CCE-III-RR/PF(A)/111/7154

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ಆಗಸ್ಟ್ 2024 ರ ಪರೀಕ್ಷೆ-3
AUGUST 2024 EXAMINATION-3

ಒಟ್ಟು ಮುದ್ರಿತ ಪುಟಗಳ ಸಂಖ್ಯೆ : 8]

Total No. of Printed Pages : 8]

ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ : 8]

Total No. of Questions : 8]

CCE RR/PF
FULL SYLLABUS

Question Paper Serial No.

ಸಂಕೇತ ಸಂಖ್ಯೆ : **53**

Code No. : 53

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಎಲೆಕ್ಟ್ರಾನಿಕ್ಸ್ ಇಂಜಿನಿಯರಿಂಗ್-IV

Subject : ELEMENTS OF ELECTRONICS ENGINEERING-IV

(ಶಾಲಾ ಪುನರಾವರ್ತಿತ ಅಭ್ಯರ್ಥಿ / ಖಾಸಗಿ ಅಭ್ಯರ್ಥಿ)

(Regular Repeater / Private Fresh)

ದಿನಾಂಕ : 09. 08. 2024] [Date : 09. 08. 2024

ಸಮಯ : ಬೆಳಗ್ಗೆ 10-15 ರಿಂದ ಮಧ್ಯಾಹ್ನ 1-30 ರವರೆಗೆ] [Time : 10-15 A.M. to 1-30 P.M.

ಗರಿಷ್ಠ ಅಂಕಗಳು : 80] [Max. Marks : 80

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General Instructions to the Candidate :

1. This question paper consists of 8 questions in all.
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 ***(Follow the arrow)***. **Do not cut the left side to open the paper.** Check whether all the pages of the question paper are intact.
3. Follow the instructions given against the questions.
4. Figures in the right hand margin indicate maximum marks for the questions.
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.
6. Ensure that the Version of the question paper distributed to you and the Version printed on your admission ticket is the same.

09. 08. 2024

TEAR HERE TO OPEN THE QUESTION PAPER
ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯನ್ನು ತೆರೆಯಲು ಇಲ್ಲಿ ಕತ್ತರಿಸಿ

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Note : Answer *all* the questions.

1. **Four alternatives are given for each of the following questions / incomplete statements. Select the most appropriate alternative and write it in the answer book along with its alphabet :** $10 \times 1 = 10$

i) The binary addition 1 + 1 + 1 gives

(A) 111 (B) 10

(C) 110 (D) 11

ii) The 2's complement of 1000_2 is

(A) 0111 (B) 0101

(C) 1000 (D) 0001

iii) The number 12_8 is equivalent to decimal

(A) 10 (B) 20

(C) 12 (D) 4

iv) Most important advantage of an IC is

(A) easy replacement 

(B) extremely high reliability

(C) reduced cost

(D) low power consumption 

v) In monolithic ICs all components are fabricated by

(A) evaporation process (B) sputtering process

(C) diffusion process (D) oxidisation

vi) An ideal Op-Amp has 

(A) infinite A_v (B) infinite R_i

(C) Zero R_o (D) all of these

vii) The function of NOT gate is to

(A) stop a signal

(B) recomplement a signal

(C) invert an input signal

(D) act as a universal gate

viii) A NOR gate is ON only when all its inputs are

(A) OFF (B) ON

(C) high (D) positive

ix) According to the NOT gate, $\bar{1}$ =

(A) 1 (B) 2

(C) 0 (D) 3

x) The energy of the signal depends on

(A) phase (B) frequency

(C) amplitude (D) all of these

2. a) How do you classify number system ? 2

b) Explain binary number system. 3

c) Draw the table of binary number system along with decimal numbers from 0 to 20. 5

3. a) List the passive components of IC. 2

b) Describe small scale integration. 3

c) Draw a neat diagram of hybrid ICs. 5

4. a) Name any two parameters of Op-Amp. 2

b) Calculate the voltage gain of the Op-Amp., when R_1 = 3·5 K and R_f = 15 K. 3

c) Draw a neat diagram of Non-inverting amplifier using Op-Amp and explain in brief. 5

5. a) Write the symbol of AND gate.  2

b) Explain logic operation of OR gate. 3

c) Draw the pin diagram of NOT gate. 5

6. a) Write the elements of basic communication system. 2

b) Explain the importance of communication system. 3

c) Draw the block diagram of basic communication system and explain in brief.  5

7. a) Convert $(172)_{10}$ to octal number. 2

b) List the types of ICs. 3

c) Draw a neat diagram of NAND gate consisting of two inputs, three inputs and four inputs.  5

8. a) List any two binary operations. 2

b) Explain the function of differentiator. 3

c) Draw a neat block diagram of amplitude modulation receiver. 5