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Reg. No. : ☐☐☐☐☐☐☐☐☐☐

Question Paper Code: U5303

B.E. / B.Tech. DEGREE EXAMINATION, APRIL 2024

Fifth Semester

Electrical and Electronics Engineering

19UEE503 - POWER SYSTEM ANALYSIS

(Regulation 2019)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. DMA stands for_____.   CO1- R

   (a) Direct memory access   (b) Direct memory allocation
   (c) Data memory access   (d) Data memory allocation

2. What is the formula to calculate the (kV)B on the LT section?   CO1- R

   (a) INTR   (b) TRAP.   (c) RST6.5.   (d) RST6.6.

3. Data bus is _____ and address bus is _____   CO2- R

   (a) Bidirectional, Bidirectional   (b) Bidirectional, Unidirectional

   (c)Unidirectional, Bidirectional   (d) Unidirectional, Bidirectional

4. What is the required baud rate for an efficient operation of serial port   CO2- R
   devices in 8051 microcontroller?
   (a) 1200   (b) 2400   (c) 4800   (d) 9600

5. The 8051 has _____ parallel I/O ports.   CO3- R
   (a) 2   (b) 3   (c) 4   (d) 5

6. _____ is useful for the generation of accurate time delay.   CO3- R
   (a) 8254   (b) 8255A   (c) 8237A   (d) 8279

7. Which of the following can be used as a chip select?   CO4- R
   (a) multifunction I/O port   (b) parallel port   (c) DMA port   (d) memory port

8. How much time period is necessary for the slave to receive the interrupt and   CO4- R
   transfer the data?
   (a) 4 clock time period   (b) 8 clock time period

   (c) 16 clock time period   (d) 24 clock time period

9. What is the capability of ARM7 f instruction for second? CO5- R

    (a) 110 MIPS   (b) 150 MIPS   (c) 125 MIPS   (d) 130 MIPS

10. Which condition/s of MCLR (master clear) pin allows resetting the PIC? CO5- R

    (a) High   (b) Low   (c) Moderate   (d) All of the above

<div align="center">PART – B (5 x 2= 10 Marks)</div>

11. List the interrupt pins available in 8085   CO1-R

12. Mention a single byte instruction for clearing the content of Accumulator and explain its significance   CO2-U

13. Explain the TMOD register.   CO3-R

14. What is interrupt service Mechanism?   CO4-U

15. List the features of USART.   CO5-U

<div align="center">PART – C (5 x 16= 80Marks)</div>

16. (a) Summarize the architecture of 8085 microprocessor with its functional blocks   CO1-U   (16)

<div align="center">Or</div>

    (b) Explain the timing diagram for memory read and IO write machine cycles with neat diagram.   CO1- U   (16)

17. (a) Explain the Timer / Counter functional unit of Microcontroller 8051 with relevant diagrams   CO2- U   (16)

<div align="center">Or</div>

    (b) Write a assembly program to multiply two 16-bit numbers for 8051 controller.   CO2- App   (16)

18. (a) Draw the schematic for interfacing a stepper motor with 8051 microcontroller and write 8051 ALP for changing speed and direction of motor   CO3- App   (16)

<div align="center">Or</div>

    (b) Apply the control strategy for washing machine using 8051 microcontroller.   CO3- App   (16)

19. (a) Briefly Explain about Various types and uses of RAM and ROM for designing embedded systems   CO4- U   (16)

<div align="center">Or</div>

    (b) Explain about programming model in Embedded System   CO4- U   (16)

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20. (a) Explain the working of ARM processor with neat architecture   CO5- U   (16)

Or

(b) Draw and explain the architecture of on chip ADC of PIC micro   CO5- App   (16)
controller in detail and write a suitable assembly language program
for configuring the ADC