14MCU11

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2019
(Third Semester)

Branch - MATHEMATICS WITH COMPUTER APPLICATIONS

DIGITAL ELECTRONICS

Time : Three Hours Maximum : 75 Marks

SECTION-A (20 Marks)
Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 x 2 = 20)

1 Define the Analog Vs Digital.
2 What is meant by Duty Cycle?
3 Write the Associative Law.
4 Draw the symbol of NAND gate with truth table.
5 Write the truth table of Binary Addition.
6 Draw the diagram of Half Subtractor.
7 Define Shift Register.
8 Write short notes Decade Counter.
9 Define Binary Ladder D/A Converter.
10 What are types of A/D converter? '

SECTION - B (25 Marks)
Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 5 = 25)

11 a Write the Excess - 3 code with example.
OR
b Convert $(1110100011010110)_2 = (\ )i_6$.

12 a Explain the operation of NAND gate with pin diagram.
OR
b Discuss about the Distributive Laws.

13 a With a neat diagram, explain the Full adder.
OR
b Explain 1 's and 2's compliment with example.

14 a What is meant by flip flop? Explain the RS Flip flop.
OR
b Explain the Ring Counter with neat diagram.

15 a Write the resolution of D/A converter.
OR
b Define A/D converter and explain the simultaneous conversions.

SECTION - C (30 Marks)
Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16 Write the following : (i) GRAY code (ii) Parity code.

17 Explain the Demorgan's theorem.

18 Explain the Decoder with neat diagram.

19 With neat diagram, explain the synchronous counter.

20 Describe the Binary ladder D/A Converter.