4 ● RF(A)/100/3324

ಒಟ್ಟು ಮುದ್ರಿತ ಪುಟಗಳ ಸಂಖ್ಯೆ : 8]
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CCE RF
NEW SYLLABUS

Question Paper Serial No. **100**

ಸಂಕೇತ ಸಂಖ್ಯೆ : 53

Code No. : 53

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಎಲೆಕ್ಟ್ರಾನಿಕ್ಸ್ ಇಂಜಿನಿಯರಿಂಗ್-IV

Subject : ELEMENTS OF ELECTRONICS ENGINEERING-IV

(ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / Regular Fresh)

ದಿನಾಂಕ : 08. 04. 2023] [Date : 08. 04. 2023

ಸಮಯ : ಬಳಗ್ಗೆ 10-30 ರಿಂದ ಮಧ್ಯಾಹ್ನ–1-45 ರವರೆಗೆ] [Time : 10-30 A.M. to 1-45 P.M.

ಪರಮಾವಧಿ ಅಂಕಗಳು : 80] [Max. Marks : 80

General Instructions to the Candidate :

1. This Question Paper consists of objective and subjective types of 8 questions.
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. Check whether all the pages of the question paper are intact.
3. Follow the instructions given against both the objective and subjective types of questions.
4. Figures in the right hand margin indicate maximum marks.
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.

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ಇಲ್ಲಿಂದ ಕತ್ತರಿಸಿ

TEAR HERE TO OPEN THE QUESTION PAPER
ಪ್ರಶ್ನೆ-ಪತ್ರಿಕೆಯನ್ನು 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 base of hexadecimal number is

(A) 10 (B) 8

(C) 6 (D) 16

ii) According to the NOT gate, $\overline{1}$ =

(A) 0 (B) 1

(C) 2 (D) 3

iii) First IC chip was developed by

(A) C. V. Raman (B) W. H. Brattain

(C) J. S. Kilby (D) Robert Noyce

iv) Monolithic ICs are fabricated within a

(A) soft stone (B) single stone

(C) silicon layer (D) ceramic base

v) The major component of MOS IC is a/an

(A) FET (B) bipolar

(C) MOSFET (D) SCR

vi) An ideal Op-amp has

(A) low bandwidth

(B) high bandwidth

(C) finite bandwidth

(D) infinite bandwidth

vii) The output of AND gate is 1 when both the inputs will be

(A) 1 (B) 0

(C) defined (D) undefined

viii) The gate which is having only one input and one output, is

(A) AND (B) NAND

(C) NOT (D) OR

ix) The energy of the signal depends on

(A) phase (B) frequency

(C) amplitude (D) all of these

x) Which is not a characteristic of a signal ?

(A) Size (B) Frequency

(C) Phase (D) Amplitude

2. a) List the digits which are used in the binary number system. 2

b) Explain Decimal number system. 3

c) Convert the following decimal numbers into octal number system : 5

i) $(247)_{10}$

ii) $(172{\cdot}878)_{10}$

3. a) Define Fan-out characteristics of IC. 2

b) How do you classify ICs ? Explain any one. 3

c) Write a short note on monolithic IC. 5

4. a) Define Op-Amp. 2

b) Draw the symbol of Op-Amp with power supply terminals. 3

c) Explain the block diagram of Op-Amp. 5

5. a) Draw a neat symbol of NOR gate. 2

b) Explain the logic operation of OR gate. 3

c) Draw the logic symbol, Pin diagram of AND gate and also write its truth table. 5

6. a) Define the term 'transmitter' in communication system. 2

b) Explain the term 'channel'. 3

c) Draw the block diagram of communication system and explain 'source'. 5

7. a) What do you mean by 'bit' ? 2

b) Explain the importance of operational amplifier. 3

c) List the applications of Linear and Non-linear ICs. 5

8. a) Define the term 'fading'. 2

b) Explain modulated signal. 3

c) Convert E 8 D 6 in hexadecimal to binary and decimal. 5