

BACHELOR OF TECHNOLOGY (C.B.C.S.) (2020 COURSE)
B.Tech.Sem - IV IT :SUMMER- 2022
SUBJECT : MICROPROCESSORS & MICROCONTROLLERS

Day : Monday
Date : 20-06-2022

S-24720-2022

Time : 10:00 AM-01:00 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 Explain various multiprocessor organizations with neat diagram. **(10)**

OR

Explain the concept of hyper-threading in detail with suitable figures.

Q.2 Explain the internal architecture of Intel Pentium processor with neat diagram. **(10)**

OR

Describe the feature of dynamic branch prediction in Intel Pentium processor with neat diagram. Why it is essential? Explain.

Q.3 Explain various features of ARM processor in detail. **(10)**

OR

Discuss the pipelining in ARM processor with neat diagram.

Q.4 Discuss different applications of microcontrollers in various industries in detail. **(10)**

OR

Discuss the internal architecture of Intel 8051 microcontroller with neat diagram.

Q.5 Discuss the internal architecture of ATmega-16 AVR microcontroller with neat diagram. **(10)**

OR

Discuss the program and data memory organization of ATmega-16 AVR microcontroller with suitable figures.

Q.6 Explain the step-by-step procedure for programming an Arduino device. Give an example. **(10)**

OR

Differentiate between Arduino Uno and Raspberry Pi microcontrollers in detail (min.10 points)

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