PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

BSc DEGREE EXAMINATION MAY 2017 !5cTuo2.
(First Semester)

Branch- **COMPUTER TECHNOLOGY**

DIGITAL ELECTORNICS

Time : Three Hours Maximum : 75 Marks

SECTION-A (20 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 x 2 = 20)

1 Convert the binary number 100101_2 to decimal number.
2 Give the use of BCD code.
3 Give the truth table for NOR gate.
4 State any two applications of XOR gate.
5 Define maxterms.
6 Define canonical form.
7 Define Half-adder.
8 Define the term decoder.
9 What are the two categories of MSI counter?
10 Define registers.

SECTION - B (25 Marks)

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

11 a Convert the binary number 1010.011 to decimal, octal and hexadecimal.

OR

b Perform the following operation in the given numbers :
(i) Binary Addition : 101111 + 100101
(ii) Binary Subtraction : 1110011 - 100011
Check using decimal values.

12 a Discuss about Exclusive OR and Exclusive NOR gates.

OR

b Explain Integrated circuits.

13 a Express the Boolean function F = A + B' C in a sum of m interms.

OR

b Explain De-morgan's theorem.

14 a Explain Full-Adder.

OR

b Explain Encoders.

15 a Explain Master Slave flip-flop.

OR

b What are counters? Write a note on Ripple counter.

SECTION - C (30 Marks)

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

16 Give a detailed view on number systems.

17 Explain the various logic gates with its truth table in detail.

18 Write the basic theorems and properties of Boolean Algebra. Prove theorems relates to Commutative and Associative Law.

19 Explain multiplexers and demultiplexers.

20 Discuss the different tvpes of flip flops in detail.