresponding agent program require internal state?		
8	Intelligent Agent - 2	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 34 to 63	
Question : 6	Can a reflex agent with state outperform a simple reflex agent? Design such an agent and measure its performance on several environments. Can you design a rational agent of this type?		
8	Intelligent Agent 2	Text Book - AI: A Modern Approach, by Stuart Russell and Peter Norvig, Prentice Hall, Page No. 34 to 68	



School of Aeronautics (Neemrana)

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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