PD – 371 CV-19
(523) M.Sc. PHYSICS (Third SEM.)
Term End Examination DEC. 2020
ELECTRONICS - III

Time : Three Hours] [Maximum Marks : 080 [Minimum Pass Marks :

नोटः– दोनों खण्डों से निर्देशानुसार उत्तर दीजिए। प्रश्नों के अंक उनके दाहिनी ओर अंकित हैं।

Note: Answer From Both the Section as Directed. The Figures in the right-hand margin indicate marks.

खण्ड /SECTION-A

1. Answer the following questions. 1x10

(a) flip -flop is.....device.

(b) R- 2R ladder network method is .....converter.

(c) fullform of IC is .....

(d) 1's complement of 1010 is .....

(e) Add 1011 + 1001 = ...

(f) BCD code of 27 is .....

(g) 1 line to 16line converter is called.....

(h) Convert the binary number O.O11 to its decimal equivalent.

(i) Convert the hexadecimal number CA to its docimal number.

(j) full form of CMOS,.....

2. Answer the following questions. 2x5

(a) Write De-Morgan's theorem statement.

(b) Define Ex-NOR Gate.

(c) Draw 1's complement subtracter circuit.

(d) Draw The circuit diagram of JK Master slave flip-flop.

(e) Write difference between A/D and D/A converter.

खण्ड /SECTION-B

1. Answer all question:-

UNIT-I

3.(a) Define Decimal, Binary, Octal and Hexadecimal number system. 7

(b) Explain BCD code, Excess-3 code, gray code? 8

OR

(a) Define all logic Gate (OR Gate) AND Gate Not Gate, NAND Gate, NOR Gate) 7

(b) What is K-map? Explain K-map for four variable. 8

UNIT-II

4.(a) Explain Half adder and Full adder with circuit diagram and it's truth table. 7

(b) Define RTL, DTL, TTL, ECL. 8

OR

(a) Define multiplexer and demultiplexer. 7

(b) Explain BCD to decimal and BCD to seven segment decoder. 8

UNIT-III

5.(a) Explain R-S flip-flop using NoR Gate and NAND Gate with working. 7

(b) Explain up counter and down counter with working and circuit diagram. 8

OR

(a) Explain Ring counter with time diagram. 7

(b) Define PIPO,SIPO, PISO, SCSI. 8

UNIT-IV

6.(a) Explain D/A converters using binary weighted resistor network method. 7

(b) Define A/D converter and explain dual slope converter method. 8

OR

(a) Explain IC technology with its advantages and disadvantages. 7

(b) Explain basic processes used in monolithic technology. 8

-----000-----