

**A**

ಒಟ್ಟು ಮುದ್ರಿತ ಪುಟಗಳ ಸಂಖ್ಯೆ : 4 ]  
Total No. of Printed Pages : 4 ]  
ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ : 10 ]  
Total No. of Questions : 10 ]  
ಸಂಕೇತ ಸಂಖ್ಯೆ : **71**  
**Code No. : 71**

**CCE RF  
CCE RR  
REVISED**Question Paper Serial No. **21**

ಇದನ್ನೆಲ್ಲಿ ಕತ್ತರಿಸಿ

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಮೆಕ್ಯಾನಿಕಲ್ ಅಂಡ್  
ಎಲೆಕ್ಟ್ರಿಕಲ್ ಇಂಜಿನಿಯರಿಂಗ್ - 2

**Subject : ELEMENTS OF MECHANICAL AND  
ELECTRICAL ENGINEERING-2**

( ಹೊಸ ಪಠ್ಯಕ್ರಮ / New Syllabus )

( ಶಾಲಾ ಅಭ್ಯರ್ಥಿ & ಪುನರಾವರ್ತಿತ ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / Regular Fresh & Regular Repeater )

ದಿನಾಂಕ : 04. 04. 2020 ]

[ Date : 04. 04. 2020

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

ಪರಮಾವಧಿ ಅಂಕಗಳು : 100 ]

[ Max. Marks : 100

**General Instructions to the Candidate :**

1. This Question Paper consists of 10 subjective types of 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.

TEAR HERE TO OPEN THE QUESTION PAPER

ಪ್ರಶ್ನೆಪತ್ರಿಕೆಯನ್ನು ತೆರೆಯಲು ಇಲ್ಲಿ ಕತ್ತರಿಸಿ

Tear here

*Note* : Answer questions from Sections **A** & **B** as per the instructions given under them.

### SECTION – A

*Note* : Answer *all* the questions.

1. a) Classify the internal combustion engine on the basis of fuel used. 2  
 b) Explain the use of piston rings in an internal combustion engine. 3  
 c) Differentiate between two-stroke engine and four-stroke engine. 5
2. a) What is an air compressor ? 2  
 b) Mention the uses of air compressor. 3  
 c) Draw a neat sketch of reciprocating air compressor and label the parts. 5
3. a) What is a refrigerant ? 2  
 b) Explain central air conditioning. 3  
 c) Draw a neat diagram of room air conditioner and label the parts. 5
4. a) What is the main function of lathe ? 2  
 b) Explain knurling operation. 3  
 c) Draw a line diagram of lathe and mark the specifications of lathe. 5

OR

- a) Name the types of column and knee type of milling machine. 2  
 b) Explain plain milling processes. 3  
 c) Draw a neat sketch of vertical milling machine and label the parts. 5
5. a) What is fusion welding ? 2  
 b) Explain electric arc welding. 3  
 c) Draw a neat sketch of oxy-acetylene welding equipment and label the parts. 5

### SECTION – B

*Note* : Answer *all* the questions.

6. a) List any two types of induced *emfs*. 2  
 b) State the use of Fleming's Right hand rule and Left hand rule. 3  
 c) Draw a neat sketch of self induced *emf* and explain. 5
7. a) What is an alternating current ? 2  
 b) Define electrical power & power factor. 3  
 c) Represent graphically AC and DC waveforms and compare them. 5

8. a) Define Transformer. 2  
b) Mention the role of Excitor in an alternator. 3  
c) Draw a neat diagram of DC shunt motor and explain its working in brief. 5

OR

- a) Define alternator. 2  
b) Explain working of an alternator. 3  
c) Draw a neat diagram of step-up and step-down transformer and explain its working. 5
9. a) What is an electric fan ? 2  
b) Explain working of electric stove. 3  
c) Draw a neat sketch of electric bell and label the parts. 5
10. a) List two types of transistors. 2  
b) Explain Forward bias and Reverse bias. 3  
c) What are the advantages and applications of IC ? 5

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