

B.Tech. SEM -IV (Computer) 2014 Course (CBCS) : WINTER - 2018
SUBJECT: MICROPROCESSORS AND MICROCONTROLLERS

Day : Saturday
Date : 17/11/2018

W-2018-2341

Time : 02.30 PM TO 05.30 PM
Max Marks : 60

N.B.:

- 1) All questions are **COMPULSORY**.
- 2) Figures to the right indicate **FULL** marks.
- 3) Draw neat and labeled diagram **WHEREVER** necessary.
- 4) Assume suitable data, if necessary.

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- Q.1 a)** Draw and explain functional block diagram of 8086 microprocessor. (05)
b) Explain the control register of 80386 in detail with neat diagram. (05)

OR

- a)** Explain the memory segmentation in 8086. (05)
b) Draw and explain FLAG register of 8086. (05)

- Q.2 a)** Describe protected mode register model. (05)
b) Explain segment descriptor. Draw the general format for segment descriptor. (05)

OR

Explain following phases of address translation with respect to 80386: (10)

- a)** Segment translation
- b)** Page translation

- Q.3 a)** Draw and explain format for BSR mode control word of 8255. (05)
b) Explain the control word format for 8254. (05)

OR

Draw and explain the architecture of 8237. (10)

- Q.4 a)** Explain bus connections in multicore architecture. (05)
b) Compare core-to-due and dual core processors. (05)

OR

Enlist the features of Pentium processor. Draw and explain Pentium processor functional block diagram. (10)

P. T. O.

- Q.5 a)** Discuss PCON (Power Control) register of 8051 with neat diagram. (05)
- b)** Explain and accumulator register of 8051 and state whether it is byte addressable or bit addressable. (05)

OR

- a)** Explain the addressing modes of 8051 with example. (05)
- b)** Draw and explain register bank. (05)
- Q.6 a)** Write a program to transfer “Q” serially at 2400 baud continuously. (05)
- b)** Indicate which mode and which timer are selected for each of the following: (05)
- i)** MOV TMOD, # 01 H
 - ii)** MOV TMOD, # 20 H
 - iii)** MOV TMOD, # 12 H

OR

Explain in detail the interfacing of stepper motor with 8051 microcontroller. (10)

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