

B.TECH. SEM -V ELECTRONICS ENGG.) 2014 COURSE

(CBCS) : SUMMER - 2018

SUBJECT: MICROPROCESSORS & MICROCONTROLLERS

Day: **Monday**
Date: **21/05/2018**

S-2018-2352

Time: **10.00 AM TO 01.00 PM**
Max. Marks: 60

N.B.:

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat diagrams **WHEREVER** necessary.
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Q.1 Explain the operation of these 8085 signals ready, S1 and S0, Hold and HLDA and ALE. **(10)**

OR

Q.1 Explain the requirements of program counter, stack pointer and status flag in the architecture of 8085 microprocessor. **(10)**

Q.2 Why PUSH and POP instructions are useful for serving to an interrupt. **(10)**

OR

Q.2 State various modes available for timer in 8051 and discuss in detail. **(10)**

Q.3 Show an interface of 8051 controller, with a stepper motor drive circuit and explain its principle of operation. **(10)**

OR

Q.3 a) Assume that XTAL = 11.0592 MHz. Write a program to generate a square wave of 2KHz on P1.5. **(05)**

b) Describe the different serial communication modes in 8051. **(05)**

Q.4 a) What are two important lines in I²C standard? **(06)**

b) What are the modes of data rate in I²C standard? **(04)**

OR

Q.4 What is meant by RS232 serial interface? Describe the operation and pin diagram. **(10)**

Q.5 Explain in detail arithmetic and logical instruction set of PIC micro-controller. **(10)**

OR

Q.5 What is meant by brown-out reset and power on reset? Discuss in detail with circuit diagrams. **(10)**

Q.6 Design interfacing circuit to interface DAC 0808 with PIC micro-controller and draw necessary schematic diagram. **(10)**

OR

Q.6 Draw and explain compare, capture and PWM module of PIC micro-controller with their associate register. **(10)**

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