BACHELOR OF TECHNOLOGY (CBCS) (2020 COURSE)
B.Tech.Sem - IV INFORMATION TECHNOLOGY : WINTER : 2024
SUBJECT: MICROPROCESSORS & MICROCONTROLLERS

Day : Saturday
Date : 07/12/2024

W-24720-2024

Time : 02:30 PM-05:30 PM
Max. Marks : 60

N.B.

1) All questions are **COMPULSORY.**
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Assume suitable data **WHEREVER** necessary.
4) Draw neat labeled diagrams **WHEREVER** necessary.

Q.1 Explain the internal architecture of Intel 80386 processor with neat diagram. **(10)**

OR

Q.1 Explain the multicore architecture in detail with neat diagram. **(10)**

Q.2 Explain the MESI protocol used for achieving the cache coherence in Intel Pentium processor with neat diagram. **(10)**

OR

Q.2 Explain the branch prediction feature in Intel Pentium processor? Why it is essential? Explain. **(10)**

Q.3 Explain the architecture of ARM processor with neat diagram. **(10)**

OR

Q.3 Discuss the pipeline in ARM processor with suitable diagram. **(10)**

Q.4 Explain the internal RAM organization of Intel 8051 microcontroller with neat diagram. **(10)**

OR

Q.4 Discuss the different SFRs in Intel 8051 microcontroller in detail. **(10)**

Q.5 Describe the different features of ATmega16 microcontroller in detail. Also differentiate between AVR and Intel 8051 microcontroller. **(10)**

OR

Q.5 Explain the internal architecture of ATmega16 microcontroller in detail with neat diagram. **(10)**

Q.6 Explain the internal architecture of Arduino UNO microcontroller with neat diagram. **(10)**

OR

Q.6 Differentiate between Arduino and Raspberry Pi in detail (minimum 10 points). **(10)**

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