

Roll
No.

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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 : 23. 06. 2012]

[Date : 23. 06. 2012

ಸಮಯ : ಬೆಳಿಗ್ಗೆ 09-30 ರಿಂದ ಮಧ್ಯಾಹ್ನ-12-15 ರವರೆಗೆ]

[Time : 09-30 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.		×		×		×		×		
×		×		×		×		×		
×		×		×		×		×		
×		×		×		×		×		
×		×		×		×		×		
×		×		×		×		×		
×		×		×		×		×		
Total Marks										
Total Marks in words						Grand Total				
1. ✓										
2. ✓						✓			✓	
Signature of Evaluators			Registration No.			Signature of the Deputy Chief			Signature of the Room Invigilator	

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General Instructions :

- i) The Question-cum-Answer Booklet consists of objective and subjective types of questions having 7 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 :

$10 \times 1 = 10$

- a) The motor which is used to drive the electric trains is
(*dc series motor, dc shunt motor, dc compound motor*)

Ans : _____

- b) Transformers are rated in
(*kW, kVA, kV*)

Ans : _____

c) A 3 Phase squirrel cage induction motor has

(*high starting torque, very high starting torque, low starting torque*)

Ans : _____

d) The wiring is suitable in places where chemicals are present is
..... wiring.

(*PVC conduit, lead sheathed, CTS*)

Ans : _____

e) Wattmeter consists of

(*current coil & inductive coil, current coil & pressure coil, current coil & resistive coil*)

Ans : _____

f) is used to save the boiler against the overheating caused due to
the low water level.

(*Fusible plug, Blow-of-valve, Safety valve*)

Ans : _____

g) Atomiser is used in engines.

(*gas, petrol, diesel*)

Ans : _____

h) pulley is used to increase the arc of contact.

(*Stepped cone, Jockey, Fast and loose*)

Ans : _____

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i) pump is a positive displacement pump.

(*Centrifugal, Gear, Reciprocating*)

Ans : _____

j) is the ratio of load to effort.

(*Mechanical advantage, Efficiency, Velocity ratio*)

Ans : _____

2. a) What is a generator ? On what principle does it work ? 2

b) With a neat sketch explain briefly the working principle of a *dc* motor. 5

c) Write any three uses of squirrel cage induction motor. 3

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3. a) Draw a neat sketch of core type transformer and explain its construction. 4

b) List any two advantages of cleat wiring.

2

c) Write a neat sketch of mercury vapour lamp and label its parts.

4

4. a) Draw a neat diagram of electric bell and label the parts.

4

b) Name two atomic power stations in our nation.

2

c) Write short notes on any *two* of the following :

2 × 2 = 4

- i) Voltmeter
- ii) Power transmission lines
- iii) Ohm's law.

SECTION - B

Instruction : Answer any two full questions of the following.

5. a) What are boiler accessories ?

2

b) List out the boiler mountings. 2

c) Sketch and describe the Babcock and Wilcox boiler. 6

6. a) State whether the following statements are true or false : 2
- i) Water gauge is a safety device
 - ii) Junction valve is a boiler accessory.

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- b) Explain the function of a simple carburetor. 2

- c) Explain with neat line diagram the working of four-stroke petrol engine. 6

7. a) Explain the function of Fusible plug.

2

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b) Write down the classification of pumps.

2

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

6
