

Roll  
No.

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Serial No. of  
Q. C. A. B.

ಒಟ್ಟು ಪ್ರಶ್ನೆಗಳ ಸಂಖ್ಯೆ : 7 ]  
Total No. of Questions : 7 ]

[ ಒಟ್ಟು ಮುದ್ರಿತ ಪುಟಗಳ ಸಂಖ್ಯೆ : 16  
[ Total No. of Printed Pages : 16

ಸಂಕೇತ ಸಂಖ್ಯೆ : 71

ವಿಷಯ : ಎಲಿಮೆಂಟ್ಸ್ ಆಫ್ ಇಂಜಿನಿಯರಿಂಗ್

Code No. : 71

Subject : **ELEMENTS OF ENGINEERING**

ದಿನಾಂಕ : 06. 04. 2013]

[ Date : 06. 04. 2013

ಸಮಯ : ಬೆಳಿಗ್ಗೆ 9-30 ರಿಂದ ಮಧ್ಯಾಹ್ನ-12-15 ರವರೆಗೆ ]

[ Time : 9-30 A.M. to 12-15 P.M.

ಪರಮಾವಧಿ ಅಂಕಗಳು : 50 ]

[ Max. Marks : 50

**FOR OFFICE USE ONLY**

Q. No.	Marks	Q. No.	Marks	Q. No.	Marks	Q. No.	Marks	Q. No.	Marks
1.		×		×		×		×	
2.		×		×		×		×	
3.		×		×		×		×	
4.		×		×		×		×	
5.		×		×		×		×	
6.		×		×		×		×	
7.		×		×		×		×	
×		×		×		×		×	
×		×		×		×		×	
×		×		×		×		×	
×		×		×		×		×	
×		×		×		×		×	
×		×		×		×		×	
<b>Total Marks</b>									
<b>Total Marks in words</b>							<b>Grand Total</b>		
1. ✓									
2. ✓							✓		
Signature of Evaluators			Registration No.			Signature of the Deputy Chief		Signature of the Room Invigilator	

[ Turn over

*General Instructions :*

- i) The Question-cum-Answer Booklet consists of 7 objective and subjective types of questions.
- ii) Space has been provided against each objective type question. You have to choose the correct choice and write the complete answer in the space provided.
- iii) For subjective type questions enough space for each question has been provided. You have to answer the questions in the space.
- iv) Follow the instructions given against both the objective and subjective types of questions.
- v) Candidate should not write the answer with pencil. Answers written in pencil will not be evaluated ( Except Graphs, Diagrams & Maps ).
- vi) In case of Multiple Choice, Fill in the blanks and Matching questions, scratching / rewriting / marking is not permitted, thereby rendering to disqualification for evaluation.
- vii) For reading the questions 15 minutes of extra time has been provided.

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

**SECTION – A**

*Instruction :* Answer Question **No. 1** and any *two* full questions of the remaining.

1. Fill in the blanks with the appropriate word(s) selecting from the choices given in the brackets :

10 × 1 = 10

- a) In ..... pump piston is used for movement.

( *centrifugal , reciprocating, gear* )

*Ans :* \_\_\_\_\_

- b) Thermal efficiency of ..... engine is more.

( *steam, gas, I.C.* )

*Ans :* \_\_\_\_\_

c) Steam containing water particles is called .....

( *saturated steam, superheated steam, wet steam* )

Ans : \_\_\_\_\_

d) A ..... turbine is used in hydroelectric power station to obtain electricity.

( *steam, water, gas* )

Ans : \_\_\_\_\_

e) ..... is used to empty the boiler.

( *Blow off valve, Fusible plug, Safety valve* )

Ans : \_\_\_\_\_

f) In *d.c.* machines, the pole shoe is laminated to reduce .....

( *reluctance, inductance, resistance* )

Ans : \_\_\_\_\_

g) The output rating of a lamp is .....

( *volt, ampere, watt* )

Ans : \_\_\_\_\_

h) The current which flows only in one direction is called .....

( *alternating current, direct current, eddy current* )

Ans : \_\_\_\_\_

[ Turn over

i) An electric power can be measured by using .....

( *voltmeter, energymeter, wattmeter* )

Ans : \_\_\_\_\_

j) The whole circuit of a domestic wiring is protected against short circuits and overloads by .....

( *miniature circuit breaker, main switch, earthing* )

Ans : \_\_\_\_\_

2. a) What is a boiler ? 2

---

---

---

---

---

---

---

---

b) Name the essential accessories of a boiler. 2

---

---

---

---

---

---

---

---

- c) Draw a neat sketch of simple vertical boiler and explain briefly.

6

---

---

---

---

---

---

[ Turn over

---

---

---

---

---

---

---

---

---

---

3. a) Define pump. 2

---

---

---

---

---

b) Mention the uses of pumps. 2

---

---

---

---

---

- c) Describe with a line diagram the working of a reciprocating pump.

6

---

---

---

---

[ Turn over





- c) Explain with a neat diagram the working of a two-stroke petrol engine.

6

---

---

---

---

---

[ Turn over

---

---

---

---

---

---

---

---

---

---

---

**SECTION - B**

*Instruction : Answer any two full questions of the following.*

5. a) What is an alternator ? On what principle does it operate ? 2

---

---

---

---

---

---

---

---

- b) Name the three types of self-excited *d.c.* generators. 3

---

---

---

---

---

---

---

---



- b) Draw a sine wave of *a.c.* and mark cycle and amplitude on it.

3

- c) With a neat sketch explain the construction and working of thermostat. 5

---

---

---

---

---

---

---

---

---

---

[ Turn over



- c) Draw a neat circuit diagram of sodium vapour lamp and name the parts.

4

