

# University of Mumbai

Program: **Computer Engineering**

Curriculum Scheme: Rev2019

Examination: SE Semester III

Course Code: CSC304 and Course Name: **Digital Logic & Computer Organization and Architecture**

Time: 2 hour

Max. Marks: 80

<b>Q1.</b>	<b>Choose the correct option for following questions. All the Questions are compulsory and carry equal marks</b>
1.	The octal number $(651.124)_8$ is equivalent to
Option A:	$(1A9.2A)_{16}$
Option B:	$(1B0.10)_{16}$
Option C:	$(1A8.A3)_{16}$
Option D:	$(1B0.B0)_{16}$
2.	The octal equivalent of the decimal number $(417)_{10}$ is
Option A:	$(641)_8$
Option B:	$(619)_8$
Option C:	$(640)_8$
Option D:	$(598)_8$
3.	Convert the hexadecimal number $(1E2)_{16}$ to decimal:
Option A:	480
Option B:	483
Option C:	482
Option D:	484
4.	The number of values applicable in Boolean Algebra.
Option A:	1
Option B:	2
Option C:	3
Option D:	4
1.	The symbol + in Boolean is also known as the _____ operator.
Option A:	AND
Option B:	OR
Option C:	ADD
Option D:	SUMMATION
6.	In the expression $Y + X'.Y$ , which operator will be evaluated first?
Option A:	'
Option B:	+

Option C:	.
Option D:	,
7.	Which of the following is false?
Option A:	$x+y=y+x$
Option B:	$x.y=y.x$
Option C:	$x.x'=1$
Option D:	$x+x'=1$
8.	As per idempotent law, $X + X$ will always be equal to
Option A:	0
Option B:	1
Option C:	X
Option D:	2X
9.	The expression for involution law is
Option A:	$x+y=y+x$
Option B:	$x+1=1$
Option C:	$(x')'=x$
Option D:	$x.x=x$
10.	Who proposed the use of Boolean algebra in the design of relay switching circuits?
Option A:	George Boole
Option B:	Claude E. Shannon
Option C:	Claude E. Boole
Option D:	George Shannon

<b>Q2</b>	<b>Solve any Two Questions out of Three 10 marks each</b>
A	<i>Explain the SR and JK flip flop.</i>
B	<i>Write a note on restoring division algorithm</i>
C	<i>Write a short note on cache memory.</i>
<b>Q3.</b>	<b>Solve any Two Questions out of Three 10 marks each</b>
A	<i>State and prove the de morgans theorem.</i>
B	<i>Explain the control unit design using state table method.</i>
C	<i>Write a short note on ISA bus.</i>

<b>Q3.</b>	<b>Solve any Two Questions out of Three 10 marks each</b>
A	<i>Write a short note on USB and PCI bus.</i>
B	<i>Explain Full adder.</i>
C	<i>Explain Booths Algorithm.</i>