

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION DECEMBER 2018
(Second Semester)

Branch -SOFTWARE SYSTEMS
(Five year integrated)

FUNDAMENTALS OF DIGITAL COMPUTERS

Time: Three Hours

Maximum: 75 Marks

SECTION -A (30 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 x 6 = 30)

- 1 a Convert the decimal number 100 into binary and octal.
OR
b What are the digital logic gates? Explain.
- 2 a What is a flip-flop? Explain about the RS flip-flop and D flip-flop.
OR
b Explain about the Don't care conditions.
- 3 a Describe about the error detection codes.
OR
b Write down the various operations of logic micro.
- 4 a Explain the general register organization with neat diagram.
OR
b Describe about the multiplication algorithms.
- 5 a Write down the concept of serial communication.
OR
b Compare the cache memory and virtual memory .

SECTION -B (45 Marks)

Answer any **THREE** questions

ALL questions carry **EQUAL** Marks (3 x 15 = 45)

- 6 To convert the decimal number 65,535 to its hexadecimal and binary . equivalentents.
- 7 Compare the functions of multiplexers and demultiplexers.
- 8 Discuss the arithmetic micro operations with simple example.
- 9 What is a stack? What are the operations performed the Stack? Explain.
- 10 Illustrate the architecture of direct memory access.