Tribhuvan University

Faculty of Humanities & Social Sciences

OFFICE OF THE DEAN

2019

Bachelor in Computer Applications **Full Marks: 60**
Course Title: Digital Logic **Pass Marks: 24**
Code No: CACS 105 **Time: 3 hours**
Semester: 1st

Centre: **Symbol No:**

Candidates are required to answer the questions in their own words as far as possible.

Group A

Attempt all the questions. **[10×1 = 10]**

1. Circle (O) the correct answer.

i) Which one of the following is hexadecimal equivalent of $(5073.052)_8$?

a) A3C.150 b) B2B.140

c) A3B.150 d) B3A.150

ii) Which one of the following is 9's complement of $(3578.501)_{10}$?

a) 4926.947 b) 3926.947

c) 4926.937 d) None of the Above

iii) Which one of the following is the equivalent reflected code of 1101?

a) 1001 b) 1011

c) 1000 d) 1010

iv) When output will go high in NOR Gate?

a) if all inputs are high b) if any input is high

c) if any input is low d) if all inputs are low

v) According to Boolean algebra: What is the value of $X + 1 = ?$

a) $\bar{X}$ b) 1

c) 0 d) X

vi) The logic circuits whose outputs at any instant of time depends only on the present input but also on the past outputs are called

a) Combinational circuits b) Sequential circuits

c) Latches d) Flip-flops

vii) If Q = 1, the output is said to be

a) Reset b) Set

c) Previous state d) current state

viii) Which one of the following are also called ripple counters?

a) SSI counters b) Synchronous counters

c) Asynchronous counters d) VLSI counters

ix) How many flip-flops are required to construct MOD-30 counter?

a) 5 b) 6

c) 4 d) 8

x) How much storage capacity does each stage in a shift register represent?

a) One bit b) Two bits

c) Four bits d) Eight bits