

PARUL UNIVERSITY
FACULTY OF APPLIED SCIENCE
M.Sc., Winter 2017-18 Examination

Semester: 3
Subject Code: 11204203
Subject Name: Digital Electronics and & Microprocessor– I

Date: 23-12-2017
Time: 10:30AM to 01:00PM
Total Marks: 60

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate full marks.
3. Make suitable assumptions wherever necessary.
4. Start new question on new page.

- Q.1. A) Brief note (Each of 04 marks) (08)**
 (a) Draw circuit diagram of Monostable Multivibrator using IC 555 and explain its working.
 (b) Draw circuit diagram of Astable Multivibrator using IC 555 and explain its working.
- Q.1. B) Answer the following questions (Any two) (04)**
 (a) Short note (Each of 02 marks) (04)
 1. Discuss applications of the Schmitt Trigger.
 2. Discuss the operation of the Schmitt Trigger.
 (b) Explain Asynchronous Counters in detail. (04)
 (c) Draw circuit diagram and explain working of parity checker (04)
- Q.2. A) Answer the following questions. (04)**
 (a) Brief note (Each of 02 marks) (04)
 1. Write a short note on advancement in semiconductor technology.
 2. Write a short note on Memory Work Size.
 (b) Draw and explain simultaneous converter ADC. (04)
- Q.2. B) Answer the following questions (Any two) (03)**
 (a) Short note (Each of 01 marks) (03)
 1. Full form of CUP.
 2. What do you mean by Memory Address Line?
 3. What do you mean by Asynchronous Counter?
 (b) Write a short note on DA converters. (03)
 (c) Explain binary ladders. (03)
- Q.3. A) Essay type (Each of 04 marks) (08)**
 (a) Draw and explain the working of dual slope ADC.
 (b) Explain DA accuracy and resolution in detail.
- Q.3. B) Answer the following questions (Any two) (04)**
 (a) Brief note (Each of 02 marks) (04)
 1. Draw circuit diagram of a TTL clock.
 2. Explain working of a TTL clock.
 (b) Explain continuous AD conversion in detail. (04)
 (c) Explain CUP Block diagram of a Microcontroller. (04)
- Q.4. A) Answer the following questions. (04)**
 (a) Brief note (Each of 02 marks) (04)
 1. Write a short note on Microprocessor.
 2. Write a short note on Memory.
 (b) Explain Microprocessor controlled Temperature System. (04)
- Q.4. B) Answer the following questions (Any two) (03)**
 (a) Short note. (Each of 01 marks) (03)
 1. Full form of MCTS.
 2. Full form of ADC.
 3. Full form of TTL Clock.
 (b) Write a short note on Memory Map. (03)
 (c) Write a short note on Microprocessor Architecture. (03)