Internal Assessment Question Paper – 2

Ramaiah Institute of Technology
(Autonomous Institute, Affiliated to VTU)
Department of CSE

Programme: B.E **Term: Feb to** June 2021
Course: Introduction to Microprocessor and Microcontroller **Course Code:** CS43
Date: **CIE:** II **Credits:** 3:0:1
Sem&Section: IV (A, B & C) Date: 14.07.2021
Max Marks: 30 **Time:** 1Hr **Portions for Test:**L19-L42

Instructions to Candidates: Mobiles, smart watches or any electronic gadgets are strictly banned.
Question 1 is compulsory. Answer any one question from 2 or 3.

Sl#	Question	Marks	Bloom's Level	CO Mapping
1	a)Write a program to illustrate multiple register transfer of data from memory to registers and back to memory using appropriate instructions. For example transferring of 256 bytes of data	06	L3	CO3
	b) Write a program using Thumb instructions to illustrate the switch case in cortex M0.	06	L3	CO3
	c) Discuss the resources constraints in Nodemcu and its limitations	03	L2	CO5
2	a) Write a note on following Exception sequences: i) Late Arrival ii) Tail Chaining	05	L2	CO4
	b) Write a timing diagram i) LR set to EXC_RETURN values at exceptions (main stack is used in Thread mode). ii) LR set to EXC_RETURN values at exceptions (process stack is used in Thread mode).	05	L2	CO4
	c) Write a code snippet to set INT4 to priority Level CO and INT6 to Interrupt Level 40. Explain the registers used	05	L3	CO4
3	a) Discuss Difference between stepper motor and DC motor and also discuss the applications where these motors are used	5M	L2	CO4
	b) Compare two modes of communication with Nodemcu board WebREPL and Micropython REPL	5M	L2	CO5
	c) Write a code snippet to illustrate the flag setting given a particular operation of either 32 bit addition, subtraction.. how would you save the flag results in any of the lower register.	5M	L3	CO3

Course Outcomes meant to be assessed by the IA Test-II:

3. Evaluate cortex M0 in assembly instructions and write embedded C programs using CMSIS features. (PO-3,4,5,12, PSO-2)
4. Devise programs using interrupt capabilities (PO-2,4,5, PSO-2)
5. Compare the working of various sensors and actuators and their interface with microcontrollers (PO-2,4,12, PSO-1)