Roll No. ☐☐☐☐☐☐☐☐☐ **Serial No. of Q. C. A. B.**

ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ : 9]

Total No. of Questions : 9]

[ಒಟ್ಟು ಮುದ್ರಿತ ಪುಟಗಳ ಸಂಖ್ಯೆ : 16

[Total No. of Printed Pages : 16

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

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

ದಿನಾಂಕ : 23. 06. 2012]

ಸಮಯ : ಬೆಳಿಗ್ಗೆ 09-30 ರಿಂದ ಮಧ್ಯಾಹ–12-45 ರವರೆಗೆ]

ಪರಮಾವಧಿ ಅಂಕಗಳು : 90]

[Date : 23. 06. 2012

[Time : 09-30 A.M. to 12-45 P.M.

[Max. Marks : 90

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Q. No.	Marks	Q. No.	Marks	Q. No.	Marks	Q. No.	Marks	Q. No.	Marks
1.		×		×		×		×	
2.		×		×		×		×	
3.		×		×		×		×	
4.		×		×		×		×	
5.		×		×		×		×	
6.		×		×		×		×	
7.		×		×		×		×	
8.		×		×		×		×	
9.		×		×		×		×	
×		×		×		×		×	
×		×		×		×		×	
×		×		×		×		×	
×		×		×		×		×	

				Total Marks	

Total Marks in words				Grand Total	
1. ✓					
2. ✓		✓		✓	
Signature of Evaluators		*Registration No.*		*Signature of the Deputy Chief*	*Signature of the Room Invigilator*

[Turn over

General Instructions :

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

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

    Ans : _____

    _____

    ii) The middle layer of PN junction transistor is ....

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

    Ans : _____

    _____

iii) A very sensitive diode is ....

(*germanium diode, silicon diode, PN junction diode*)

Ans : _____

_____

iv) Linear IC is also known as ....

(*digital IC, hybrid IC, monolithic IC*)

Ans : _____

_____

v) VLSI circuit has ....

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

Ans : _____

_____

vi) The cost of the Op-Amp is ....

(*low , high, very low*)

Ans : _____

_____

vii) The binary system consists of two digits only, that is ....

(*0 and 9, 1 and 2, 0 and 1*)

Ans : _____

_____

[Turn over

viii) A microprocessor consists of a number of ....

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

Ans : _____

_____

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

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

Ans : _____

_____

x) A logical block is used for storage and transfer of binary information in a digital system is known as ....

(*register, shift register, buffer register*)

Ans : _____

_____

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

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b) Define P-N junction diode and draw a symbolic diagram.　　3

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c) Differentiate between germanium diode and silicon diode.　　4

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[Turn over

3.   a)   What is LED ? Give any two applications of LED.   4

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

                                                     4

c) List the two types of transistors. 2

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4. a) What is meant by IC ? 2

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[Turn over

b) Define the following terms : 4

    i) Monolithic IC

    ii) Thin-film IC.

c) Explain linear IC and digital IC. 4

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5. a) Define an operational amplifier. 2

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    _____

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

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    _____

    _____

    c) List any four applications of Op-Amp. 4

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    _____

    _____

    _____

    _____

    _____

6. a) What are the two types of IC packages ? 2

   _____

   _____

   _____

   _____

   _____

   b) Draw the neat sketches of the following IC packages : 6

   i) TO-5

   ii) DIL.

c) Write a neat symbol of IC. 2

7. a) What do you mean by hexadecimal number system ? 2

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b) Convert 1512 into binary number. 5

c) Convert 815_8 into decimal number. 3

8. a) Define a microprocessor. 2

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b)   List any three applications of microprocessor.   3

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_____

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

i)   NOT

ii)   AND.

[Turn over

9. a) What is a flip-flop ?. 2

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

c) Write short notes on : 6

    i) Counter

    ii) Register.

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[Turn over