CCE RR

ಸಂಕೇತ ಸಂಖ್ಯೆ : **73**

Code No. : 73

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಎಲೆಕ್ಟ್ರಾನಿಕ್ಸ್ ಇಂಜಿನಿಯರಿಂಗ್

Subject : ELEMENTS OF ELECTRONICS ENGINEERING

(ಹೊಸ ಪಠ್ಯಕ್ರಮ / New Syllabus)

(ಪುನರಾವರ್ತಿತ ಶಾಲಾ ಅಭ್ಯರ್ಥಿ/ Regular Repeater)

General Instructions :

i)   The Question-cum-Answer Booklet consists of 9 objective and subjective types of questions.

ii)   Space has been provided against each objective type question. You have to choose the correct choice and write the complete answer in the space provided.

iii)   For subjective type questions enough space for each question has been provided. You have to answer the questions in the space.

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

v)   Candidate should not write the answer with pencil. Answers written in pencil will not be evaluated (Except Graphs, Diagrams & Maps).

vi)   In case of Multiple Choice, Fill in the blanks and Matching questions, scratching / rewriting / marking is not permitted, thereby rendering to disqualification for evaluation.

vii)   For reading the questions 15 minutes of extra time has been provided.

viii)   Do not write anything in the space provided in the right side margin.

RR-0322   [Turn over

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 :   10 × 1 = 10

   i) Adding an impurity to pure semiconductor is called ....

              (*donor, acceptor, doping*)

   ii) In a *p*-type semiconductor majority charge carriers are ....

              (*holes, electrons, protons*)

   iii) An oscillator generates *ac* signals by using ....

              (*ac energy, dc energy, both ac energy and dc energy*)

   iv) A diode which is used in voltage regulator is ....

              (*Zener diode, PN-junction diode, Light emitting diode*)

   v) NAND and NOR gates are also known as ....

              (*inverter gate, converter gate, universal gate*)

   vi) An octal system employed in early computers has been replaced by ....

              (*decimal system, hexadecimal system, binary system*)

   vii) Op-Amp consumes ....

              (*high power, medium power, less power*)

   viii) Intel 8085 is used in ....

              (*calculators, rectifiers, inverters*)

   ix) The wiring of integrated circuit is ....

              (*complicated, very complicated, very simple*)

   x) LSI circuit has ....

              (*more than 100 gates, less than 100 gates, exactly 100 gates*)

2.	a)	What is an amplifier ?	2
	b)	Mention any three uses of amplifier.	3
	c)	Explain donor impurity and acceptor impurity with examples.	5
3.	a)	What do you mean by a transistor ?	2
	b)	Name the types of transistors and mention the semiconducting materials that are used in the manufacture of transistors.	4
	c)	List any four important properties of semiconductors.	4
4.	a)	Define diode.	2
	b)	Explain with a neat circuit the working of PN-junction diode in forward bias condition.	4
	c)	What is a rectifier ? Name the types of rectifiers.	4
5.	a)	What is a logic gate and where is it used ?	3
	b)	Name the three kinds of basic gates.	3
	c)	Draw the symbol of NOR gate and write its truth table.	4
6.	a)	Define operational amplifier.	2
	b)	Draw a neat block diagram of Op-Amp.	4
	c)	Mention any four advantages of Op-Amp.	4
7.	a)	What do you mean by integrated circuit ?	2
	b)	Write the classification of integrated circuit.	4
	c)	List the uses of integrated circuit in electric field.	4
8.	a)	What is an octal system ?	2
	b)	Convert 1210 into binary number.	4
	c)	Define flip-flop. Mention the uses of flip-flops.	4
9.	a)	Define microprocessor.	2
	b)	Give any two applications of microprocessor.	2
	c)	Write short notes on the following :	6

        i)   Register

        ii)   Counter

        iii)   Oscillator.