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 / 42

Instructions For Students / FacultyMid 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 THEORITICAL 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**	22/11/2020
Name of Faculty	Dr. M.F. Akhtar	**Date of Examination**	28/11/2020
Course	B.Tech (Aeronautical Engineering)	**Semester**	SEMESTER : 1
Batch	Twentieth (20)	**Subject**	1 FY3 - 06 Programming for Problem Solving (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	Course Outcomes (COs) After completion of this course, the students should able to CO 1. Implement data representation with various radix cases of r=2, 8, 10 and 16 with conversion CO 2. Complements are used in digital computers in order to simplify the subtraction operation and for the logical manipulations. For each radix system, there are two types of complements. 1. Radix complement. [r's complement] 2. Diminished radix complement. [(r-1)'s complement] CO 3. Develop digital manipulation with binary addition, subtraction and multiplication. CO 4. Design language with a representation of alphabets such as BCD, EBCDIC, ASCII, Gray Code and UNICODE. CO 5. Apply the concepts of Binary Code: Weighted and Non-Weighted Binary Code		
Email I'd	fahim@soaneemrana.org	**Phone No.**	852-108-9715
Student Name		**Student Reg No.**	
Part A			
Question : 1	What do you mean by data representation with an example?		
Lesson Plan No. - 1	Topic - Introduction to Data Representation	Source - Prog. For Prob. Sol. By Shazia P. No. 5.1	CO No. - 1
Question : 2	What is the difference between Gray Code and Excess – 3 Gray Code?		
Lesson Plan No. - 4	Topic - Gray Code	Source - Prog. For Prob. Sol. By Shazia P. No. 5.51	CO No. - 4
Question : 3	Multiply with the binary numbers 01101 and 1001.		
Lesson Plan No. - 3	Topic - Binary - Calculation	Source - Prog. For Prob. Sol. By Shazia P. No. 5.52	CO No. - 3
Question : 4	Write the differences between 1's complement and 2's complement.		
Lesson Plan No. - 2	Topic - r's complement	Source - Prog. For Prob. Sol. By Shazia P. No. 5.32	CO No. - 2
Question : 5	Find 1's and 2's complement of 10101110 radices2.		
Lesson Plan No. - 2	Topic - r' complement	Source - Prog. For Prob. Sol. By Shazia P. No. 5.26	CO No. - 2
Question : 6	Convert (500) radix 10 to binary.		
Lesson Plan No. - 1	Topic - Number System Conversion	Source - Prog. For Prob. Sol. By Shazia P. No. 5.18	CO No. - 1
Question : 7	Convert from octal 70148 to decimal.		
Lesson Plan No. - 1	Topic - Number System Conversion	Source - Prog. For Prob. Sol. By Shazia P. No. 5.9	CO No. - 1
Question : 8	Convert 1 0 0 1 0 1 0 1.1010 radices 2 to decimal number.		
Lesson Plan No. - 2	Topic - Number System Conversion	Source - Prog. For Prob. Sol. By Shazia P. No. 5.6	CO No. - 2
Question : 9	Convert C 1 F radix 16 to decimal.		

Lesson Plan No. - 3	Topic - Number System Conversion	Source - Prog. For Prob. Sol. By Shazia P. No. 5.4	CO No. - 3
Question : 10	Calculate the 10's complement of (5432)10.		
Lesson Plan No. - 4	Topic - r's Complement	Source - Prog. For Prob. Sol. By Shazia P. No. 5.22	CO No. - 4
Part B			
Question : 1	Why was BCD extended to EBCDIC? Explain EBCDIC in detail.		
Lesson Plan No. - 5	Topic - BCD	Source - Prog. For Prob. Sol. By Shazia P. No. 5.52	CO No. - 5
Question : 2	How do you represent an integer in memory? Explain in detail with an example.		
Lesson Plan No. - 4	Topic - Integer Representation in memory	Source - Prog. For Prob. Sol. By Shazia P. No. 5.8	CO No. - 4
Question : 3	What is the difference between fixed-point numbers and floating-point numbers? How does it affect the CPU?		
Lesson Plan No. - 3	Topic - Number Representation	Source - Prog. For Prob. Sol. By Shazia P. No. 5.31	CO No. - 3
Question : 4	Explain the zoned and packed decimal numbers.		
Lesson Plan No. - 4	Topic - Zoned and packed decimal	Source - Prog. For Prob. Sol. By Shazia P. No. 5.46	CO No. - 4
Question : 5	How do you find 7's and 8's complement of the octal number 172? Also, write the complete steps of conversion.		
Lesson Plan No. - 2	Topic - r's Complement	Source - Prog. For Prob. Sol. By Shazia P. No. 5.27	CO No. - 2
Question : 6	What is a bit? How many different patterns of bits are possible with: a. 7 bit b. 8 bit		
Lesson Plan No. - 5	Topic - Bit Patterns	Source - Prog. For Prob. Sol. By Shazia P. No. 5.52	CO No. - 5
Part C			
Question : 1	Explain any five techniques of representation of alphabets in computer with an example.		
Lesson Plan No. - 4	Topic - Alphabet Representation Techniques	Source - Prog. For Prob. Sol. By Shazia P. No. 5.37	CO No. - 4
Question : 2	What is the advantage of using complements of numbers? Perform the following operations using complements. Explain the answer. a. Add 100 radix 10 with 13 radix 10 b. Subtract 100 radix 10 from 13 radix 10		
Lesson Plan No. - 3	Topic - r's Complement	Source - Prog. For Prob. Sol. By Shazia P. No. 5.52	CO No. - 3

Question : 3	Why only the binary number system is used for data manipulation or storage in digital computers? Explain.		
Lesson Plan No. - 4	Topic - Digital Computer	Source - Prog. For Prob. Sol. By Shazia P. No. 5.52	CO No. - 4
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)*		https://app.123formbuilder.com/upload_dld.php?fileid=30ee6607ff8e4b1bbb3bc06499e0b3f1	
I have scrutinized the question paper. There is no spelling mistake or any type of irrelevant question.		No	