

Sl. No. : TTTT

ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ : 10]

CCE RF

[ಒಟ್ಟು ಮುದ್ರಿತ ಪುಟಗಳ ಸಂಖ್ಯೆ : 4

Total No. of Questions : 10]

[Total No. of Printed Pages : 4

ಸಂಕೇತ ಸಂಖ್ಯೆ : **71**

Code No. : 71

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಮೆಕ್ಯಾನಿಕಲ್ ಅಂಡ್

ಎಲೆಕ್ಟ್ರಿಕಲ್ ಇಂಜಿನಿಯರಿಂಗ್ - 2

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

(ಹೊಸ ಪಠ್ಯಕ್ರಮ / New Syllabus)

(ಶಾಲಾ ಅಭ್ಯರ್ಥಿ / Regular Fresh)

ದಿನಾಂಕ : 24. 03. 2018]

[Date : 24. 03. 2018

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.

RF-205

[Turn over

ಇಲ್ಲಿಂದ ಕತ್ತರಿಸಿ

TEAR HERE TO OPEN THE QUESTION PAPER

ಪ್ರಶ್ನೆ-ಪತ್ರಿಕೆಯನ್ನು ತೆರೆದುಕೊಳ್ಳಲು 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) Differentiate between internal combustion engine and external combustion engine. 2
- b) Write short notes on :
 - i) Spark plug
 - ii) Injector. 3
- c) Draw a neat sketch of four-stroke diesel engine and explain briefly. 5
2. a) Name the two types of air compressors. 2
- b) Mention the applications of air compressor. 3
- c) Draw a neat sketch of single stage air compressor and explain briefly. 5
3. a) What is refrigeration ? 2
- b) What are the factors to be considered for air conditioning ? 3
- c) Draw a neat sketch of vapour compression refrigeration system and label the parts. 5
4. a) What is the main function of lathe ? 2
- b) What are the operations to be carried out in a lathe ? 3
- c) With a neat sketch explain the following lathe operations :
 - i) Facing
 - ii) Grooving. 5

OR

- a) What is drilling ? 2
- b) How are the milling machines classified ? 3
- c) With a neat sketch explain the slab milling operation. 5
5. a) List out the advantages of welding. 2
- b) Distinguish between soldering and brazing. 3
- c) Draw a neat sketch showing all the equipment of oxy-acetylene welding. 5

SECTION – B

Note : Answer all the questions.

6. a) What is electromagnetic induction ? 2
b) State Fleming's right hand rule. 3
c) Define self induced *emf* and mutually induced *emf*. 5
7. a) What is form factor ? 2
b) Define the terms power and power factor of an *a.c.* circuit. 3
c) Draw a sine wave curve and mark the following :
i) Cycle
ii) Time period
iii) Frequency. 5
8. a) What is transformer ? 2
b) Name the different types of *d.c.* motor. 3
c) Draw a neat sketch of an alternator and label the parts. 5
- OR
- a) Define step-up transformer. 2
b) Explain the working principle of *d.c.* motor. 3
c) Draw a neat sketch of *d.c.* generator and label the parts. 5
9. a) What is thermostat ? 2
b) How does thermostat work ? 3
c) Draw a neat sketch of an electrical fan and label the parts. 5
10. a) What is transistor ? 2
b) Mention the applications of diode. 3
c) Draw a neat sketch of forward bias of a *PN*-junction diode and explain briefly. 5

