BTS-V(S)-11.20-0647 Reg. No. | | | | | | | | |

A

B.Tech. Degree V Semester Supplementary Examination November 2020

CS 15-1505 ADVANCED MICROPROCESSORS AND MICROCONTROLLERS

(*2015 Scheme*)

Time: 3 Hours Maximum Marks: 60

PART A

(Answer *ALL* questions)

(10 × 2 = 20)

I. (a) Explain the register organization of 80386 with diagrams.
(b) Explain with an example how pipelining improves the performance of a system.
(c) What do you mean by instruction level parallelism?
(d) What are multicore processors? What are the advantages and major issues in multicore processors?
(e) Compare the features of core i3, i5 and i7 processors.
(f) Explain briefly about the intel skylake microarchitecture
(g) Explain the various timer modes of operation of 8051 microcontroller.
(h) Explain how 8051 microcontroller can be interfaced with ADC.
(i) Explain the memory organization of PIC 16F84A micro controller.
(j) State how the interrupts and registers of PIC 18F2420 are arranged.

PART B

(4 × 10 = 40)

II. (a) Explain the memory system of 80386. (5)
(b) Explain the I/O system of 80386. (5)

OR

III. (a) Explain the different modes of operation of 80386. (6)
(b) Explain about dynamic branch prediction. (4)

IV. Explain in detail about the Nahelam microarchitecture. Also compare its features with Bonnell microarchitecture. (10)

OR

V. (a) Explain the various power reduction techniques in processors. (6)
(b) Explain the technical features in IA processors. (4)

VI. With a neat diagram explain the architecture of 8051 microcontroller. (10)

OR

VII. Explain the interfacing of 8051 to stepper motor and write an assembly language program to rotate the motor first +4 steps and then -4 steps. (10)

VIII. Explain the architecture of PIC 16F84A micro controller. (10)

OR

IX. (a) Explain the various I/O ports and their corresponding registers of PIC 18F series micro controller. (6)
(b) Explain briefly about the various timers in PIC 18F series micro controller. (4)

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