

B.Sc. (I. T.) Sem. - II (CBCS - 2015 Course) : SUMMER - 2019

SUBJECT- COMPUTER ARCHITECTURE

Day: Tuesday
Date: 14/05/2019

S-2019-1272

Time: 02.30 p.m. to 05.30 p.m.
Max. Marks: 60

N.B.:

- 1) Attempt **ANY SIX** full questions.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat diagrams **WHEREVER** required.
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- Q.1** a) Compare and contrast the Harvard architecture and Von Neumann architectures. Highlight their relative merits and demerits and their application areas. **(10)**
- Q.2** a) Draw the block diagram of any 8 or 16 bit microprocessor showing the major functional blocks. **(05)**
- b) Describe the method of interfacing the memory to the CPU. **(05)**
- Q.3** a) What is an "Interrupt"? Describe the different interrupts in the Intel 8085 CPU. **(04)**
- b) Explain in detail the process by which a CPU responds to an interrupt. **(06)**
- Q.4** Draw the timing diagram showing the states of the following signals for an Op Code fetch operation in the 8085 CPU: (i) Clock; (ii) AD0 to AD7; (iii) ALE; (iv) IO/M; (v) RD **(10)**
- Q.5** a) What is Plug & Play (PnP)? Describe the requirements for PnP and the tasks that are automated. **(06)**
- b) Explain the importance of cache memory. **(04)**
- Q.6** What is "deadlock" in the context of an OS? Explain the conditions when a deadlock can occur and the various strategies for handling deadlock. **(10)**
- Q.7** Describe the various methods of interfacing an I/O device and the modes of transfer of data between I/O and CPU/memory. **(10)**
- Q.8** List the different network devices that are used in computer networks. Clearly explain the function of each. **(10)**

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