ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ : 9]   [ಒಟ್ಟು ಮುದ್ರಿತ ಪುಟಗಳ ಸಂಖ್ಯೆ : 16

Total No. of Questions : 9]   [Total No. of Printed Pages : 16

ಸಂಕೇತ ಸಂಖ್ಯೆ : **73**   ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಎಲೆಕ್ಟ್ರಾನಿಕ್ಸ್ ಇಂಜಿನಿಯರಿಂಗ್

Code No. : 73   **Subject : ELEMENTS OF ELECTRONICS ENGINEERING**

ದಿನಾಂಕ : 06. 04. 2013]   [Date : 06. 04. 2013

ಸಮಯ : ಬೆಳಿಗ್ಗೆ 9-30 ರಿಂದ ಮಧ್ಯಾಹ–12-45 ರವರೆಗೆ]   [Time : 9-30 A.M. to 12-45 P.M.

ಪರಮಾವಧಿ ಅಂಕಗಳು : 90]   [Max. Marks : 90

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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.

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) The middle layer of *P-N* junction transistor is ....

   (*lightly doped, heavily doped, normally doped*)

   Ans : _____

   _____

   ii) Germanium is a ....

   (*trivalent material, tetravalent material, pentavalent material*)

   Ans : _____

   _____

   iii) A very sensitive diode is ....

   (*P-N junction diode, silicon diode, germanium diode*)

   Ans : _____

   _____

iv) VLSI circuit has ....

(*400 gates, more than 400 gates, less than 400 gates*)

Ans : _____

_____

v) Linear I.C. is also known as ....

(*digital I.C., monolithic I.C. , hybrid I.C.*)

Ans : _____

_____

vi) A microprocessor consists of ....

(*SSI & MSI, LSI & MSI, LSI & VLSI*)

Ans : _____

_____

vii) The cost of an Op-Amp is ....

(*high, low, very high*)

Ans : _____

_____

viii) Intel 8085 has a word length of ....

(*8 bits, 4 bits, 16 bits*)

Ans : _____

_____

ix) A logical block is used for storage and transfer of binary information in a digital system is called ....

(*shift register, buffer register, register*)

Ans : _____

_____

x) The binary system consists of two digits only, that is ....   (1 & 2, 0 & 1 , 2 & 3)

Ans : _____

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2.   a) What is LED ? Mention any two applications of LED.   4

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b)   Define the term 'rectification'. Draw a neat circuit diagram of half-wave rectifier and label the parts.   4

c) Name the two types of transistors. 2

3. a) What do you mean by *P*-type material ? 2

b) Define *P-N* junction diode and draw a neat symbol. 4

c)   List any four differences between germanium and silicon diodes.   4

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4.   a)   Define an operational amplifier.   2

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b)   Explain the functions of input stage (differential amplifier) and output stage of an Op-Amp.   4

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c) Mention any four characteristics of Op-Amp. 4

5. a) What do you mean by I.C. ? 2

b) Define monolithic I.C. and thin-film I.C. 4

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c) Explain linear I.C. and non-linear I.C. 4

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6. a) Define hexadecimal number system. 2

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b) Convert 815_8 into decimal number. 3

c) Convert 1512 into binary number. 5

7. a) Name two types of I.C. packages. 2

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b) Write a neat symbol of I.C. 2

   c)   Draw the neat sketches of the following I.C. packages :   6

       i)   T 0-5

       ii)   DIL.

8. a) Define flip-flop.   2

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    b) Give any two applications of flip-flop.   2

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    c) Write short notes on the following :   6

        i)   Counter

        ii) Register.

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9.   a)   What is a microprocessor ?   2

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     b)   List any three applications of microprocessor.   3

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c) Write the symbols and truth tables of the following gates : 5

    i) NOT

    ii) AND.