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53 (IT 301) COAR

2017

**COMPUTER ORGANIZATION
AND ARCHITECTURE**

Paper : IT 301

Full Marks : 100

Time : Three hours

***The figures in the margin indicate
full marks for the questions.***

Answer **any five** questions out of **eight**.

1. TTL SSI come mostly in 14-pin IC packages 2 pins are reserved for power supply. How many pins are included in one such package if circuits are (1) Inverters, (2) 2-input XOR gates ? 20
2. What is the difference between serial and parallel load ? Explain how to convert serial input data to parallel output data and vice versa. 20

Contd.

3. How many 128×8 memory chips are needed to provide a memory capacity of 4096×16 ?
20
4. Convert decimal 7562 to octal, decimal 1938 to hexadecimal.
20
5. Design a 4 bit combinational circuit decrementer using four full adder circuits.
20
6. Derive the control gates for the write input of the memory in the basic computer.
20
7. Can a user program write to cache? 20
8. Can I-miss be dirty? If yes when? If no why not? 20