

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.

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- vi) An octal system employed in early computers has been replaced by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