Regulation R17 *Subject code: 1P5BC*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A' Grade)

B.Tech III Year I Semester Supplementary Examinations, December 2021

MICROPROCESSORS AND MICROCONTROLLERS

(Electrical and Electronics Engineering)

Maximum Marks: 70 ***Date:03.01.2022*** Duration: 3 hours

Note: 1.This question paper contains two parts A and B.
2. Part A is compulsory which carries 20 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10x2M=20 Marks)

1 Write the use of Direction Flag and Parity Flag in 8086 microprocessors?
2 Explain Register addressing mode of 8086 microprocessor with two examples?
3 Draw and explain TMOD register.
4 List the various interrupts supported by 8051 microcontrollers.
5 Write the advantages of EEPROM?
6 What are advantages of serial data transfer scheme?
7 What are the main features of ARM?
8 List the Condition code flags in Current Program status register of ARM Processor.
9 Mention different types of CORTEX processor.
10 Classify OMAP Processors.

Part-B

Answer All the following questions. (5X10M=50Marks)

11 Explain the Architecture of 8086 Microprocessor with a neat sketch. (10M)

OR

12 List and Explain 8086 Microprocessor Data Transfer instructions with examples. (10M)

13 a) Draw the Pin diagram of 8051 microcontroller and explain each pin in detail. (5M)
b) Describe Memory Organization of 8051 microcontroller neatly. (5M)

OR

14 a) Explain Interrupt Structure of 8051 microcontroller. (5M)
b) Explain the Programming of Timer interrupt. (5M)

15 a) Write short notes on Serial Communication standards. (5M)
b) What is I2C BUS? Discuss its working. (5M)

OR

16 What is the need of Digital to Analog Converter? Explain Interfacing of that D to A Converter with 8051 Microcontroller. (10M)

17 What is the size of ARM Registers? Explain in Detail the Register set of ARM Processor. (10M)

OR

18 Explain Data Processing instructions of ARM. (10M)

19 List the main features of CORTEX Processor. With a neat diagram, explain the Architecture of CORTEX Processor. (10M)

OR

20 List the main features of OMAP Processor. With a neat diagram explain the architecture of OMAP Processor. (10M)