

**S.Y.B.SC. (Computer Science) SEM –III (2014 COURSE) : WINTER -  
2018**

**SUBJECT: COMPUTER ORGANIZATION AND MICROPROCESSORS**

Day: Friday  
Date: 19/10/2018

**W-2018-0957**

Time: 12.00 NOON TO 02.00 PM  
Max. Marks: 40

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**N.B.:**

- 1) All questions are **COMPULSORY**.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Draw diagrams **WHEREVER** necessary.
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- Q1** Answer **ANY TWO** of the following- **[10]**
- a) State different types of instructions for Pentium. Explain any two with one example each.
  - b) What is ADC? Explain successive approximation type of ADC with neat diagram.
  - c) What is cache memory? How does it help to enhance system performance? Also state mapping techniques for it.
- Q2** Answer **ANY TWO** of the following- **[10]**
- a) Explain direct addressing and register addressing modes for Pentium with examples.
  - b) What is serial communication? Explain synchronous serial communication with necessary diagram.
  - c) Explain the role of segment registers of 8086 microprocessor.
- Q3** Answer **ANY TWO** of the following- **[10]**
- a) State and explain any five parameters of Digital to Analog Converter.
  - b) Explain segmentation technique used in virtual memory.
  - c) With neat diagram explain the action of DMA controller.
- Q4** Answer **ANY FIVE** of the following- **[10]**
- a) IF  $T_C = 100$  ns,  $h = 0.95$  and  $T_m = 1000$  ns. Calculate efficiency of cache memory
  - b) What is UART?
  - c) Explain PUSH and POP instructions.
  - d) Name different modes of data transfer.
  - e) Draw flag register format for Pentium.
  - f) Give full form – RISC and CISC.
  - g) Draw control word format of Programmable Peripheral Interface.