

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-III EXAMINATION – SUMMER 2016

Subject Code:130902

Date:31/05/2016

Subject Name:Analog and Digital Electronics

Time:10:30 AM to 01:00 PM

Total Marks: 70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

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|------------|------------|--|-----------|
| Q.1 | (a) | Discuss Slew Rate with reference to 741C op-amp. | 07 |
| | (b) | State and prove De Morgan's theorems. | 07 |
| Q.2 | (a) | Write short note on nand gate R-S flip flop. | 07 |
| | (b) | Write short note on J-K flip flop. | 07 |
| OR | | | |
| | (b) | Write short note on Edge triggering of flip-flop. | 07 |
| Q.3 | (a) | With suitable example explain binary addition, subtraction, division and multiplication. | 07 |
| | (b) | Explain astable mode of operation of 555 timer. | 07 |
| OR | | | |
| Q.3 | (a) | Explain application of op-amp as integrator and differentiator. | 07 |
| | (b) | What are demerits of open loop configuration of op-amp? How can we overcome this? | 07 |
| Q.4 | (a) | Explain Full adder and Half adder circuit | 07 |
| | (b) | Explain three variables and four variables K-map. | 07 |
| OR | | | |
| Q.4 | (a) | Explain AND and OR gate using diode and transistor circuit. | 07 |
| | (b) | Explain three pin voltage regulator IC. Explain LM 78XX and LM 79XX. | 07 |
| Q.5 | (a) | How can be obtained 1's and 2's compliment of binary number? | 07 |
| | (b) | Describe the working of look-ahead-carry adder. | 07 |
| OR | | | |
| Q.5 | (a) | Explain working of counter and register. | 07 |
| | (b) | Explain Multiplexer and De-multiplexer. | 07 |
