**Ramaiah Institute of Technology**

**Department of Information Science and Engineering**

**Programme: B. E. in Information Science and Engineering**

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| Term: | **Supplementary 2020** | Course Code: | **IS45** |
| Course: | **Microprocessors** | Semester: | **IV** |
| CIE: | **Test – II** | Max Marks: | **30** |
| Date: | **10/08/2020** | Time: | **9:30 PM** |

**Instructions to Candidates: Answer any TWO questions out of three questions.**

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| **S. No.** | **Question** | **Marks** | **Bloom’s Level** | **Course out-comes** |
| 1a | Discuss the pre-requisites for using string instructions, and explain the use and operation of the string instruction to compare two strings | 5 | U | CO2 |
| 1b | Draw and explain in brief the de-multiplexing of the AD0-AD15 bus of 8086 using 2 numbers of octal latch IC 74LS373. | 5 | U | CO3 |
| 1c | Design and develop an 8086 ALP to create a simple delay loop of 2 ms, with a clock of 12 MHz | 5 | AP | CO3 |
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| 2a | Discuss the steps taken by the processor for a Far Direct Call and Return from a procedure. | 5 | AP | CO2 |
| 2b | Design and develop an ALP for an 8086 based temperature monitoring system. The system should monitor temperature at 5 points with input port addresses ranging from AB00H onwards in sequence. The 5 output port addresses range CD05H onwards in sequence. An alarm is to be sent on the corresponding output port if the temperature reading is above 80 units. | 10 | AP | CO3 |
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| 3a | Identify the flag of 8086 whose status reflects errors, if any, in signed number arithmetic operations? How is its status interpreted for byte and word operations? Identify and discuss the role of the instructions that can be used for getting correct results. | 5 | AZ | CO2 |
| 3b | Write a C program using a for loop with inline 8086 instructions that displays a value stored in a C variable six times. | 10 | AP | CO3 |
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#R – Remember; U – Understand; AP – Apply, AZ – Analyze; E – Evaluate, C – Create