

CCE RF/RR (A)/666/043

**A**

ಮಾರ್ಚ್/ಏಪ್ರಿಲ್ 2024 ರ ಪರೀಕ್ಷೆ - 1  
MARCH/APRIL 2024 EXAMINATION-1

ಒಟ್ಟು ಮುದ್ರಿತ ಪುಟಗಳ ಸಂಖ್ಯೆ : 8 ]

Total No. of Printed Pages : 8 ]

ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ : 8 ]

Total No. of Questions : 8 ]

**CCE RF/RR  
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 ಅಭ್ಯರ್ಥಿ / ಶಾಲಾ ಪುನರಾವರ್ತಿತ ಅಭ್ಯರ್ಥಿ)  
(Regular Fresh / Regular Repeater)

ದಿನಾಂಕ : 03. 04. 2024 ]

[ Date : 03. 04. 2024

ಸಮಯ : ಬೆಳಿಗ್ಗೆ 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.

1 of 8

ಇಲ್ಲಿಂದ ಕತ್ತರಿಸಿ

TEAR HERE TO OPEN THE QUESTION PAPER

ಇಲ್ಲಿಂದ ಕತ್ತರಿಸಿ

03. 04. 2024

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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 × 1 = 10

- i) The digital system usually operates on
- (A) binary system                      (B) decimal system
- (C) octal system                      (D) hexadecimal system
- ii) The number  $100101_2$  is equivalent to octal
- (A) 54                      (B) 37
- (C) 45                      (D) 25
- iii) The number  $17_8$  is equivalent to binary
- (A) 111                      (B) 1111
- (C) 10000                      (D) 1110

iv) An example of an analog IC is



- (A) Counter IC                      (B) Controller IC  
(C) Micro-controller IC          (D) Op-Amp IC

v) IC 741 is a/an

- (A) Op-Amp                          (B) rectifier  
(C) timer                              (D) regulator



vi) Voltage gain of an Op-Amp is an ideal condition is

- (A) 0                                      (B) 1  
(C) 2                                      (D)  $\infty$

vii) The mathematical notation of NOR gate is



- (A)  $\overline{A + B}$                           (B)  $\overline{A \cdot B}$   
(C)  $A + B$                               (D)  $A \cdot B$

viii) Digital IC is used in



- (A) counter
- (B) memory devices
- (C) logic probe
- (D) all of these

ix) IC 7400 is a/an



- (A) AND gate
- (B) NAND gate
- (C) OR gate
- (D) NOT gate

x) The characteristic of radio receiver depends on

- (A) sensitivity
- (B) selectivity



- (C) fidelity
- (D) all of these

2. a) Write the base of Hexadecimal and decimal number system.



2

b) Explain Hexadecimal number system. 3

c) Draw the table showing Hexadecimal numbers equivalent to the decimal numbers 11 - 21. 5

3. a) List any two types of ICs according to scale of integration. 2

b) Describe classification of ICs. 3






c) Draw a neat diagram of Dual-IN-Line package IC. 5



4. a) Draw the symbol of ideal Op-Amp. 2

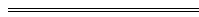
b) Explain input stage of an Op-Amp. 3



c) Draw the Pin diagram of IC 741 Op-Amp. 5

5. a) Write the symbol of NOT gate.  2
- b) Write the truth table of NOR gate. 3
- c) Draw the Pin diagram and logic diagram of NAND gate. 5
6. a) Explain modulated signal.  2
- b) Explain pulse analog modulation and write its types. 3
- c) Draw a neat diagram of frequency modulation. 5
7. a) Define decimal number system. 2
- b) List the applications of ICs.  3
- c) Draw a neat circuit diagram of AND gate using diodes. 5

8. a) Convert  $(172)_{10}$  to octal number.  2
- b) Explain the operation of AND gate.  3
- c) Draw a neat diagram of amplitude modulation receiver. 5



DO NOT WRITE ANYTHING HERE