Total No．of Questions： 9 ］


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ఎిజయ ：ఎలిమింట్సో ఆఖా ఎలరక్ట్ర్రిస్సి ఇంజినియరంగా Subject ：ELEMENTS OF ELECTRONICS ENGINEERING

（ 山ుసరాఙతికత లలలా అభ్యథ్ร／Regular Repeater ）
దినాంళ ：23．06． 2018 ］
［ Date：23．06． 2018

戸రむూఎధి అంశగళు ：90］

## General Instructions to the Candidate ：

1．This Question Paper consists of 9 objective and subjective types of questions．

2．This question paper has been sealed by reverse jacket．You have to cut on the right side to open the paper at the time of commencement of the examination．Check whether all the pages of the question paper are intact．

3．Follow the instructions given against both the objective and subjective types of questions．

4．Figures in the right hand margin indicate maximum marks．
5．The maximum time to answer the paper is given at the top of the question paper．It includes 15 minutes for reading the question paper．

Note : Answer all the questions.

1. Fill in the blanks with the appropriate figure/word(s) by selecting from the choices given in the brackets :
i) Oscilloscope is used to measure $\qquad$ .
( a.c. voltage, d.c. voltage, both a.c. \& d.c. voltages )
ii) Truth table can only be used for $\qquad$ circuits.
( digital, combinational, synchronous )
iii) MSI contains $\qquad$
( 12-100 gates, less than 12 gates, more than 100 gates )
iv) Intel 8085 is a $\qquad$ ( microprocessor, transistor, diode )
v) Flip-flop is a bistable circuit which has $\qquad$ . .
( 2 stable states, 3 stable states, 4 stable states )
vi) Counter is a special type of $\qquad$ . .
( Register, Inverter, Converter )
vii) Non-linear IC is also known as $\qquad$ .
( digital I.C., monolithic I.C., hybrid I.C. )
viii) The cost of Op-Amp is $\qquad$
( less, medium, high )
ix) Binary number system consists only two digits, they are $\qquad$
( $0 \& 1,1 \& 2,0 \& 8$ )
x) An IC whose output is proportional to its input is known as $\qquad$
( linear IC, non-linear IC, none of these )
2. a) What is an IC ? 2
b) What are the salient features of an IC ? 3
c) Draw a symbol of LED and explain briefly. 5
3. a) Define SSI. 2
b) List various applications of ICs. 3
c) Draw the constructional diagram of monolithic IC. 5
4. a) What is an Op-Amp ? 2
b) What are the ideal characteristics of an Op-Amp ? 3
c) Explain the functions of input stage and output stage of an Op-Amp.
5. a) Name different types of number systems used in digital systems. 2
b) Convert decimal 33 into its binary equivalent. 3
c) Draw the symbols of AND, NAND, OR, NOR \& NOT logic gates. 5
6. a) Define rectifier. 2
b) Explain decimal number system. 3
c) Explain NAND gate and verify its truth table. 5
7. a) What is meant by flip-flop ? 2
b) What are the uses of flip-flops ? 3
c) Explain JK flip-flop with a neat symbol and verify its truth table. 5
8. a) Define register. 2
b) Explain shift register. 3
c) Draw the block diagram of SISO shift register and explain briefly. 5
9. a) Define counter. 2
b) Explain microprocessor and name the microprocessor which has 40 pins.
c) Write short notes on the following : 5
i) $\quad \mathrm{LCD}$
ii) Binary system.
